

MILLIMAN RESEARCH REPORT

Shareholder Value Reporting in Europe: Year-End 2018

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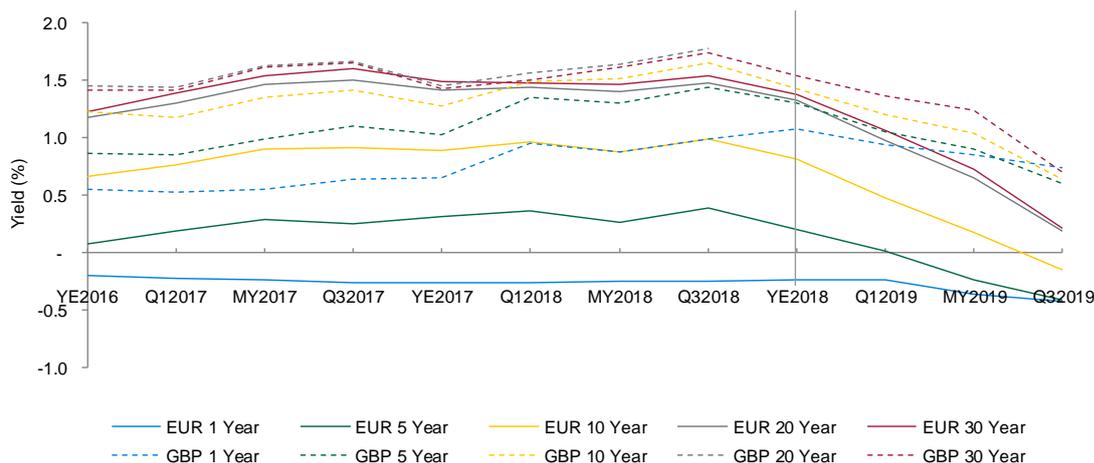
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Executive summary

BACKGROUND

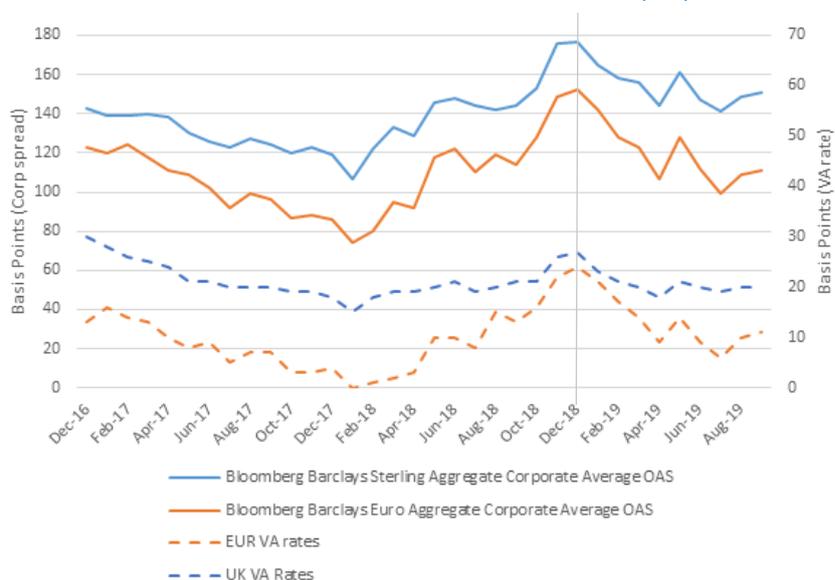
- Events over 2018 continued to be unsettled, as 2018 was a year in which market conditions showed little sign of improvement since the end of 2017. Interest rates remained largely flat over the year. This was accompanied by a widening of credit spreads and an overall trend of poor performance in equity markets during 2018, largely due to noticeable movements during the last quarter of 2018, although market conditions recovered and in some cases improved during the first three quarters of 2019.

