

MILLIMAN RESEARCH REPORT

Shareholder Value Reporting in Europe: Year-End 2017

Value Reporting: In Transition

December 2018

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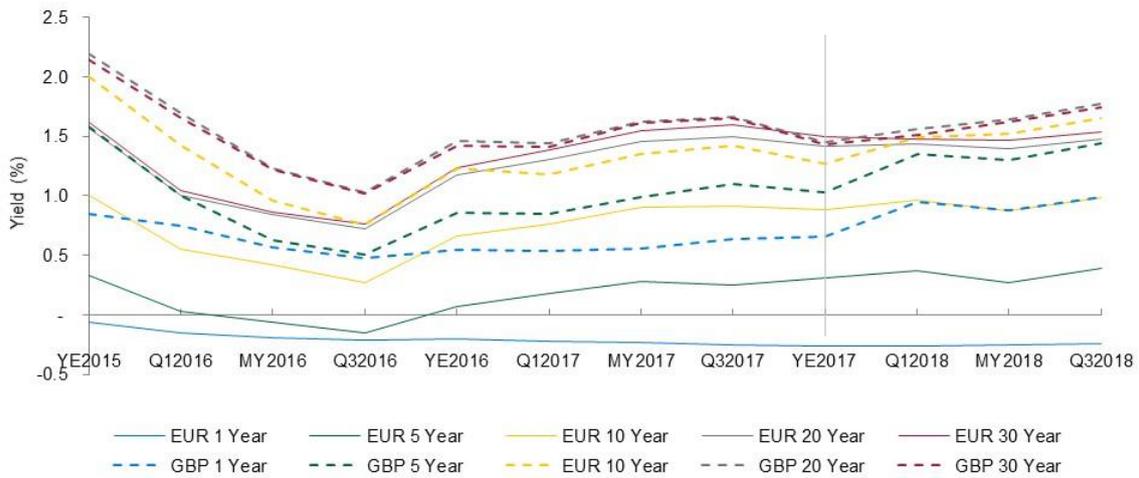
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Executive summary

BACKGROUND

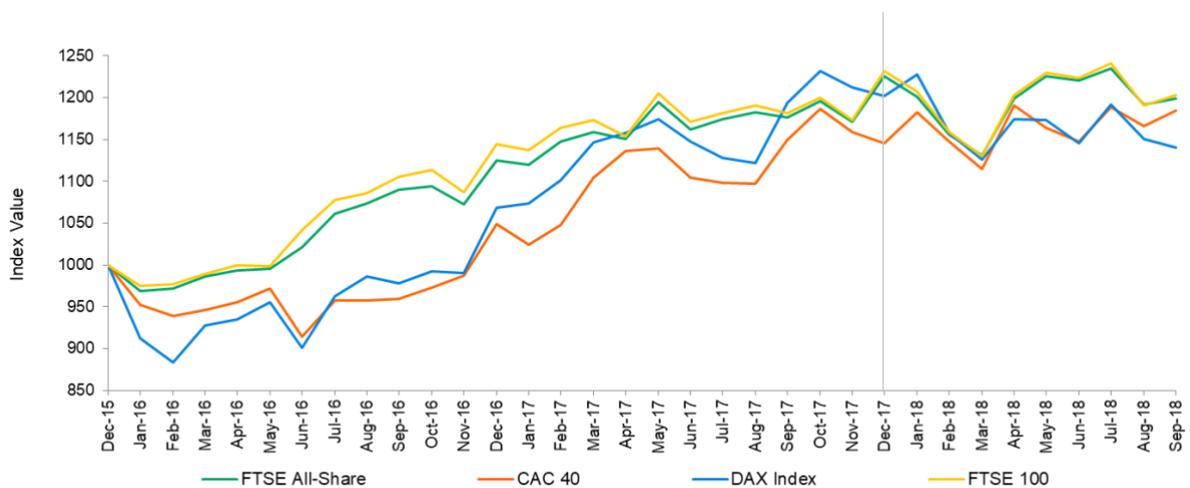
- Whilst events over 2017 continued to unsettle the political landscape, 2017 was a year in which market conditions slowly improved. Interest rates largely rose over the year, with further signs of improvement by the end of the third quarter of 2018. This was accompanied by an overall trend of strong growth in equity markets during 2017, but which has been dampened by greater volatility over 2018.

FIGURE 1: RECENT TRENDS IN GBP AND EUR SWAP RATES



Source: Bloomberg

FIGURE 2: RECENT EQUITY MARKET PERFORMANCE



Source: Bloomberg

Indices above are the gross total return indices and have been rebased to 1,000 as at 31 December 2015

- These market conditions (up until year-end 2017) have served to positively impact companies' overall operations and results in 2017, compared with recent years, and contributed towards companies largely seeing an improvement in their operating returns in 2017, as discussed in this report.
- As highlighted in our report last year, in May 2016 an amendment was issued to the European Insurance CFO Forum Market Consistent Embedded Value Principles[©] (the **MCEV Principles**¹). This amendment permits, but does not require, the use of the projection methods and assumptions for market consistent solvency regimes (e.g. Solvency II) in embedded value (**EV**) reporting. This change has allowed companies to fully align the methodology and presentation of results between Solvency II and embedded value, and to use Solvency II Own Funds as the market consistent embedded value measure.
- In light of this, during 2016, companies continued to change their approaches, with a noticeable trend to align EV reporting and Solvency II reporting further. Means through which companies achieved this in 2016 included: continuing to align risk-free rates used with the curves published by the European Insurance and Occupational Pensions Authority (**EIOPA**) and updating their contract boundary definitions to be consistent with Solvency II. Looking at companies' reports for 2017, this trend has continued.
- In addition, some companies continued to use new metrics for shareholders' value (first adopted in 2016), based on Solvency II Own Funds, adjusted for certain features (e.g. contract boundaries, cost of capital, ring-fenced funds restrictions and matching adjustment application restrictions) which are considered by the companies producing these metrics as not being consistent with their economic views.

EV RESULTS IN 2017

- Following last year's trend, fewer companies have published full embedded value reports compared with 2016; the number of companies included in this study has fallen from 19 to 17, with Generali and Ageas having not published EV results in 2017.
- Of those companies that did publish results, none changed their underlying calculation approach from last year; with Aviva, AXA, Legal & General, Allianz and Chesnara continuing to use various forms of shareholder value reporting based on the Solvency II methodology.
- The CFO Forum members disclosing their embedded values at the end of 2017 (of which there were seven companies) had a combined embedded value of GBP 252 billion (EUR 284 billion) at the end of 2017 compared like-for-like with GBP 235 billion (EUR 264 billion) at the end of 2016 (where nine companies disclosed their results). Experience amongst the companies studied was largely positive, with the majority of companies experiencing an increase in embedded value compared with 2016.
- As was the case in 2016, Allianz, AXA and Prudential take the top three positions in terms of the largest combined business embedded values in 2017. The top performers based on percentage increase in embedded value since 2016 were Zurich Insurance Group (ZIG), CNP and Prudential.

NEW BUSINESS RESULTS IN 2017

- Value of new business (**VNB**) is perceived as an important metric by the market, and one lacking in the public Solvency II disclosures. Some companies have chosen to still disclose VNB despite discontinuing full embedded value reporting. Other companies have chosen to use a different basis for the total shareholder value and value added by new business.
- Overall, results for new business were positive for the majority of companies in our sample. The total VNB written by the current CFO Forum members (that disclosed their values of new business at the end of 2017) was GBP 11.3 billion (EUR 12.7 billion) in 2017, compared like-for-like with GBP 11.0 billion (EUR 12.4 billion) in 2016.

¹ Copyright© Stichting CFO Forum Foundation 2008.

METHODOLOGY CHANGES

- Based on our analysis of companies' embedded value methodologies, evolving practices and emerging market trends, including the convergence between EV and Solvency II methodologies, continue in the following areas: 1) the risk-free rates and 2) the allowance for cost of capital (**CoC**) including the cost of residual non-hedgeable risks (**CRNHR**).

Risk-free rates

- At year-end 2017, the majority of firms within our survey are more or less fully aligned with Solvency II when setting their risk-free rates. This now includes ZIG, which moved to adopt the Solvency II yield curves in the European Economic Area (**EEA**), and Aviva which aligned its risk-free rates to the Solvency II curves when calculating VNB.

Cost of capital/cost of residual non-hedgeable risks

- As at year-end 2017, most companies use a frictional cost approach to calculating cost of capital. However, there is some variability in the definition of required capital among companies.
- Increasingly companies that have aligned their MCEV balance sheets with the Solvency II balance sheets have not explicitly held any further allowance for frictional costs of required capital than already included in the calculations. Further alignment between EV and Solvency II methodologies has also led to companies aligning their CRNHR with the Solvency II Risk Margin.
- A larger proportion of companies included in our survey this year are using cost of capital charges of 6% than in 2016. A 6% cost of capital charge is prescribed under Solvency II but as a market consistent assumption it is considered by many in the industry to be high and a number of companies in our study have chosen to use a lower rate.
- EIOPA released a final report, in February 2018, outlining its second set of advice to the European Commission on the Solvency II Delegated Regulation (BoS-18/075) which among other things advised on the calculation of the Risk Margin; in particular stating its rationale for maintaining the current 6% rate for cost of capital within the Solvency II regulations. Whilst EIOPA's advice is not binding, firms may like to bear it in mind when making their own judgement on a suitable CoC rate to use in their shareholder value calculations.

SOLVENCY II BASED VALUE METRICS

- As a result of many firms moving their value reporting to a Solvency II based approach, and based on earlier analysis performed by Milliman, a value metric called 'Solvency II Adjusted Own Funds' has been determined using information that is publicly disclosed in the Solvency II Quantitative Reporting Templates (**QRTs**). This is a new aspect to shareholder value reporting that has been considered in this report, compared with our report last year.
- A comparison of the movement in the Solvency II Adjusted Own Funds metric over 2017 with the movement in EV shows that, whilst there is some variability in the results for the firms in our sample, the metric is an improvement in tracking reported EV, compared to using Solvency II Own Funds alone. This suggests that there is potential for a Solvency II based metric to be a relevant measure of shareholder value going forward.
- Many of the shortcomings of the Solvency II Adjusted Own Funds metric arise due to the lack of granularity in public disclosures. The metric could be improved for use by external parties by the disclosure of more granular information by firms (either enforced by regulators or on a voluntary basis) or may be of use to firms themselves, which should have access to the necessary additional information and can therefore leverage the Solvency II balance sheet to determine a value metric rather than calculate an independent one.
- We intend to continue our research in this area going forward as market practice and disclosures evolve.