FIGURE 1: RECENT TRENDS IN GBP AND EUR SWAP RATES



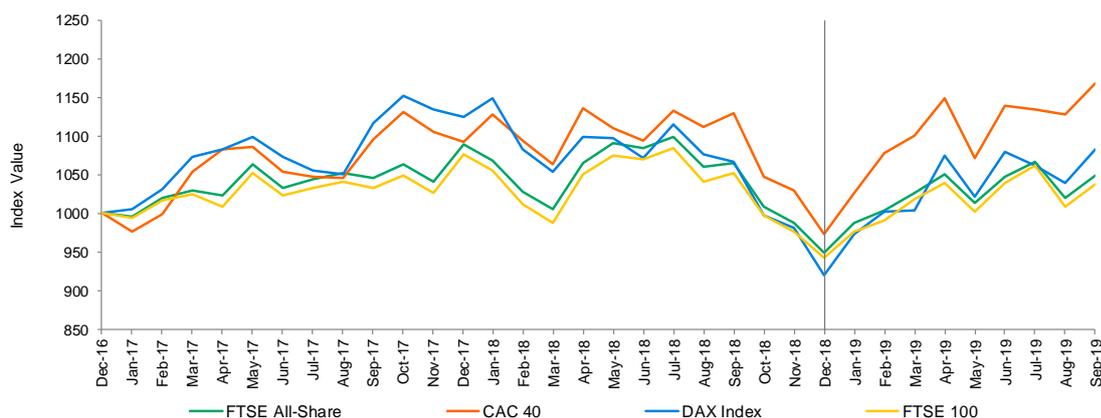
Source: Bloomberg

FIGURE 2: RECENT TRENDS IN CORPORATE SPREADS AND VA RATES (BPS)



Sources: Bloomberg; and EIOPA

FIGURE 3 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 2016

- These market conditions (up until year-end 2018) served to negatively impact companies' overall operations and results in 2018, compared with recent years, as discussed in this report. Looking beyond 2018 year-end, and how the change in market conditions observed for 2019 year-to-date may affect firms' shareholder value metric, we have considered the sensitivities reported by some firms as part of their embedded value (**EV**) disclosures. Across our sample of firms reporting EV at year-end 2018, a reduction in interest rates of 50 basis points (**bps**) on average reduced firms' shareholder value metric. For example, AXA reported that a 50 bps reduction in interest rates reduced its value metric on its covered business¹ by around 5%. Therefore, it may be the case that the observed movement in swap rates over 2019 to date would, all else being equal, be expected on average to lead to a reduction in firms' value metric. Similarly for firms across our sample disclosing a credit spread sensitivity, the impact of a reduction in credit spreads on average led to an increase in firms' value metric. For example, AXA reported a 2% increase in value of its covered business as a sensitivity to a reduction in credit spreads of 50bps². Observed spread movements (as shown in Figure 2) have not reduced this much over 2019 to date but, all else being equal, we may similarly expect an increase in value resulting from spreads narrowing.
- The trend to align EV reporting to Solvency II based methods observed during 2016, and continued in 2017, has levelled off in 2018, with firms now opting to make minor modifications to their existing approach rather than more significant changes. Firms continue to develop and use new metrics based on Solvency II Own Funds with an aim of reflecting the economic value of the business.

EV RESULTS IN 2018

- The trend in the number of companies publishing embedded value results is showing signs of stabilisation over the last year with the number of companies included in this study falling only slightly, from 17 to 16 firms, as Old Mutual³ did not publish EV results in 2018. Additionally, Legal & General no longer disclosed its Economic Capital results⁴ in 2018.
- Of those companies that did publish results, none changed their underlying calculation approach from last year. Aviva, AXA, Allianz and Chesnara continued 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 2018 (of which there were seven companies) had a combined embedded value of GBP 267 billion (EUR 298 billion) at the end of 2018, compared like-for-like with GBP 266 billion (EUR 296 billion) at the end of 2017. Experience amongst the companies studied was mixed, with the number of companies experiencing an increase roughly equal to those experiencing a decrease in embedded value compared with 2017.

¹ AXA's total shareholder value metric reported at 2018 year-end is comprised of "covered business", which makes up around 75% of the total value metric, and "other business" (which includes property & casualty business).

² AXA has assumed the volatility adjustment remains constant when assessing the impact of the credit spread sensitivity.

³ We note that Old Mutual plc underwent the execution of its managed separation strategy during 2018.

⁴ Used to determine Legal & General's total shareholder value metric.

- As was the case at 31 December 2017, Allianz, AXA and Prudential take the top three positions in terms of the largest combined business embedded values in 2018. The top performers based on percentage increase in embedded value since 2017 were also Allianz, AXA and Prudential.

NEW BUSINESS RESULTS IN 2018

- 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 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.
- 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 2018) was GBP 13.3 billion (EUR 14.8 billion) in 2018, compared like-for-like with GBP 11.4 billion (EUR 12.7 billion) in 2017.

METHODOLOGY CHANGES

- Based on our analysis of companies' embedded value methodologies, we highlight areas where firms have reported changes in their approach over 2018, including: 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 2018, the majority of firms within our survey are more or less fully aligned with Solvency II when setting their risk-free rates. Vienna changed its approach to risk-free rates in 2018 so that its scenario model allows for negative interest rates.

Cost of capital/cost of residual non-hedgeable risks

- Whilst a 6% cost of capital charge is prescribed under Solvency II, 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.
- The European Insurance and Occupational Pensions Authority (**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). Among other things the report 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.
- In September 2019, the Institute and Faculty of Actuaries (**IFoA**) Risk Margin Working Party published a paper discussing the Risk Margin. Whilst the working party's analysis did not reach a firm conclusion on a preferred calculation methodology, it did see merit in considering a number of changes.
- On 19 December 2018, EIOPA put out a call for input with respect to the Solvency II reporting and disclosure review in 2020. One of the key areas under scrutiny by EIOPA will be the calculation of the Risk Margin, which includes requests for feedback on whether, for example, the cost of capital rates should vary for different types of business. The European Commission has requested that EIOPA provide its advice by 30 June 2020 on items it has identified as deserving a reassessment.
- Should any of the above lead to changes to the calculation of the Risk Margin there may be an impact on the calculation of firms' future shareholder value metric where a Solvency II based approach is used.

SOLVENCY II BASED VALUE METRICS

- Given the wider adoption of value metrics based on the level of Solvency II Own Funds, analysis has been conducted on two metrics related to Solvency II:
 - Solvency II Adjusted Own Funds (**S2AOF**)
 - Solvency II Appraisal Value (**S2AV**)
- The results of the analysis show that, in many cases, the S2AOF metric is the closest to the disclosed EV and in particular, is often closer than the value of (unadjusted) Own Funds. On the other hand, although the value of S2AV can be materially lower than the disclosed EV, this comparison appears stable from year-to-year. The lower base level of the S2AV metric potentially reflects the fact that it is a real-world valuation methodology that allows for cost of capital at the shareholders' required rate of return. In fact, the difference between S2AV and EV results is not too dissimilar from some of the observed differences between market capitalisations and EV results, although market capitalisation may make an allowance for other potential areas of value which are

not included in the S2AV approach considered in this report. On balance, S2AV may be a more useful metric for some stakeholders or in certain situations where a real-world approach may be preferred (such as transaction pricing, for example).

- Some of the key limitations of the analysis, and for external stakeholders using these approaches, are the limited nature of the information currently publicly disclosed by firms within their Solvency and Financial Condition Reports (**SFCRs**). Firms themselves may find merit in the two metrics considered, as they would have access to more granular information on their own business whereas external parties may need to supplement the information in the SFCRs with data from other publicly available sources.
- EIOPA has recently put forward some suggestions to improve the level and consistency of information to be disclosed in SFCRs, such as the inclusion of a standardised set of sensitivities and the disclosure of the drivers of changes in Own Funds over the reporting periods. While this information has been requested by a number of external parties, such as analysts, and would help to improve the understanding of the dynamics of the firms in question, it does not appear to address some of the key areas that would enable the Solvency II based methodologies analysed to be refined based on the SFCRs alone.
- We intend to continue our research in this area going forward as market practice and disclosures continue to 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 73% to 135% (compared like-for-like with 87% to 127% in 2017). CNP was outside this range at 58%. The average ratio of market capitalisation to embedded value was 88% as at year-end 2018 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**"). 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 most likely apply in the EU for accounting periods starting on or after 1 January 2022.
- In June 2019, the IASB issued an Exposure Draft seeking the views of stakeholders on a range of amendments to the Standard that were proposed in response to issues raised during implementation. The consultation period for this closed on 25 September 2019 and the industry feedback has been published⁵.
- IFRS 17 disclosure requirements are substantial, and it is expected that it 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 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**). The IAIS expects that ICS will apply to the approximately 100 Internationally Active Insurance Groups (**IAIGs**). On 14 November 2019, the IAIS announced that it had adopted "a comprehensive set of reforms that will enable effective cross-border supervision of insurance groups and contribute to global financial stability". The hope is that these reforms will create more consistency and better regulation by members of the IAIS when dealing with large international firms. 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 and it may result in changes to the way such groups will measure and report their value to shareholders.

⁵ Bulpitt, T., Verheugen, H. & Kay, A. (October 2019). Industry responses to the 2019 IFRS 17 Exposure Draft. Milliman IFRS 17 Update. Retrieved 19 December 2019 from <http://uk.milliman.com/insight/2019/Industry-responses-to-the-2019-IFRS-17-Exposure-Draft/>.

Introduction

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 2018. Since the introduction of Solvency II there has been significant reduction in the number of firms disclosing EV.
- 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 and how this information may be used to approximate shareholder value metrics.
- A look at other measures of value including market capitalisation, IFRS and International Capital Standards.