OTHER MEASURES OF VALUE

- Market capitalisations varied considerably when compared with embedded values, with all but one company's individual ratio in the range of 87% to 127% (compared like-for-like with 93% to 136% in 2016). CNP was outside this range at 57%. The average ratio of market capitalisation to embedded value was 105% as at year-end 2017 for firms in our sample.
- In May 2017 the International Accounting Standards Board (**IASB**) published its new International Financial Reporting Standard (**IFRS**) on accounting for insurance contracts: IFRS 17. The Standard's aims are consistent accounting for all insurance contracts, increased transparency in financial information reported by insurance companies and reported information based on current estimates. Subject to EU endorsement, the Standard will apply for accounting periods starting on or after 1 January 2022.
- IFRS 17 disclosure requirements are substantial, and it is expected that it will allow interested parties – investors, market analysts – to obtain sufficient amount of information about the profitability of the business. Given the market consistent approach to valuation and the potential for considerable disclosure, IFRS 17 could be a candidate for deriving shareholder value in future.
- Given the ongoing development in some areas of the regime, and as companies have not yet implemented its requirements, the extent of information ultimately disclosed is unknown. Therefore, it is currently unclear whether the prerequisite information will be available to adjust the IFRS balance sheet to a shareholder view of value, or furthermore, in a manner more accurate than that of adjusting Solvency II Own Funds.
- The International Association of Insurance Supervisors (**IAIS**) is developing a risk-based global Insurance Capital Standard (**ICS**). Version 2.0 of ICS was consulted on in 2018 with completion scheduled for late 2019, before the monitoring period begins on 1 January 2020. It is not currently clear how the IAIS's ICS will interact with the capital requirements of Solvency II for the Internationally Active Insurance Groups (**IAIGs**) that will be subject to both capital regimes and it may result in changes to the way such groups will measure and report their value to shareholders.

Introduction

In the past, many European firms have used embedded value (EV) as one of the main measures of value but recently other metrics have started to gain more prominence such as IFRS earnings, Solvency II Own Funds and projected dividend/cash flow profiles.

In this publication, we provide an analysis of some of the metrics currently used by European firms to report on their shareholder value. The publication is structured as follows:

- An analysis of the assumptions, methodologies and results of firms' EV disclosures as at year-end 2017.
- An analysis of some of the information on value contained in the Solvency and Financial Condition Reports (**SFCRs**) disclosed publicly under the Solvency II regime.
- A look at other measures of value including market capitalisation, IFRS and International Capital Standards.

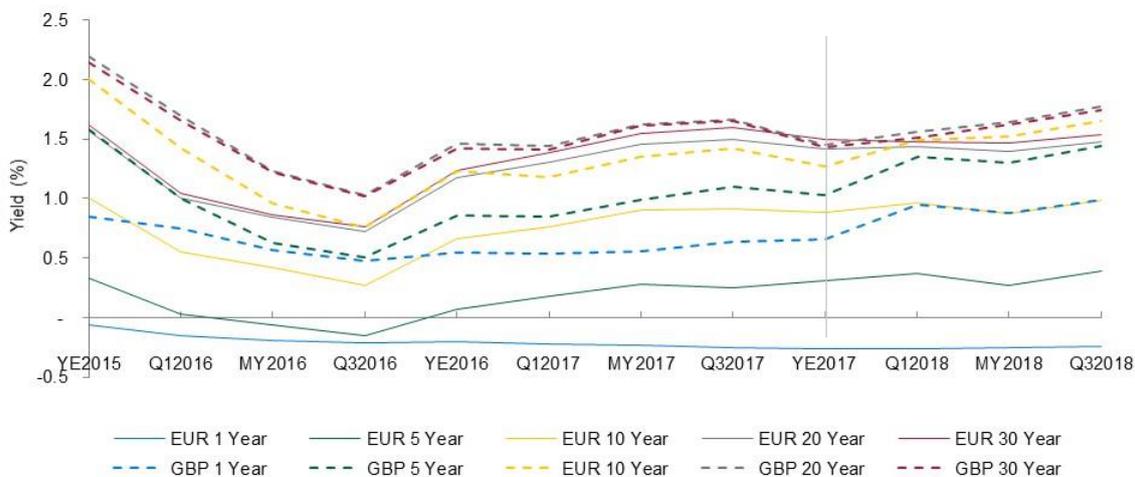
MARKET CONDITIONS

Whilst events over 2017 continued to unsettle the political landscape, 2017 was a year in which market conditions slowly improved. The UK's triggering of Article 50 at the end of March (providing formal notification of the UK's intention to leave to EU), the gradual shift in US foreign policy towards an emphasis on American nationalism and anti-interventionism, as well as the political crisis in Spain resulting from Catalonia's independence referendum in October 2017, all contributed to an uncertain business environment for firms. However, although markets appeared to be resilient in the face of such global and European political risks, market conditions remained challenging for European firms.

Interest rates largely rose over 2017, with further signs of improvement by the end of the third quarter of 2018 (see Figure 1); and were higher than the average over 2016 for almost every respective duration. Solid European economic growth laid the foundations for the European Central Bank (**ECB**) to halve bond buying from January 2018 to EUR 30 billion as it scaled back quantitative easing. This amount of bond purchases was further reduced in October 2018, with the ECB planning to cease its asset-buying programme at the end of December 2018. This programme has served to gradually dismantle the monetary policy the ECB adopted a decade ago to counter the sovereign debt crisis. That said, the extreme conditions of negative interest rates prevailed at short durations for the euro, although this solely affected the 1-year rate during 2017 and into 2018 as the 5-year rate bounced back in the last quarter of 2016 from being negative.

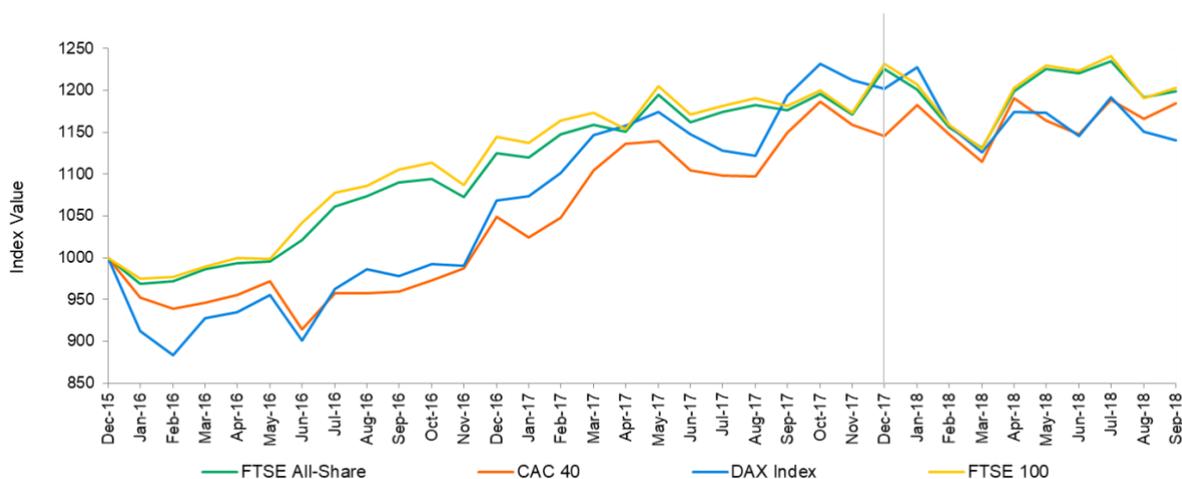
The trend in interest rates was accompanied by strong growth in equity markets during 2017, although growth has been more volatile during 2018 (see Figure 2). All indices were impacted by a fall over the first quarter of 2018. This looks to have been recovered by the end of Q3 2018 for each index, and moreover by September 2018 the CAC 40 Index exceeded its level at the end of December 2017. In May 2017, the FTSE 100 index broke through 7,500 (equivalent to around 1,200 using the scale in Figure 2) for the first time in its 33-year history, buoyed by a weaker pound and strong UK inflation figures.

FIGURE 1: RECENT TRENDS IN GBP AND EUR SWAP RATES



Source: Bloomberg

FIGURE 2: RECENT EQUITY MARKET PERFORMANCE



Source: Bloomberg

Indices above are the gross total return indices and have been rebased to 1,000 as at 31 December 2015

More generally, the slight recovery in economic conditions – including an improvement in interest rates, lower interest rate volatility and favourable equity markets – compared with recent years has served to positively impact companies’ overall operations and results, and contributed towards companies largely seeing an improvement in their operating returns. For example, many companies commented that their VNB has increased compared with 2016 as a result of favourable economic variances; in addition to the successful implementation of various management actions such as steering new business sales towards more profitable and capital efficient business mixes, and changes in non-economic assumptions.

Embedded value

EMBEDDED VALUE APPROACHES

As highlighted in our 2016 publication '2016 Embedded Value Results: Europe'² (the **2016 EV Report**), in May 2016 the CFO Forum issued revised EEV and MCEV Principles and Guidance³, which, at a high level, allowed companies to fully align the methodology and presentation of results between Solvency II and embedded value, and use Solvency II Own Funds as the market consistent embedded value measure.

Furthermore, in the 2016 EV Report, we noted that during 2016 companies continued to change their approaches, adopting the updated Principles and Guidance, with a clear trend to align EV reporting and Solvency II reporting. In 2017 this trend has continued. Such changes have included:

- Aligning the yield curve used for EV reporting to that used under Solvency II.
- Allowing for the Solvency II definition of 'contract boundaries' within the Value of New Business (VNB) calculation.
- Replacing the frictional cost of required capital (**FCRC**) and Cost of Residual Non-hedgeable Risks (CRNHR) with the Solvency II Risk Margin.

Two companies, Ageas and Achmea, no longer published EV reporting disclosures for year-end 2017. Given that both companies had previously taken steps to align their methodology with Solvency II – Ageas through use of the Solvency II yield curve and Achmea such that the only differences between Solvency II and EV calculations were the cost of capital and contract boundaries – it remains unclear whether this is a conscious choice to discontinue EV reporting, or whether their reports have simply not been publicly disclosed.