MARKET CONDITIONS

Events over 2018 continued to be unsettled and this was reflected in market conditions which showed little sign of improvement compared to 2017. In fact, equity markets took a noticeable dip during the last quarter of 2018, although they had largely recovered by the end of the first half of 2019.

The following factors have all contributed to recent uncertainty in the business environment for firms:

- Uncertainty around the UK's withdrawal from the EU, including the repeated extension of the deadline date and the exact nature of the terms of any deal made with the EU.
- The shift in US foreign policy towards an emphasis on American nationalism (which has resulted in trade conflicts with many nations around the globe) and an unpredictable change in the level of engagement with different countries.
- The continued row between the European Commission and the Italian government over Rome's existing budget deficits and 2019 spending plan.
- Increased industry concern around environmental and cyber risks.

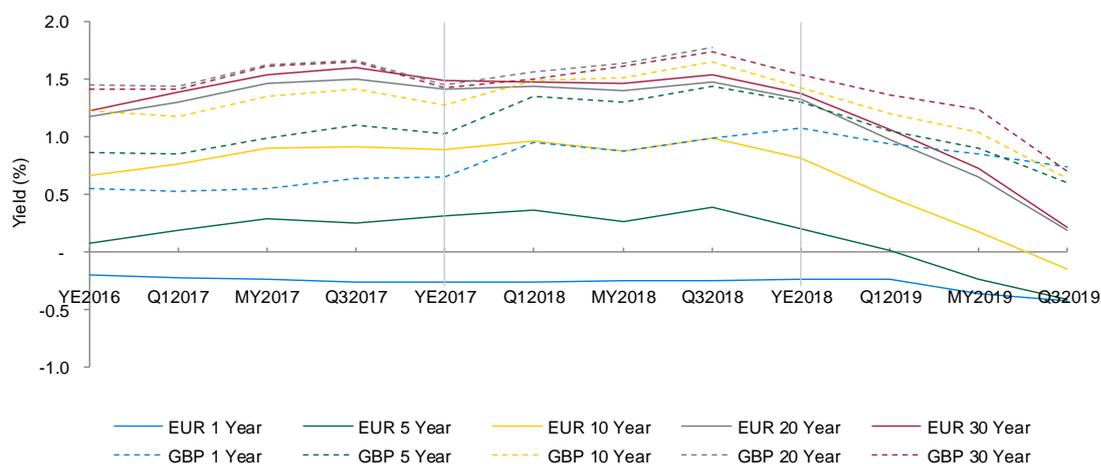
Therefore market conditions remained challenging for European firms throughout 2018 and beyond.

Interest rates were broadly flat over 2018, but with a deterioration by the end of the third quarter of 2019 (see Figure 1). Poor European economic growth, and an inflation rate that remains entrenched below the current goal of the European Central Bank (**ECB**) of just under 2%, has meant the ECB has given up on its previous plans to tighten policy. Instead, a new round of monetary stimulus began in November 2019 with a resumption of quantitative easing through restarting its asset-buying programme, which the ECB had previously wound up in December 2018. The ECB is expected to begin undertaking a review of its strategy in the near future under the new presidency of Christine Lagarde. This review is likely to include an assessment of the ECB's current inflation target, which may impact future quantitative easing programmes. The ECB may also choose to review its current limits on quantitative easing measures as part of this strategy review. The extreme conditions of negative interest rates prevailed at short and medium durations for the euro, with both the 5-year rate and the 10-year rate now having dropped during the first three quarters of 2019 to become negative, joining the 1-year rate which has been negative for at least the last three years.

A widening of credit spreads was also observed over 2018. This movement was mirrored by the change in the level of the Solvency II Volatility Adjustment (**VA**) set by EIOPA (as shown in Figure 2). Credit spreads are an important driver of value for insurers, given the prevalence to invest in the corporate bond market (relative to other corporate investors) as a result of the typical long-term nature of their liabilities. A widening of spreads such as this can lead to a reduction in the value of corporate bonds, which is not directly compensated by a fall in the value of liabilities, unless reflected in the VA, Matching Adjustment (**MA**) or a similar adjustment. By the end of the third quarter of 2019 spreads had slightly reduced but still remained above those at the beginning of January 2018.

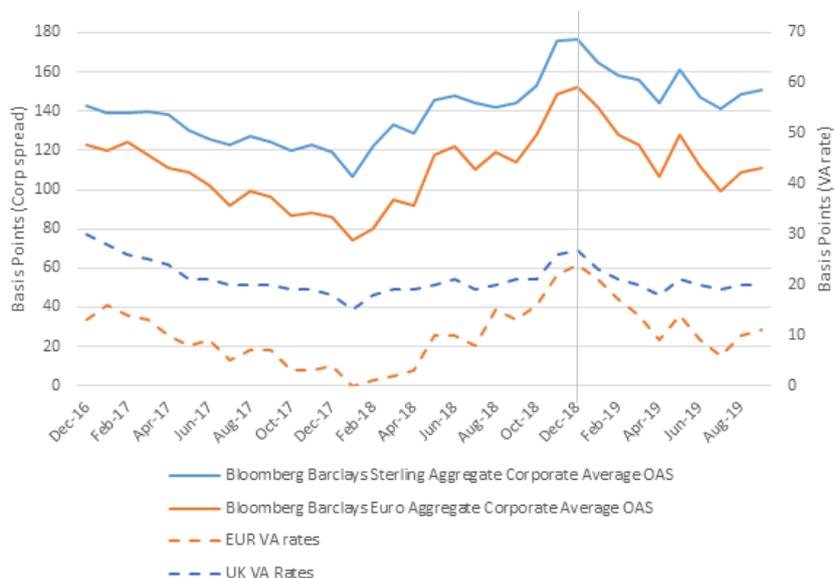
The trends in interest rates and credit spreads were accompanied by a fall in equity markets during 2018, although markets have since recovered and in some cases improved during the first three quarters 2019 (see Figure 3). This observed drop over 2018 was largely due to a fall over the last quarter of 2018, which left all indices lower than December 2016 levels. By the end of the third quarter of 2019 equity markets had bounced back and in some cases exceeded levels observed in September 2018, i.e. reaching the same level as before the fall, with the FTSE 100 index exceeding 7,400 at the end of September 2019.

FIGURE 1: RECENT TRENDS IN GBP AND EUR SWAP RATES



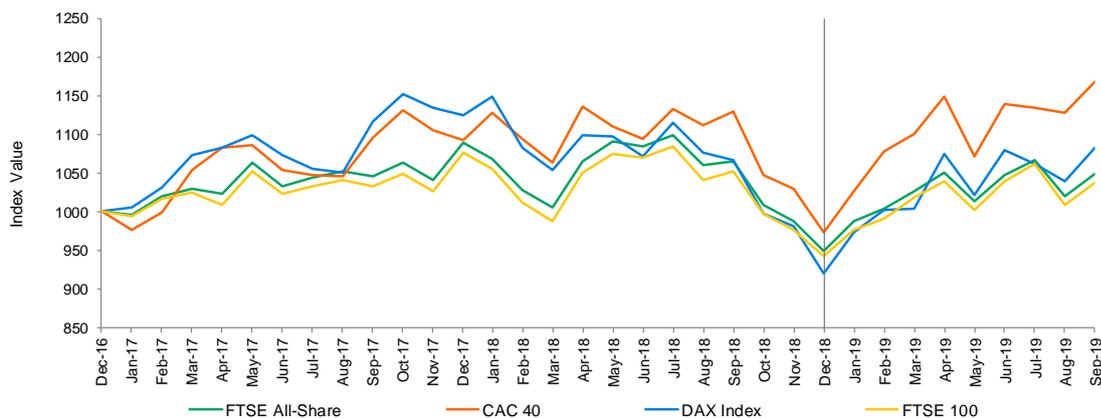
Source: Bloomberg

FIGURE 2: RECENT TRENDS IN CORPORATE SPREADS AND VA RATES (BPS)



Sources: Bloomberg; and EIOPA

FIGURE 3: 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 2016

More generally, the slight worsening in economic conditions compared with recent years – including flat and in some cases negative interest rates and unfavourable equity markets – has served to negatively impact companies’ overall operations and results, and contributed towards companies largely seeing a deterioration in their operating returns. For example, many companies commented that their shareholder value metric has reduced compared with 2017 as a result of unfavourable economic variances, as well as unfavourable exchange rate effects.

Embedded value

EMBEDDED VALUE APPROACHES

As highlighted in our last two publications⁶, there has been a continued reduction in EV disclosures in recent years, although this is starting to show signs of stabilising. In addition there has been a continued shift towards aligning EV reporting and Solvency II reporting. Whilst there was some convergence between EV and Solvency II reporting prior to Solvency II's implementation on 1 January 2016, this has been aided further by revisions in the European Embedded Value (**EEV**) and Market Consistent Embedded Value (**MCEV**) Principles and Guidance issued by the CFO Forum along with the appetite of firms to reduce the burden of reporting under a number of different financial standards. This convergence has also largely stabilised, with only minor incremental changes typically being made in 2018.