The breakdown of the number of companies from our sample of 17 using EEV, market consistent EEV⁴, MCEV Principles, and 'Solvency II based' is shown in Figure 3. The 'Solvency II based' category includes both those formally complying with CFO Forum Principles, and those producing Solvency II based shareholder value metrics as a replacement to EV reporting. In addition, some companies follow equally valid approaches that do not entirely conform to either the MCEV or EEV Principles or the Solvency II based approach and are captured under the 'Other' category. For example, Swiss Re reports under a basis known as its 'Economic Value Management framework'.

Overall, there continues to be a general tendency to discontinue formal EV reporting in Europe, as fewer companies have published full EV reports compared with last year⁵. Also, the preference towards market consistent reporting remains. Given the shift, observed last year, towards companies adopting Solvency II based reporting for shareholder value, it is not wholly unexpected that this year companies have largely sought to consolidate their existing approaches, by way of minor refinements, rather than make any fundamental changes. Aviva, AXA, Legal & General and Chesnara have continued to adopt various forms of shareholder value reporting based on the Solvency II methodology. Of those companies that chose this approach, only Allianz produced an audited MCEV report stating compliance with MCEV Principles.

² Reynolds, S. & Simpson, P. (19 July 2017). 2016 Embedded Value Results: Europe. Milliman Research Report. Retrieved 26 December 2018 from <http://www.milliman.com/insight/2017/2016-Embedded-Value-Results-Europe/>.

³ CFO Forum. Embedded Value. Retrieved 26 December 2018 from http://www.cfoforum.eu/embedded_value.html.

⁴ The term 'market consistent EEV' describes a company reporting in compliance with the EEV Principles but on a market consistent basis.

⁵ The number of companies included in this study has fallen from 19 in 2016 to 17 in 2017. This compares to 2011 when 29 firms disclosed EV results in Europe.

FIGURE 3: EMBEDDED VALUE REPORTING PRICIPLES

EV REPORTING PRICIPLES	2016			2017		
	CFO FORUM MEMBERS	OTHER COMPANIES	TOTAL	CFO FORUM MEMBERS	OTHER COMPANIES	TOTAL
EEV	0	0	0	0	0	0
Market Consistent EEV	1	2	3	0	2	2
MCEV	3	5	8	3	5	8
Solvency II Based	4	2	6	4	1	5
Other	2	0	2	2	0	2
Total	10	9	19	9	8	17

Notes:

1. Numbers of companies based on a sample of 17 in 2017. Two companies (Ageas and Achmea) no longer publicly disclose EV reporting.
2. Swiss Re does not report explicitly under either EEV or MCEV Principles but under a framework called Economic Value Management.
3. Prudential uses market consistent approach for shareholder-backed annuities and EEV Principles for the rest of the business.

As noted above, in 2017, a number of companies have continued to adjust to the Solvency II regime by refining their approaches to shareholder value reporting. Figure 4 outlines companies' approaches to reflecting the impact of Solvency II at 2016 and any subsequent changes made to their methodologies at 2017 year-ends.

FIGURE 4: HOW SOLVENCY IS REFLECTED IN EMBEDDED VALUE REPORTING YEAR-END 2016 AND 2017

COMPANY	HOW SOLVENCY II IS REFLECTED IN EV REPORTING (YEAR-END 2016)	UPDATE FOR 2017 YEAR-END DISCLOSURES
CFO FORUM MEMBERS		
Ageas	Reference term structure in line with valuation parameters set by EIOPA (except HKD). Required capital is based on Solvency II Pillar 2 capital.	No longer publicly discloses EV reporting.
Allianz	Full alignment with Solvency II.	For the first time, firm reported a reconciliation from Solvency II disclosure (of Own Funds) to Analysis of earnings of EV.
Aviva	Discontinued EV reporting. VNB published on MCEV basis and Adjusted Solvency II basis (adjusted for contract boundaries and look-through profits of service companies). From 2017 onwards Adjusted Solvency II basis will replace MCEV VNB metric.	From 2017 onwards, the adjusted Solvency II VNB has replaced MCEV VNB. MCEV VNB and MCEV present value of new business premiums (PVNBP) were disclosed for the last time at 31 December 2016.
AXA	New metric, 'Available Financial Resources' (AFR), which corresponds to the surplus in the Solvency II balance sheet.	No material changes disclosed.
CNP	The use of a Solvency II required capital, alignment of the risk-free rate curve with Solvency II.	No material changes disclosed.
Generali	Definition of reference rates and required capital – required capital based on Solvency II for EEA companies and local regulatory capital for non-EEA companies. Definition of contract boundaries aligned with Solvency II (for in-force business only, VNB will be reported using this definition from 2017).	In 2017 Generali only disclosed new business metric. At the start of 2017, introduced Solvency II contract boundaries rules into its calculation of NBV based on MCEV Principles. Also included new measure Solvency II Value of New Production (which is defined in the VNB section of this report) as well as a reconciliation between the two approaches.
Legal & General	Stopped EV reporting. Introduced two new metrics: Solvency II new business contribution (calculated in a manner consistent with EEV Principles and on the same economic and operating assumptions as would have been used under EEV methodology). Economic Capital surplus, which represents Solvency II Own Funds adjusted for features of Solvency II viewed as uneconomic (matching adjustment restrictions and fungibility restrictions removed).	No material changes disclosed.
Prudential	Solvency II regime reflected in UK operations. The risk-free rate for shareholders' backed annuities is a swap curve plus an allowance for liquidity premium based on the Solvency II allowance for credit risk.	No material changes disclosed.

FIGURE 4: HOW SOLVENCY IS REFLECTED IN EMBEDDED VALUE REPORTING YEAR-END 2016 AND 2017 (CONTINUED)

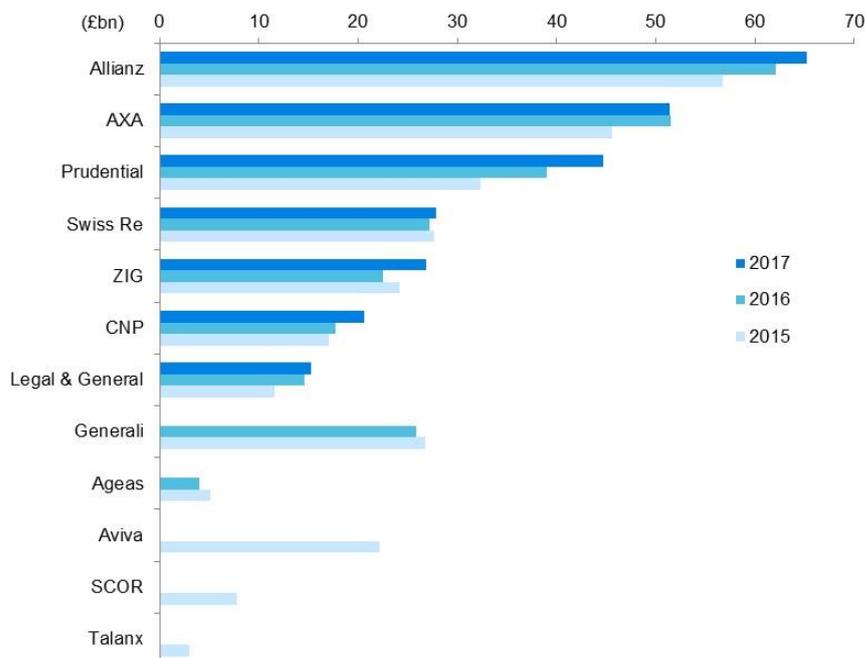
COMPANY	HOW SOLVENCY II IS REFLECTED IN EV REPORTING (YEAR-END 2016)	UPDATE FOR 2017 YEAR-END DISCLOSURES
CFO FORUM MEMBERS		
SCOR	Discontinued EV reporting.	
Swiss Re	Reflected adoption of Solvency II for UK business.	No material changes disclosed.
Talanx	Discontinued EV reporting.	
ZIG	Regulatory balance sheet requirements in the UK and Ireland are aligned to Solvency II. No allowance for Solvency II EIOPA curve made in EV calculations.	Adoption of Solvency II EIOPA swap rates in the EEA i.e. for each entity subject to Solvency II, the MCEV yield curve is fully aligned to the Solvency II yield curve.
OTHER COMPANIES		
Achmea	Convergence to Solvency II, except CoC rate and contract boundaries.	No longer publicly discloses EV reporting.
Baloise	Aligned methodology of the reference yield curves with Solvency II, including use of a volatility adjustment.	No material changes disclosed.
Chesnara	New metric Economic Value (EcV), which is derived from Solvency II Own Funds adjusting for cost of capital rate (set at less than 6%), contract boundaries, removing restrictions on ring-fenced funds and dividends are recognised as paid.	No material changes disclosed.
Old Mutual	No allowance.	No material changes disclosed.
Royal London	Prudential Regulation Authority's (PRA) realistic balance sheet used for EV calculations. The group applies margins of prudence within assumptions and the definition of contract boundaries in a consistent way to the previous realistic regime. EIOPA swap curve is used. Allowance to reserve for reinsurer default.	Irish business valued on a euro curve consistent with the currency that the liabilities are denominated in; previously was valued on a sterling yield curve.
St James's Place	Required capital methodology: hold a Management Solvency Buffer over unit linked liabilities.	Small number of changes made for increased alignment, such as the valuation of deferred tax assets.
Swiss Life	Aligned its definition of the risk-free curves with Solvency II specifications.	Sensitivity analysis, with regard to insurance risk and market risk, now based on how IFRS profit or loss and other comprehensive income would be affected; MCEV no longer used for this purpose.
Uniq	The required capital is defined as the solvency required capital less subordinated debt and VIF under the Solvency II regime. Contract boundaries are aligned with Solvency II. Risk-free rates are in line with EIOPA published rates.	Moved from cost of capital approach (i.e. FCRC and CRNHR) to adoption of Solvency II Risk Margin. Risk Margin adjusted to present an after-tax value for MCEV reporting purposes. In 2017, subordinated debt has been valued using the principles outlined under Solvency II.
Vienna	The required capital is defined as the solvency required capital less subordinated debt and VIF under the Solvency II regime. Alignment of the MCEV and Solvency II methodologies; FCRC and CRNHR replaced with Risk Margin; risk-free rates are in line with EIOPA published rates.	No material changes disclosed.