That said, Legal & General no longer disclosed its total shareholder value metric at year-end 2018. Previously the company's metric, Economic Capital surplus, used Solvency II Own Funds adjusted for features of Solvency II it viewed as uneconomic (e.g. matching adjustment restrictions and fungibility restrictions removed)⁷. The company may still report this measure internally, given that its approach is based on the Solvency II methodology, but has elected to no longer publicly disclose it.

The breakdown of the number of companies from our sample of 16 using EEV, market consistent EEV⁸, Market Consistent Embedded Value Principles⁹ (the **MCEV Principles**), and "Solvency II based" is shown in Figure 4. 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".

FIGURE 4: EMBEDDED VALUE REPORTING PRINCIPLES

EV REPORTING PRINCIPLES	2017			2018		
	CFO FORUM MEMBERS	OTHER COMPANIES	TOTAL	CFO FORUM MEMBERS	OTHER COMPANIES	TOTAL
EEV	0	0	0	0	0	0
Market Consistent EEV	0	2	2	0	2	2
MCEV	3	5	8	3	4	7
Solvency II Based	4	1	5	4	1	5
Other	2	0	2	2	0	2
Total	9	8	17	9	8	16

Notes:

1. Numbers of companies based on a sample of 16 in 2018. One company (Legal & General) no longer publicly discloses EV reporting.
2. Swiss Re does not report explicitly under either EEV or MCEV Principles but under a framework called Economic Value Management (**EVM**).
3. Prudential uses a market consistent approach for shareholder-backed annuities and EEV Principles for the rest of the business.

As noted above, in 2018 a few companies have continued to make minor refinements to their approaches to shareholder value reporting. Figure 5 outlines companies' approaches to reflecting the impact of Solvency II at year-end 2017 and any subsequent changes made to their methodologies at 2018 year-ends.

⁶ Reynolds, S. & Simpson, P. (July 2017). 2016 Embedded Value Results: Europe. Milliman Research Report. Retrieved 19 December 2019 from <http://www.milliman.com/insight/2017/2016-Embedded-Value-Results-Europe/>.

Wrobel, L., Reynolds, S. & Simpson, P. (December 2018). Shareholder Value Reporting in Europe: Year-End 2017. Milliman Research Report. Retrieved 19 December 2019 from <http://www.milliman.com/insight/2018/Shareholder-value-reporting-in-Europe-Year-end-2017/>.

⁷ Legal & General has continued to report its 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) for year-end 2018.

⁸ The term "market consistent EEV" describes a company reporting in compliance with the EEV Principles but on a market consistent basis.

⁹ Copyright© Stichting CFO Forum Foundation 2008.

FIGURE 5: HOW SOLVENCY IS REFLECTED IN EMBEDDED VALUE REPORTING YEAR-END 2017 AND 2018

COMPANY	HOW SOLVENCY II IS REFLECTED IN EV REPORTING (YEAR-END 2017)	UPDATE FOR 2018 YEAR-END DISCLOSURES
CFO FORUM MEMBERS		
Allianz	Full alignment with Solvency II. Includes a reconciliation from Solvency II disclosure (of Own Funds) to Analysis of earnings of EV.	For the first time, firm reported a reconciliation between Group Own Funds and MCEV for covered business. Also it introduced concept of "MCEV on Own Funds basis" to help in the explanation of Own Funds movements for covered business.
Aviva	Discontinued EV reporting. VNB published on Adjusted Solvency II basis (adjusted for contract boundaries and look-through profits of service companies).	No material changes disclosed.
AXA	New metric, "Available Financial Resources" (AFR), which corresponds to the surplus in the Solvency II balance sheet.	No material changes disclosed. To align with industry terminology, the previous term AFR has been replaced by Eligible Own Funds (EOF).
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 European Economic Area (EEA) companies and local regulatory capital for non-EEA companies. Definition of contract boundaries aligned with Solvency II (for in-force business only, VNB reported using this definition since 2017). In 2017 Generali only disclosed new business metric. At the start of 2017, introduced Solvency II contract boundaries rules into its calculation of New Business Value (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	No material changes disclosed.
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 longer publicly discloses Economic Capital surplus.
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.
Swiss Re	Reflected adoption of Solvency II for UK business.	Small number of changes, such as revising the method for allocating EVM deferred tax assets and liabilities to business segments.
Zurich Insurance Group (ZIG)	Regulatory balance sheet requirements in the UK and Ireland are aligned to Solvency II. 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.	No material changes disclosed.
OTHER COMPANIES		
Baloise	Aligned methodology of the reference yield curves with Solvency II, including use of a volatility adjustment.	Reduction in EV disclosures – high-level information available from annual report rather than a specific MCEV report as in previous years.
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, removal of restrictions on ring-fenced funds and recognition of dividends as paid.	No material changes disclosed.