EMBEDDED VALUE RESULTS

Embedded value

The CFO Forum members disclosing their embedded values at the end of 2017 had a combined embedded value of GBP 252 billion (EUR 284 billion) at the end of 2017 compared with GBP 235 billion (EUR 264⁶ billion) at the end of 2016. Figure 5 shows the embedded value results of current CFO Forum members at the last three year-ends.

FIGURE 5: PUBLISHED EMBEDDED VALUE RESULTS OF CFO FORUM MEMBERS AT YEAR-END 2015, 2016 AND 2017



Notes:

1. Where relevant, non-covered business is included at IFRS value.
2. Ageas and Generali did not disclose embedded value results for 2017.
3. Aviva, SCOR and Talanx did not disclose embedded value results for 2017 or 2016.
4. Other shareholder value metrics, based on Solvency II Own Funds, are included for those companies that have replaced their EV reporting with this metric.
5. Past years' EV results are converted to GBP using the year-end 2017 exchange rate to exclude the effect of exchange rate in the comparison.

Experience amongst the companies studied was largely positive, with the majority of the companies experiencing an increase in embedded value compared with year-end 2016. Only one company saw a decrease in its group embedded value.

The embedded values considered in Figure 5 include both covered and non-covered business. As was the case in 2016, Allianz, AXA and Prudential take the top three positions in terms of the largest combined business embedded values in 2017. The top performers based on percentage increase in embedded value since 2016 were ZIG, CNP and Prudential. Looking at the performance over the year of each of the companies disclosing results at 2017 year-end (based on commentary in the relevant disclosures):

- ZIG reported an increase in shareholder value of 19% compared with 2016, making it the top performer as measured by this metric of the companies studied. The increase was mainly driven by stronger new business value and positive investment performance; in addition to an overall improvement in interest rates. The change can also be attributed to a more sophisticated interest rate model, which now allows for the modelling of negative nominal interest rates (for economies in the US, UK and Eurozone), and the adoption of Solvency II EIOPA swap rates in the EEA. Favourable currency translation effects and changes in certain tax regimes contributed positively to embedded value.

⁶ As at year-end 2017: GBP 1 = EUR 1.125.

- CNP reported that it experienced a 16% increase in embedded value over the year. This was driven primarily by positive operational impacts (which comprises new business value, expected existing business contribution and variance related to operating activities), and favourable economic effects (other than foreign exchange rates) including: an increase in interest rates and a decrease in their volatility in the Eurozone, movements on stock markets and property and their volatility, changes in asset portfolios and a decrease in normal corporate tax rates.
- Prudential reported that its embedded value increased by 15% over the year. This increase was driven by strong profits across the business, continued growth of new business across all geographical regions, offset by movements for exchange rates on foreign operations and net investment hedges as well as external dividend payments.
- Allianz cited an increase in its MCEV of 5% over the year. This was largely driven by an increased contribution in MCEV from its covered business, owing to a higher contribution of new business as a result of a more profitable business mix due to management actions during the year; and by the narrowing of credit spreads and expected over-returns during the period. The change in non-covered business was driven by offsetting effects. The group MCEV was reduced by net capital movements as a result of dividends paid to shareholders and a share buy-back.
- Legal & General experienced a 5% increase in Economic Capital Own Funds⁷ over the year. The increase was mainly due to new business value, positive operating and non-operating variances, including from market movements, partially offset by a dividend paid to the shareholders during the year and the reflection of a Risk Transfer Agreement as part of the sale of their Mature Savings business.
- Swiss Re reported an increase in shareholder value of 3% over the year. This was mainly driven by positive results in Life & Health Reinsurance business from the restructuring of an intra-group retrocession agreement, model conversions, credit spreads tightening as well as performance from equity securities and favourable foreign exchange impacts. These gains were partially offset by experience from Property & Casualty Reinsurance and Corporate Solutions business being negatively impacted by large natural catastrophe events in the Americas in the second half of 2017.
- AXA reported that its shareholder value was fairly stable, experiencing a small 0.2% reduction in its group embedded value over the year, which translates to a change of GBP 0.1 billion. However this figure conceals a number of underlying movements which include: positive impacts from expected business contribution, the value of new premiums, and favourable economic conditions (increases in interest rates and higher equity markets), offset by the appreciation of the euro versus all main currencies, a proposed 2017 dividend to be paid in 2018 and reimbursement of subordinated debt, as well as some modelling changes.

Value of new business

As detailed earlier in this report, the Solvency II regime brought a lot of changes to EV reporting, including how companies report VNB. Some companies, such as Aviva and Generali, still disclose VNB despite discontinuing full embedded value reporting as VNB is perceived as an important metric by the market, and the one lacking in the public Solvency II disclosures.

From this year, Aviva now only reports VNB on an adjusted Solvency II Own Funds basis, having previously reported as well on an MCEV basis in 2016. For 2017, the VNB has increased by around 25% reflecting increases across all geographical regions.

Legal & General reported its VNB on an EEV (not market consistent) basis, allowing for the changes brought about by the movement to Solvency II. This differs from Legal & General's basis for the total shareholder value which is reported on an adjusted Solvency II Own Funds basis, and so represents a market consistent measure.

This is not the only example of a firm using a different basis for the total shareholder value and VNB. For example, whilst the Solvency II contract boundaries definition is used for the AFR⁸ by AXA, limitations regarding the boundaries of an insurance contract are not considered for the calculation of the VNB.

At the start of 2017, Generali introduced the Solvency II contract boundaries rules into its calculation of VNB based on MCEV Principles. As a consequence, the reported figures for 2016 reduced from EUR 1,256 million to EUR 1,193 million. In the 2017 report, as well as an EV VNB metric Generali also included a new measure Solvency II Value of New Production (**Solvency II VNP**), defined as the value generated at issue, arising from

⁷ Legal & General's total shareholder value metric.

⁸ AXA's total shareholder value metric.

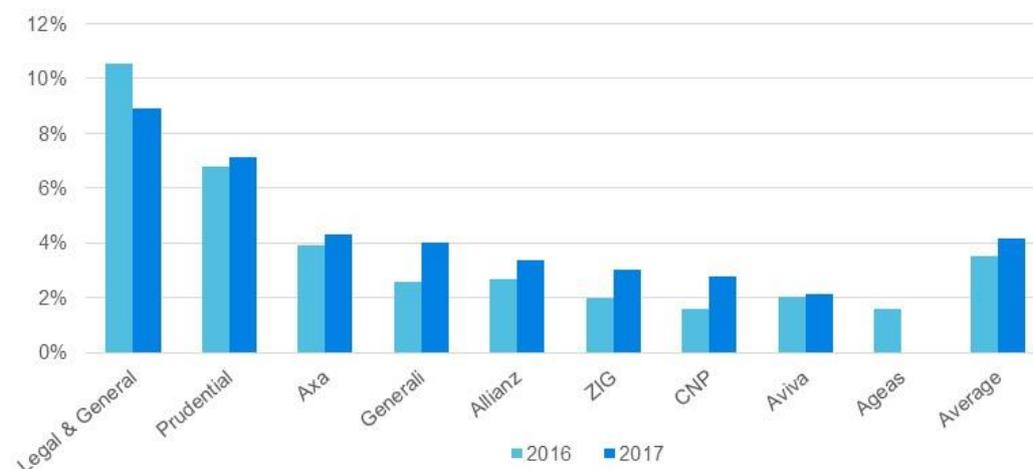
new life business written, of Solvency II Own Funds, as well as a reconciliation between the two approaches. The reported numbers at year-end 2017 differ as follows: EUR 1,820 million on VNB basis, versus EUR 1,615 million on the Solvency II VNP basis. The differences between the two measures lie in the tax treatment of minorities, the removal of FCRC and CRNHR and inclusion of the Solvency II Risk Margin, removal of look through profits not recognised under the Solvency II framework and the removal of French new business pensions products, which are treated under the Institutions for Occupational Retirement Provision (**IORP**) transitory regime.

Overall, results for new business during 2017 were positive, and had increased from the previous year, for the majority of companies in our sample, with two companies (Swiss Re and Legal & General) experiencing a fall. The total VNB written by the current CFO Forum members (that disclosed their VNB at the end of 2017) was GBP 11.3 billion (EUR 12.76 billion) in 2017, compared with GBP 11.0 billion (EUR 12.4 billion) in 2016. A number of reasons were noted by companies for these improved values of new business. They included: successful management actions such as steering business mix towards more capital efficient and/or profitable products, reducing guarantees in more traditional lines of new business, introducing less interest sensitive products and being able to respond more quickly to repricing, if needed; changes in assumptions; and the slight recovery in economic conditions.

Figure 7 below shows the values of new business over the last three years for the CFO Forum members that disclosed their new business results. As was the case in 2016, Prudential, AXA and Allianz took the top three positions in terms of VNB in 2017.

Underlying the VNB results, the average new business margin⁹ for the CFO Forum members increased slightly to 4.1% in 2017 from 3.5% in 2016¹⁰. Figure 6 shows the new business margin for CFO Forum members that disclosed results in 2017 and 2016. There was an approximate 2.0% increase in new business volumes over 2017.

FIGURE 6: NEW BUSINESS MARGIN FOR CFO FORUM MEMBERS AT YEAR-END 2016 AND 2017



Notes:

1. In 2017 Aviva calculated VNB on an adjusted Solvency II basis, thereby replacing MCEV VNB. Figures for 2016 reflect this methodology change to provide a like-for-like comparison.
2. Ageas did not disclose VNB figures for 2017.
3. Generali introduced Solvency II contract boundaries rules to its NBV calculation during 2017. Restated 2016 figures have been used for comparative reasons.

Companies in the CFO Forum experienced a mixture of movements in their VNB. CNP, Generali, ZIG, Allianz and Aviva saw VNB increases of more than 22%. The top performer, based on percentage increase in the VNB, was CNP which saw a significant 79% increase in VNB in 2017 compared with 2016, primarily driven by a shift in sales mainly in France to more profitable segments, changes in non-economic assumptions (for example, claims, surrenders and costs), and improvement in interest rates and lower interest rate volatility in the Eurozone.

⁹ Throughout this report, 'new business margin' is defined as the ratio of VNB to the present value of new business premiums (written in the year).

¹⁰ This includes companies disclosing their results in 2017 only.