FIGURE 5: HOW SOLVENCY IS REFLECTED IN EMBEDDED VALUE REPORTING YEAR-END 2017 AND 2018 (CONTINUED)

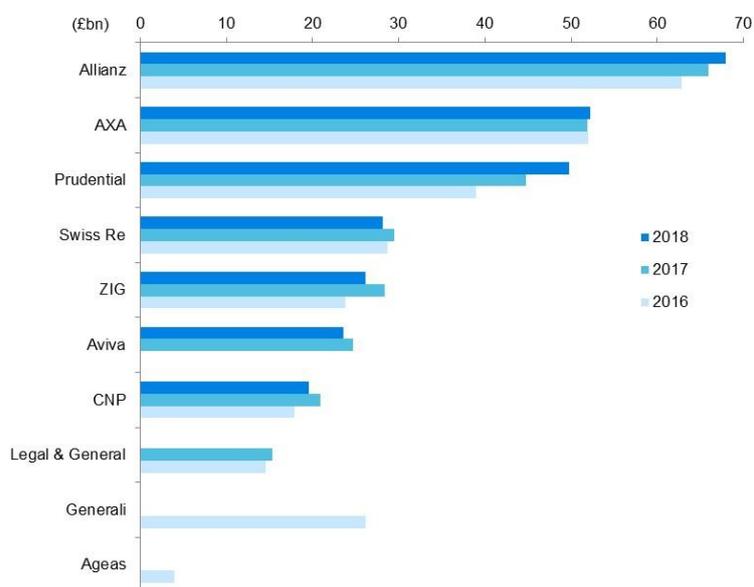
COMPANY	HOW SOLVENCY II IS REFLECTED IN EV REPORTING (YEAR-END 2017)	UPDATE FOR 2018 YEAR-END DISCLOSURES
OTHER COMPANIES		
Royal London	Prudential Regulation Authority's (PRA) realistic balance sheet is used for EV calculations. The group applies margins of prudence within assumptions and the definition of contract boundaries in a consistent way to the previous realistic regime. EIOPA swap curve is used. Allowance to reserve for reinsurer default.	No material changes disclosed.
St James's Place	Required capital methodology: hold a Management Solvency Buffer over unit-linked liabilities. A small number of changes were made in 2017 for increased alignment, such as the valuation of deferred tax assets.	No material changes disclosed.
Swiss Life	Aligned its definition of the risk-free curves with Solvency II specifications. Sensitivity analysis, with regard to insurance risk and market risk, is now based on how IFRS profit or loss and other comprehensive income would be affected; MCEV is no longer used for this purpose.	No material changes disclosed.
Uniq	The required capital is defined as the solvency required capital less subordinated debt and value of in-force (VIF) under the Solvency II regime. Contract boundaries are aligned with Solvency II. Risk-free rates are in line with EIOPA published rates. Adoption of Solvency II Risk Margin, where Risk Margin adjusted to present an after-tax value for MCEV reporting purposes. Subordinated debt valued using principles outlined under Solvency II.	No material changes disclosed.
Vienna	The firm defines required capital as the solvency required capital less subordinated debt and VIF under the Solvency II regime. Alignment of the MCEV and Solvency II methodologies; frictional cost of required capital (FCRC) and CRNHR replaced with Risk Margin; risk-free rates are in line with EIOPA published rates.	Updated Solvency II compliant treatment of contract boundaries in Slovakia. In 2018 the whole group switched to a new scenario model that allows for negative interest rates of the basic risk free rate.

EMBEDDED VALUE RESULTS

Embedded value

The CFO Forum members disclosing their embedded values at the end of 2018 had a combined embedded value of GBP 267 billion (EUR 298 billion) at the end of 2018 compared with GBP 266 billion (EUR 296¹⁰ billion) at the end of 2017. Figure 6 shows the embedded value results of current CFO Forum members at the last three year-ends.

FIGURE 6: PUBLISHED EMBEDDED VALUE RESULTS OF CFO FORUM MEMBERS AT YEAR-END 2016, 2017 AND 2018



Notes:

1. Where relevant, non-covered business is included at IFRS value.
2. Legal & General did not disclose embedded value results for 2018.
3. Ageas and Generali did not disclose embedded value results for 2018 or 2017.
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 2018 exchange rate to exclude the effect of exchange rate in the comparison.

Experience amongst the companies studied was mixed, with a roughly equal number experiencing an increase in embedded value as a decrease, compared with year-end 2017. A number of reasons were noted by companies in their disclosures for these mixed results. They included: the growth of new business over the year as well as improved business profitability, offset by largely negative economic conditions including unfavourable exchange rate movements.