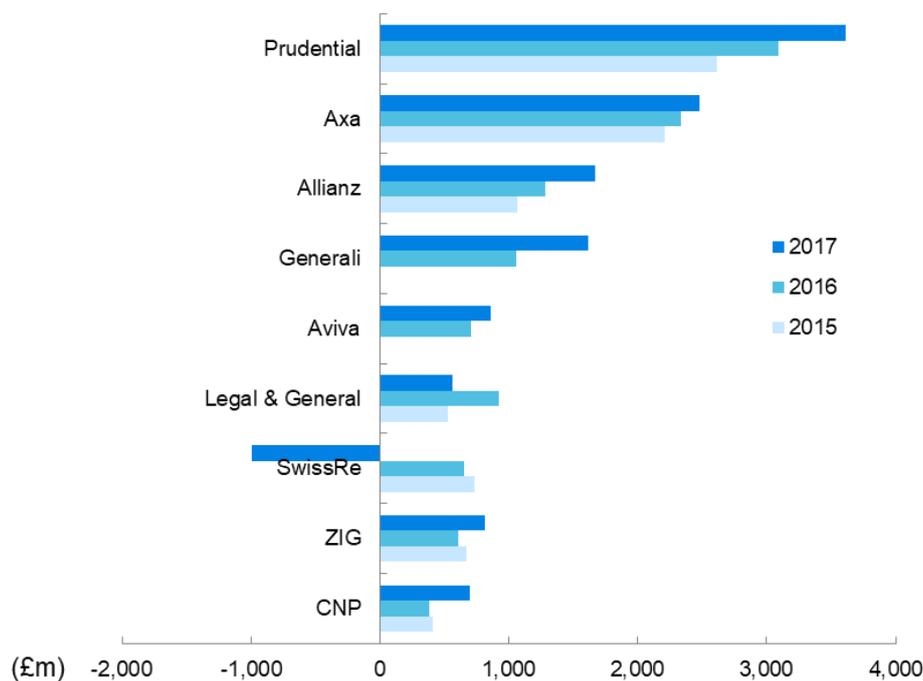
Approximately 78% of the CFO Forum members surveyed saw an increase in their new business volumes.

Two companies experienced a decrease in their VNBs in 2017: Swiss Re and Legal & General.

Swiss Re reported that its VNB dropped by more than 250%, from a profit of GBP 655¹¹ million in 2016 to a loss of GBP 996¹¹ million in 2017. This drop was mainly driven by lower Property & Casualty Reinsurance and Corporate Solutions new business results following large natural catastrophe events in the Americas in the second half of 2017. This was partially offset by a strong new business result in Life & Health Reinsurance.

Legal & General reported a reduction in new business figures in 2017 compared with 2016, largely owing to differences in the mix of new business including a shift towards lower margin products, as well as competitive pricing movements.

FIGURE 7: PUBLISHED VALUE OF NEW BUSINESS BY CFO FORUM MEMBERS AT YEAR-END 2015, 2016 AND 2017



Notes:

1. Ageas did not disclose EEV at the end of 2017. Scor and Talanx did not disclose EEV at the end of 2016 and 2017. As a result these firms have not been included in Figure 7.
2. VNB for Aviva is based on published adjusted Solvency II VNB, adjusted for tax and controlling interests.
3. Swiss Re VNB only includes the value from its underwriting activities.
4. Past years' results are converted to GBP using the year-end 2017 exchange rate to exclude the effects of exchange rate in comparison.

¹¹ Using year-end 2017 exchange rate: GBP 1 = USD 1.350.

METHODOLOGY CHANGES

Based on our analysis of companies' embedded value methodologies, evolving practices and emerging market trends, including the convergence between EV and Solvency II methodologies, continue in the following areas: 1) the risk-free rates and 2) CoC and CRNHR. We briefly consider each of these in detail below.

Risk-free rates

At the 2017 year-end, the majority of firms within our survey were more or less fully aligned with Solvency II when setting their risk-free rates, through the use of the risk-free interest rate term structures published by EIOPA, including the extrapolation methodology and the use of a volatility adjustment (**VA**).

ZIG moved to adopt Solvency II EIOPA swap rates in the EEA, so that its MCEV yield curve became fully aligned to the Solvency II yield curve, having previously used the methodology for liquidity premium from the fifth Quantitative Impact Study (**QIS5**).

In addition, when calculating VNB Aviva has aligned its risk-free rates to the Solvency II curves including the credit risk adjustment, volatility adjustment and fundamental spread for the matching adjustment (**MA**).

Cost of capital

The majority of companies use a frictional cost approach to calculating cost of capital, which is the approach under the MCEV Principles. However, the definition of required capital differs among companies, such as setting their required capital with reference to local regulatory requirements, and/or including a floor of the Solvency II capital based on Standard Formula or the firm's internal assessment of capital required.

If companies align their MCEV balance sheets with Solvency II, and if the Solvency II Risk Margin includes sufficient allowance for the frictional costs of required capital, then no further allowance for frictional costs of required capital is needed. This is the approach increasingly adopted by companies, and has been adopted by Uniqa in 2017.

Cost of residual non-hedgeable risks

This is another area where there has been a further alignment between EV and Solvency II methodologies, with companies aligning their CRNHR with the Solvency II Risk Margin.

Figure 8 shows the range of CoC charges for those companies included in our analysis, that have disclosed this information, split by CFO Forum members and other companies. The CoC rate is one of the key subjective areas where companies use a range of rates, based on their views, whilst the Solvency II regime prescribes the rate of 6% to be used in the Risk Margin calculations.

FIGURE 8: EQUIVALENT COST OF CAPITAL CHARGE FOR NON-HEDGEABLE RISKS AT YEAR-END 2016 AND 2017

COMPANY	2016	2017
CFO FORUM MEMBERS		
Allianz	6.00%	6.00%
AXA	6.00%	6.00%
CNP	2.50%	2.50%
Generali	4.00%	4.00%
Legal & General*	6.00%	6.00%
ZIG	4.00%	4.00%
OTHER COMPANIES		
Baloise	4.00%	4.00%
Chesnara	3.00%	2.75%
Old Mutual	2.00%	2.00%
Uniqa	2.00%	6.00%
Vienna	6.00%	6.00%

* Legal & General has not explicitly disclosed the cost of capital charge used to calculate its Economic Capital Own Funds. However, this shareholder value measure is derived from a Solvency II Own Funds basis, and as a result a charge consistent with this basis has been assumed.

Figure 8 shows that for 2017 the lowest charge was 2% used by Old Mutual, and the highest was 6% which four companies used including Uniqa, given their adoption of the Solvency II Risk Margin over 2017.

A 6% cost of capital charge is considered by many in the industry to be too high. For example, Chesnara states that it considers 6% to be 'materially' above its realistic view of cost of capital. Therefore, in its own economic capital calculation (based on adjusted Solvency II Own Funds), it assumes a 2.75% cost of capital, which is one of the main adjustments made to its Solvency II Own Funds to arrive at the economic value.

However, on 28 February 2018 EIOPA released a final report outlining its second set of advice to the European Commission on the Solvency II Delegated Regulation¹² (BoS-18/075) which among other things advised on the calculation of the Risk Margin. In particular EIOPA did not recommend a change to the 6% rate for cost of capital used in the calculation. Its rationale for maintaining the rate at its current level includes:

- Recalculating the CoC by applying the same methodology originally used to calibrate it (a backwards-looking capital asset pricing model) to data that includes more recent market experience gives a CoC range of 6.7% to 7.8%, which is similar to the current 6% level.
- A forward-looking dividend discount model approach requires too many significant assumptions on future economic development.
- Expert opinion is that there is no statistically significant relationship between interest rates and the equity-risk premium required by investors in insurance entities, and therefore low interest rates are not an argument to decrease the CoC rate.
- The CoC is intended as an over-the-economic-cycle parameter and so, again, low interest rates are not an argument to decrease the CoC rate.

Whilst this advice from EIOPA is useful to firms in considering a suitable market consistent cost of capital rate, it is not binding, and therefore the CoC rate remains an area on which firms can make their own judgement when it comes to their calculation of a shareholder value metric.

¹² The full text is available at https://eiopa.europa.eu/Publications/Consultations/EIOPA-18-075-EIOPA_Second_set_of_Advice_on_SII_DR_Review.pdf.

Solvency II based value metrics

This is a new aspect to shareholder value reporting that has been considered in this report, compared with our report last year.

Since the implementation of Solvency II on 1 January 2016, firms in the European Union have been required submit an SFCR annually and disclose it publicly. As part of this submission, a number of Quantitative Reporting Templates (QRTs) are reported which, among other things, set out a firm's Own Funds (OF) (S.23.01) at the valuation date as well as the impact of long term guarantees and transitional measures (S.22.01).

In light of the Solvency II regime and its underlying principles centred on best estimate assumptions, it has been suggested by a number of industry participants that Solvency II Own Funds may be a suitable value metric to replace embedded value (as stated earlier in this report). In support of this, the price paid for a number of recent market transactions has been quoted as a percentage of Own Funds, which suggests the relevance of a Solvency II based metric. For example Phoenix Group announced on 23 February 2018, as part of its proposed acquisition of Standard Life Assurance (SLA), that its total consideration payable represented 84% of SLA's estimated Solvency II Own Funds as at 31 December 2017. This compares to 85% and 89% of Solvency II Own Funds that were paid for the recent acquisitions of AXA Wealth and Abbey Life, respectively, by Phoenix Group.

Solvency II Own Funds has many features that could make it a suitable candidate as a metric to measure shareholder value. However, as detailed in the Milliman paper 'Solvency II Own Funds Approach to Shareholder Value Reporting'¹³ some adjustments may be necessary. With this in mind, we define the following quantity as Solvency II Adjusted Own Funds using information in the publicly available QRTs:

Solvency II Adjusted Own Funds =

Total eligible own funds to meet group SCR (S230104__R0660_C0010 / S230101__R0290_C0010)¹⁴
 + *Foreseeable dividends, distributions and charges (S230104__R0720_C0060 / S230101__R0720_C0060)*
 + *(Gross) Risk Margin (where the TMTP is not used)*
 - *Subordinated liabilities (S230104__R0140_C0010 / S230101__R0140_C0010)*
 - *Total ancillary own funds (S230104__R0400_C0010 / S230101__R0400_C0010)*
 - *Ratio-ed (Gross) Risk Margin*

An explanation around the construction of this metric, and therefore the use of each component to adjust Eligible Own Funds, is set out below:

- **Foreseeable dividends, distributions and charges:** *Dividends become foreseeable at the latest when they are declared or approved by the firm's board of directors; regardless of any requirement for formal approval at the AGM. However, until the dividends have been paid out to shareholders they still contribute value to a firm, and would be reflected in other market metrics e.g. market capitalisation. For this reason they have been added to Eligible Own Funds in the formula above.*

- **(Gross) Risk Margin:** *If future experience follows the current best estimate assumptions underlying the Solvency II balance sheet, the Risk Margin would be expected to be released over time and would flow straight to profit. For this reason the gross Risk Margin has been added in the formula; however this only applies where the Transitional Measure on Technical Provisions (TMTP) is not used, as the existence of the TMTP offsets (perhaps totally or partially) the Risk Margin (for UK based entities) and hence has the effect of releasing the Risk Margin (or part of it) upfront. Care must be taken with the value of the TMTP for entities based outside the UK, particularly if the TMTP does not arise from a comparison of the Solvency II Technical Provisions to the liabilities under a prior market consistent regulatory regime (as was the case with the Individual Capital Assessment (ICA) in the UK).*

¹³ Milliman (June 2017). [Solvency II Own Funds Approach to Shareholder Value Reporting](http://uk.milliman.com/uploadedFiles/Solutions/email-marketing/Solvency-II-Own-Funds-Approach-%20Shareholder-Value.pdf), Milliman Shareholder Value Reporting. Retrieved 26 December 2018 from <http://uk.milliman.com/uploadedFiles/Solutions/email-marketing/Solvency-II-Own-Funds-Approach-%20Shareholder-Value.pdf>.

¹⁴ The QRT references presented in the formula relate to group entities. An equivalent entry is used where relevant for solo entities.

- **Subordinated liabilities:** Whilst subordinated liabilities rank below policyholder liabilities and hence, under Solvency II, are included as part of Own Funds, ultimately these liabilities remain payable and would therefore be reflected in a shareholder value measure.

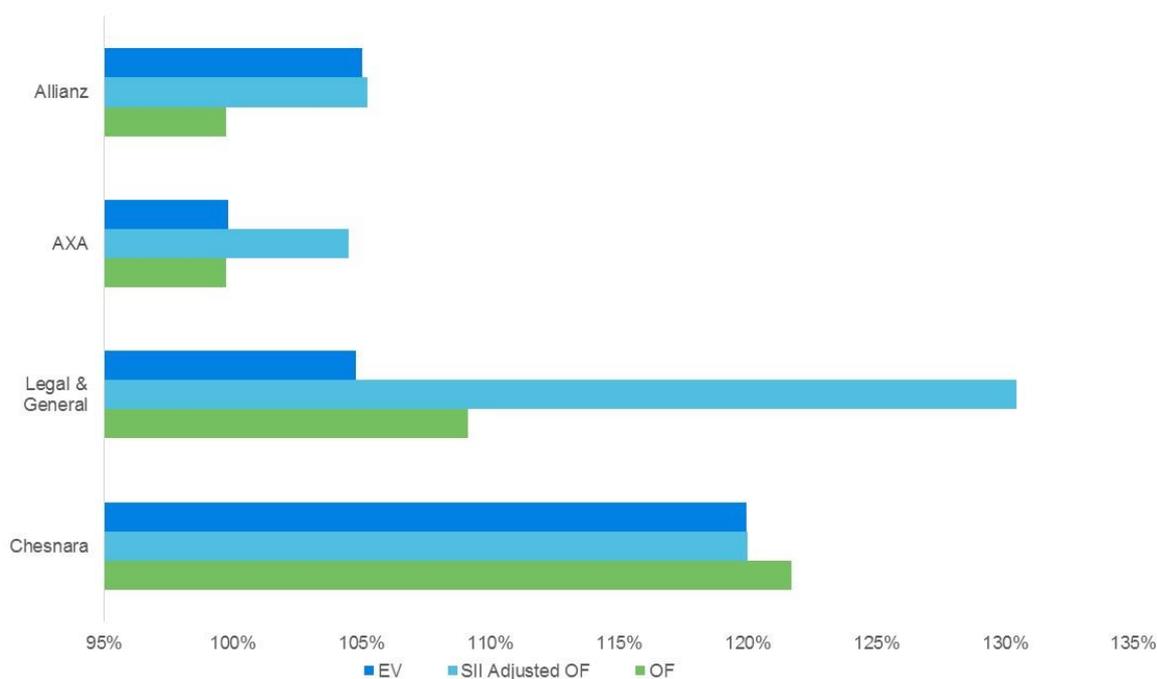
- **Total ancillary own funds:** Solvency II introduced the concept of an unfunded capital instrument known as Ancillary Own Funds (AOFs). AOFs are committed lines of capital but are not paid-up or called-up when issued. Instead, they absorb losses when paid-up or called-up at a future point in time. Given that the funds are not fully realised (at year-end 2017), AOFs have been deducted in the formula above.

- **Ratio-ed (Gross) Risk Margin:** A 'ratio-ed' Risk Margin quantity has been deducted to reflect CRNHR and FCRC. We approximate the total of these amounts by scaling the Risk Margin to allow for the CoC rate¹⁵ applicable to the firm (if available), adjusted for tax where necessary.

It is possible that there are alternative methods to calculating a metric, based upon adjustments to the Solvency II Own Funds each with their respective advantages and limitations¹⁶. However, it is our opinion that the Solvency II Adjusted Own Funds metric considers the key adjustments required to give a reasonable view of the economic value of the company; based on information that is publicly available. In addition, this approach seems to be broadly in line with that observed for a number of firms in our sample. We intend to revisit this approach as market practice and disclosures continue to evolve.

Figures 9 and 10 show a comparison between the change in reported EV value and change in the Solvency II Adjusted Own Funds metric (defined above) for CFO Forum members, as well as for other companies that disclosed EV at year-end 2017 (but excluding those firms regulated in Switzerland, which are hence outside of the EU).

FIGURE 9: COMPARISON OF MOVEMENT OF EV AND OF OVER 2017 (WHERE SHAREHOLDER VALUE REPORTING IS BASED ON THE SOLVENCY II METHODOLOGY)



¹⁵ Where the CoC rate used by a firm has not been explicitly disclosed, we have approximated the rate as the risk discount rate less the risk-free rate. Where firms write multiple business lines and/or business across different territories, an approximate weighted average has been estimated. Furthermore, the risk margin under Solvency II is calculated before tax, whereas under shareholder value reporting the CRNHR may be reported after tax. Therefore, where applicable, the CoC rate used here has been modified to make allowance for this.

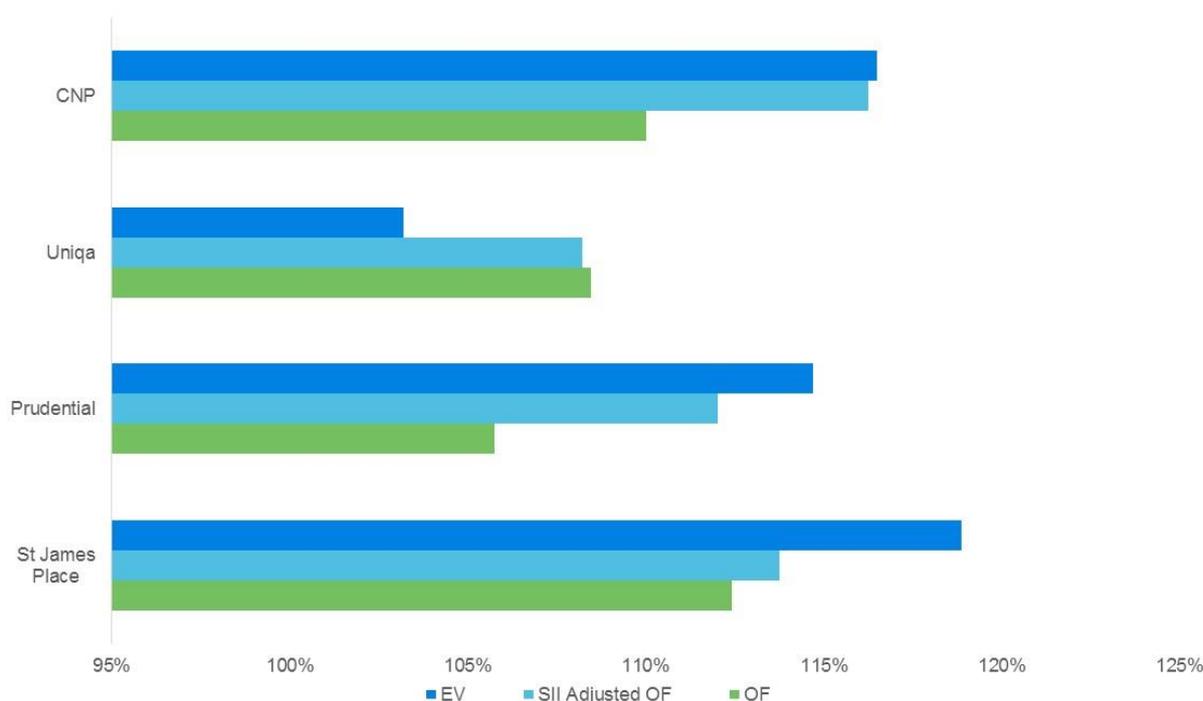
¹⁶ One such alternative metric is Solvency II Appraisal Value (S2AV) as detailed in the paper 'S2AV: A Valuation Methodology for Insurance Companies under Solvency II' (October 2016) available at <http://ch.milliman.com/uploadedFiles/insight/2016/S2AV-solvency-II-valuation-method.pdf>.

The firms shown in Figure 9 have adopted various forms of shareholder value reporting based on the Solvency II methodology. As a result, the movement in Solvency II Adjusted Own Funds might be expected to be the most aligned with the movement in EV for firms whose shareholder value reporting is based on the Solvency II methodology.

However for various reasons, this is not always the case, including:

- **Contract boundaries:** Solvency II introduced the concept of contract boundaries, which determines the expected cash flows which can be deemed to be associated with the contract. Firms are not constricted in the same way when calculating their shareholder value metric. However, the impact of any difference in approach is not always publicly disclosed in a firm's EV report and, as a result, an adjustment to allow for this cannot easily be made to a Solvency II based metric by external analysts and/or interested parties. Chesnara, however, disclosed the impact of contract boundaries in moving to its Economic Value (EcV) measure as GBP 14.4 million in 2017 (GBP 27.0 million in 2016) partially explaining the movements observed in Figure 9.
- **Restrictions on ring-fenced funds (RFFs):** Restrictions apply, under Solvency II, to reflect the lack of transferability of those Own Funds items that can only be used to cover losses arising from a particular segment of liabilities or from particular risks. It may not be appropriate to reflect these formal restrictions in a value metric, and as such an adjustment could have been made in the formula for the Solvency II Adjusted Own Funds set out above. Whilst some information is disclosed around RFFs in the QRTs, it is not sufficient to be able to establish what share of the associated adjustment is apportioned to shareholders. Chesnara has explicitly disclosed the impact of RFF restrictions on the calculation of its EcV measure as GBP 26.5 million in 2017 (GBP 10.6 million in 2016)¹⁷.
- **Subordinated liabilities:** In the Solvency II Adjusted Own Funds metric, this item is deducted to reflect that ultimately these liabilities remain payable. However, a number of firms appear to have adopted a different approach to subordinated liabilities and retained this item in their shareholder value metric, including AXA and Legal & General. This partly explains the movements observed in Figure 9 for these two firms.

FIGURE 10: COMPARISON OF MOVEMENT OF EV AND OF OVER 2017



Notes:

1. Uniqa restated its EV for 2016, partly as a result of adopting the after-tax Solvency II risk margin over 2017. The restated figures have been used in Figure 10.

¹⁷ Chesnara discloses this adjustment in its EV report for 2017. Within its QRTs this item appears under 'Other basic own fund items', which may for other firms include other items. Hence this quantity has not been included as part of the calculation of our Solvency II Adjusted Own Funds metric.

For the firms shown in Figure 10, which adopt other forms of shareholder value reporting e.g. MCEV, EEV, the results are mixed. This may be caused by the issues described above (i.e. contract boundaries, restrictions on ring-fenced funds, subordinated liabilities) as well as other reasons such as a change in the approach to the Solvency Capital Requirement (**SCR**) calculation where the Risk Margin is a material component of Own Funds. For example, Uniqa moved from adopting the Standard Formula approach to using a partial internal model over 2017 which has materially reduced its SCR, and therefore Risk Margin, in 2017 compared with 2016.

Other possible reasons for differences between metrics may include:

- **Prudent margins:** The use of margins of prudence within assumptions. For example, in preparing its EV results a firm may continue to apply a basis which is consistent with the former realistic regime i.e. under Solvency I.
- **Capping of TMTPs (for UK based entities):** Solvency II requirements apply a restriction of the TMTP if the Solvency II Financial Resource Requirements (**FRR**)¹⁸ are below those of the more onerous of Pillar 1 and ICA. Whether this cap bites for a firm is not clear from its QRTs alone and does not appear to be readily disclosed. The uncapped TMTP could be seen as a measure of margins in the Solvency II Technical Provisions compared to the ICA (which may have been seen to be less prescriptive). If the TMTP is capped, it may not reflect all such margins.
- **Approvals:** Firms may make allowance for some items in their EV for which approval is required under Solvency II. To the extent approval has not yet been granted by the regulator this would lead to a difference. For example, a firm may make an allowance for a liquidity premium in the calculation of its shareholder value metric where it does not have MA approval under Solvency II.
- **Complexity of the business:** Where firms write many lines of business and/or across many territories the complexity in the different approaches adopted under Solvency II and/or local GAAP requirements and EV may suggest that producing a metric based off Solvency II disclosures may not be meaningful.

For many of the issues raised above, the limited nature of the information publicly disclosed by firms under Solvency II inhibits the opportunity to make the necessary adjustments if adjusting a Solvency II based metric as an external analyst or interested party. Unless EIOPA changes the disclosure requirements under Solvency II, with more granular detail provided in the QRTs, or firms explicitly disclose more information on the known differences between approaches in their EV reports, it is unlikely that a Solvency II based metric will replace the appeal for a more realistic shareholder value measure. However, as seen from Figures 9 and 10, the movement in this metric year-on-year does suggest it still has some relevance as a measure of shareholder value going forward and can perform better than considering only Solvency II Own Funds. Furthermore, for firms themselves that have access to more granular information, it suggests that a shareholder value metric using Solvency II Own Funds as a starting point may have some advantages over an independently calculated measure.

We intend to continue our research in this area going forward as market practice and disclosures continue to evolve.

¹⁸ FRR are the sum of technical provisions, non-technical liabilities and capital requirements under the respective measure.

Other measures of value

In this final section, we look at other measures of value which may be used by parties such as investors or market analysts. In particular, we consider market capitalisation and how it compares with embedded value and the Solvency II based proxy introduced in the previous section. We then consider how developments in IFRS reporting and International Capital Standards may impact shareholder value reporting going forward.

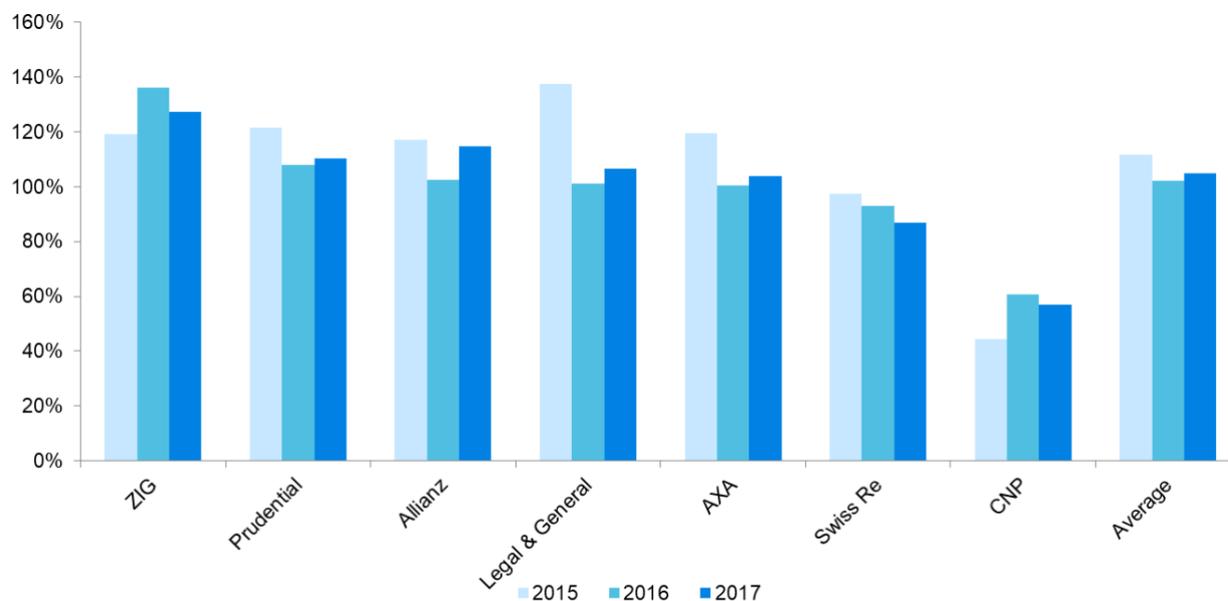
MARKET CAPITALISATION

One other recognisable measure of value of a quoted insurance company is market capitalisation. In fact, the acid test of any value metric has always been how much the market believes the result. One simplistic way of measuring this is to compare a company's market capitalisation with the value metric (for example, embedded value) at a given point in time and look at how this evolves over time, potentially in response to changes in the market environment.

However, discrepancies in the embedded value and the market capitalisation can be due to a number of reasons whose impact may not always be entirely clear. For example, no allowance is made within a company's embedded value calculation for future new business sales or for intangible assets such as the loyalty of a customer base, which may be factors investors consider and hence should be reflected within the market capitalisation. This may suggest that, as long as these items are thought to create value, market capitalisation should exceed the reported embedded value. Other reasons for discrepancies may be timing differences between the availability of embedded value and market data, as well as multiple business lines being written (e.g. non-life, investment management, pension fund management) whereby profitable non-life business is not recognised under EV reporting but will be captured in the market capitalisation.

Figure 11 shows the market capitalisation as a percentage of the embedded value for current CFO Forum members included in our survey, as at year-end 2015, year-end 2016 and year-end 2017.

FIGURE 11: MARKET CAPITALISATION AS A PERCENTAGE OF EMBEDDED VALUE AS AT 31 DECEMBER 2015, 2016 AND 2017



Notes:

1. Ageas and Generali did not disclose embedded value results for 2017.
2. Aviva, SCOR and Talanx did not disclose embedded value results for 2017 or 2016.
3. Market capitalisation has been sourced from Bloomberg for the last trading day of 2017, 2016 and 2015.

The average ratio of market capitalisation to embedded value was 105% as at year-end 2017. Looking at individual ratios, all but one company were in the range of 87% to 127% (compared like-for-like with 93% to 136% in 2016), with CNP outside this range at 57%.

Ageas and Generali did not disclose an EV in 2017, thereby reducing the number of firms included in this part of the analysis. In addition, Ageas had the largest ratio of all the other firms included in our survey in 2015 and 2016, such that excluding its contribution (in isolation) would serve to reduce the average ratio.

IFRS 17 AND SHAREHOLDER VALUE

In May 2017, the International Accounting Standards Board (IASB) published its new standard on accounting for insurance contracts, IFRS 17. This new regime establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts, as defined within the scope of the Standard. The aims of the Standard are to achieve consistent accounting for insurance contracts, to increase transparency in financial information reported by entities that issue insurance contracts, and to report information based on current estimates. Subject to EU endorsement, the Standard will apply for accounting periods starting on or after 1 January 2022¹⁹. However, entities are required to provide a prior year of comparative figures.

In many ways, IFRS 17 provides a market consistent measure of the value of insurance contracts, similar in concept to Solvency II, under which insurance contract liabilities are recalculated at each valuation date to reflect market conditions at that date. The general model used for the measurement of the insurance contract liability on an IFRS 17 balance sheet is composed of the following three building blocks:

- the Present Value of future Cash Flows of insurance contracts (**PVCF**)
- the Risk Adjustment for non-financial risk (**RA**)
- the Contractual Service Margin (**CSM**)

The CSM is an amount representing the unearned profit for an insurance contract. Under the general measurement model, this is locked in at inception of the contract and amortised in line with the delivery of the insurance services to the holder of the contract.

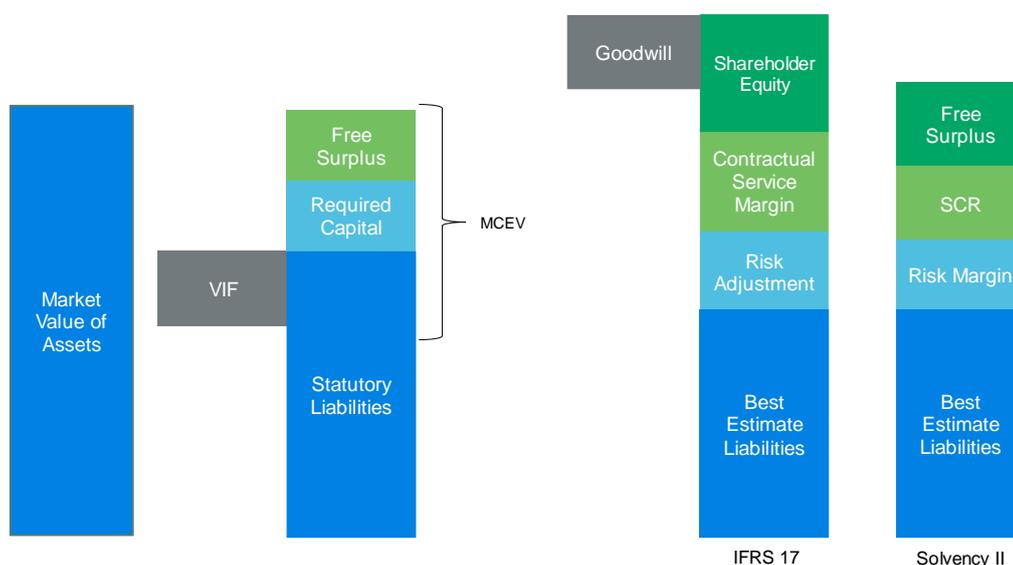
Under IFRS 17, the PVCF and RA together form the Fulfilment Cash Flows (**FCF**) which is defined as an explicit, unbiased and probability-weighted estimate of the present value of the future cash outflows minus the present value of the future cash inflows that will arise as the entity fulfils insurance contracts, including a risk adjustment for non-financial risk. Due to the IFRS 17 requirement for entities to measure insurance contracts from the perspective of the entity rather than a market participant (as is the case in Solvency II), the FCF provide an indication of the value that the entity assigns to the group of insurance contracts being measured.

The disclosure requirements of IFRS 17 are substantial, and the intention is that the level of disclosure will allow interested parties – investors, market analysts – to obtain a sufficient amount of information about the profitability of the business. Given the market consistent approach to valuation and the potential for considerable disclosure, IFRS 17 appears to be a candidate for deriving shareholder value in future. However, as with the Solvency II Adjusted Own Funds approach within Solvency II, idiosyncrasies and features of the IFRS 17 regime lead to a valuation not immediately comparable to MCEV. Therefore, adjustments to the IFRS balance sheet are likely to be necessary to estimate shareholder value.

¹⁹ An IASB vote in November 2018 opted to delay this by one year from the original implementation date of 1 January 2021. However, at the time of writing, this is still subject to due process.

Figure 12 provides a comparison of the IFRS 17 balance sheet with the MCEV and Solvency II equivalents.

FIGURE 12: COMPARISON OF MCEV, SOLVENCY II AND IFRS 17 BALANCE SHEET



Adjusting IFRS 17 to derive shareholder value

Shareholder value under MCEV can be estimated using the measure:

- Adjusted Net Asset Value (**ANAV**); plus
- Value in Force (**VIF**).

A comparable value for these components needs to be derived from the IFRS disclosures to arrive at an estimate of shareholder value.

ANAV is, by definition, adjusted from the net asset value on an IFRS balance sheet, and therefore it depends on whether such adjustments will be made public in disclosure. IFRS 9 is applied to evaluate financial products on an IFRS balance sheet and some financial assets such as fixed income securities may not be marked to market, but unrealised gains and losses on those assets can be obtained due to the financial instrument's disclosure requirements by IFRS 7. Assuming that the FCF of insurance contracts under IFRS 17 are roughly equivalent to the market-consistent value, then the CSM can be said to represent or correlate closely with VIF. However, some caution in this comparison is required. The VIF under MCEV is the present value of distributable earnings to shareholders, allowing for the cost of holding statutory reserves and the additional capital required by any solvency capital regime. The CSM does not allow for such costs of capital, but assumes that insurance contract liability under IFRS 17 will be held in future periods.

Components of the IFRS 17 insurance liability

The table in Figure 13 compares some of the primary differences between the approaches of MCEV and IFRS 17 FCF.

FIGURE 13: COMPARISON OF MCEV AND IFRS 17 FCF

COMPONENT	MARKET-CONSISTENT EMBEDDED VALUE (MCEV)	FULFILMENT VALUE (IFRS 17)
FUTURE RENEWAL	Renewal of in-force business is included.	Excluded if certain out-of-boundary conditions such as fully repricable are met.
FUTURE NEW BUSINESS	Excluded, but new business value in the past one year is separately calculated.	Excluded, but a change of elements due to new business acquisition in the reporting period is disclosed.
EXPENSE ASSUMPTION	All overheads are included.	Overheads that are not directly attributable, such as product development cost, are excluded.
DISCOUNT RATE	Bottom-up ²⁰ . Option value and non-hedgeable risk allowance are explicitly reflected.	Either bottom-up or top-down ²¹ . If liability cash flows vary based on underlying assets, those characteristics are reflected.
OPTION VALUE	Time value of options and guarantees (TVOG) is explicitly allowed for by a stochastic method.	Explicit disclosure of liability option value is not required. It is implicitly allowed for by a probability-weighted mean.
RISK ADJUSTMENT	Explicitly allowed for. Indirect risks such as operational risk are allowed for. Cost-of-capital rate, if a cost-of-capital approach were applied to risks calibrated to value at risk (VaR) of 99.5% over one year, is disclosed.	Explicitly allowed for. Indirect risks such as operational risk are not allowed for. Confidence level (or equivalent) shall be disclosed.
OWN CREDIT RISK	Not considered.	Not considered.
PROFIT EMERGENCE	Recognised at a time when new business is acquired. Variance from expected values are recognised in each subsequent period.	Profits due to new business acquisition are deferred as CSM, and recognised over insurance period. If losses are expected, they are immediately recognised.

As characterised in Figure 13, IFRS 17 evaluates only those elements directly related to insurance contracts, while the shareholder value evaluation using MCEV tries to incorporate any operational costs and risks from an enterprise perspective. As such, adjustments to the IFRS 17 balance sheet are required to derive a meaningful shareholder valuation.

CSM and VIF

As mentioned, the CSM may be considered to correlate closely with the VIF calculated on a market consistent basis. Some of the key differences between the two measures are:

- The CSM is updated to reflect changes in expectations regarding future experience of non-economic factors (such as mortality and lapse rates). However, the CSM is not updated to reflect changes in economic factors for all business types. Significantly, under the general model, the discount rate used at policy inception to determine the CSM is applied throughout the term of policies that are not direct participation contracts.
- Groups of policies that are deemed loss making at policy inception do not incur a CSM; the loss is recognised immediately in the profit and loss (P&L) account, and cannot be offset against positive CSM determined for other groups.
- If adverse experience results in the CSM for a group of contracts falling to zero during the term of the contracts, then subsequent losses must be recognised immediately in the P&L. The CSM for the group is only reinstated if, after allowing for the recouping of losses previously recognised in the P&L, it subsequently recovers a positive value.

²⁰ Where bottom-up is defined as: (risk-free interest rates swap rates unless inappropriate) + (illiquidity premium).

²¹ Where top-down is defined as: (yields on equivalent asset less risk premium irrelevant to liability).

- It is unlikely that it will be practical to accurately calculate the CSM at policy inception, and roll it forward to the reporting date, for all business in-force when the Standard is first implemented. The Standard permits approximate estimates for the rolled-forward CSM to be used.
- The CSM for a group of contracts is determined after allowing only for those acquisition expenses that are deemed directly attributable to those contracts.

A potential future approach?

The market-consistent nature of IFRS 17 yields a potential candidate as a measure of shareholder value in the future. Given the ongoing development in some areas of the regime, and as companies have not yet implemented the requirements of the regime, the extent of information ultimately disclosed is unknown. Therefore, it is currently unclear whether the prerequisite information will be available to adjust the IFRS balance sheet to a shareholder view of value, or furthermore, in a manner more accurate than that of adjusting Solvency II Own Funds as detailed in the 'Solvency II based value metrics' section of this report above.

INTERNATIONAL CAPITAL STANDARDS

The International Association of Insurance Supervisors (IAIS) is developing a risk-based global Insurance Capital Standard (ICS). It is expected to apply to the approximately 100 Internationally Active Insurance Groups (IAIGs). The ICS is still in development. In 2016 the IAIS undertook the initial field testing of the ICS.

On 2 November 2017, the IAIS announced a unified path to convergence of group capital standards towards its goal of a single ICS that achieves comparable outcomes across jurisdictions. The agreement clarifies that implementation of ICS Version 2.0 will be conducted in two phases:

- A five-year 'monitoring period', during which ICS Version 2.0 will be used for confidential reporting to the group-wide supervisor (**GWS**) and discussion in supervisory colleges.
- The 'implementation of the ICS as a group-wide prescribed capital requirement (**PCR**)'.

Implementation of ICS Version 2.0 will have two equally important components:

- Mandatory confidential reporting by all IAIGs (and other interested Volunteer Groups at the option of the GWS) of a 'reference ICS'; and
- Additional reporting, at the option of the GWS, of ICS based on GAAP Plus valuation and/or other methods of calculation of the ICS capital requirement.

Version 2.0 of ICS was consulted on in 2018. The completion of ICS Version 2.0 is scheduled for late 2019, before the monitoring period begins on 1 January 2020.

It is not currently clear how the IAIS's ICS will interact with the capital requirements of Solvency II for the IAIGs that will be subject to both capital regimes. It may result in changes to the way such groups will measure and report their value to shareholders.



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