The embedded values considered in Figure 6 include both covered and non-covered business. As was the case in 2017, Allianz, AXA and Prudential take the top three positions in terms of the largest combined business embedded values in 2018. These three firms were also the top performers based on percentage increase in embedded value compared to 2017. Looking at the performance over the year of each of the companies disclosing results at 2018 year-end (based on commentary in the relevant disclosures):

Allianz cited an increase in its MCEV from its covered business of 6% over the year¹¹. This was largely owing to strong sales of new business of its capital efficient products, supported by lower expenses, and returns in excess of reference rates¹² during the period; offset by market factors including: the widening of credit spreads, decreases in the equity markets and uncertainties around the Italian economy. The MCEV was reduced by net capital movements as a result of dividends paid to shareholders; offset by management actions which included the disposal of the firm's legacy book in Taiwan.

¹⁰ As at year-end 2018: GBP 1 = EUR 1.114.

¹¹ In 2018, Allianz did not disclose figures for its "non-covered business & financing adjustments under IFRS". This, together with the MCEV for its covered business, make up the firm's overall Group MCEV. For the purposes of this report, we have assumed that the contribution to Group MCEV for 2018 for this item is the same as that in 2017, which was EUR 37,190 million.

¹² Allianz defined a reference rate as: a proxy for a risk-free rate appropriate to the currency term and liquidity of the liability cash flows. Based on swap rates, includes a swap credit adjustment and illiquidity premium.

AXA reported that its shareholder value was fairly stable, experiencing a small 0.5% increase in its group embedded value over the year, which translates to a change of GBP 0.3 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 operating variance, offset by unfavourable economic conditions (lower equity markets, widening of credit spreads, and reduction in interest rates), a proposed 2018 dividend to be paid in 2019, as well as some modelling changes.

Prudential reported that its embedded value increased by 11% over the year, making it the top performer as measured by this metric of the companies in our sample. This increase was driven by strong profits across the business, continued growth of new business across all geographical regions, movements for exchange rates on foreign operations and net investment hedges, offset by external dividend payments.

Aviva reported that it experienced a 4% reduction in shareholder value over the year. The reduction was driven by dividend payments, a buy-back of ordinary shares, debt repayments and unfavourable market conditions (lower equity markets and a widening of credit spreads), offset by the impact of disposals and favourable operating variance.

Swiss Re reported a reduction in shareholder value of 4% over the year. This was mainly driven by experience from Property & Casualty Reinsurance business being negatively impacted by large natural catastrophe and man-made events in the Americas and Japan, the impact of credit spread widening and unfavourable foreign exchange impacts. These impacts were partially offset by positive results in Life & Health Reinsurance business reflecting a strong contribution from transactions in the Asia-Pacific region and improved core business profitability in the US as well as lower capital costs and performance from alternative investments.

CNP reported that it experienced a 6% reduction in embedded value over the year. This was driven primarily by negative opening adjustments (comprising dividends paid for the year 2017 and the anticipated payment of a contingent non-insurance liability), unfavourable economic effects including: interest rates and volatility movements in the eurozone, movements on stock markets and property and their volatility, unfavourable exchange rate effects, and also tax differences; offset by positive operational impacts (which comprises new business value, expected existing business contribution and variance related to operating activities).

ZIG reported a reduction in shareholder value of 8% compared with 2017. The reduction was mainly attributed to capital movements due to increased dividend payments from subsidiaries, mostly in EMEA, and unfavourable currency translation effects as well as certain model refinements in Germany and Switzerland. This was partially offset by a stable contribution from new business across most regions.

Value of new business

As detailed earlier in this report, the Solvency II regime led to a number of changes to EV reporting, including how companies report VNB. Some companies, such as Generali and Legal & General, 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.

Since 2017, Aviva only reports VNB on an adjusted Solvency II Own Funds basis, having previously reported as well on an MCEV basis in 2016.

Some firms use a different basis for the total shareholder value and VNB. For example, whilst the Solvency II contract boundaries definition is used for the EOF¹³ by AXA, limitations regarding the boundaries of an insurance contract are not considered for the calculation of the VNB.

Since 2017, as well as an EV VNB metric, Generali has included a measure called Solvency II Value of New Production (**Solvency II VNP**), defined as the value generated at issue, arising from new life business written, of Solvency II Own Funds, as well as a reconciliation between the two approaches. The reported numbers at year-end 2018 differ as follows: EUR 1,877 million on VNB basis, versus EUR 1,643 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, the 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.

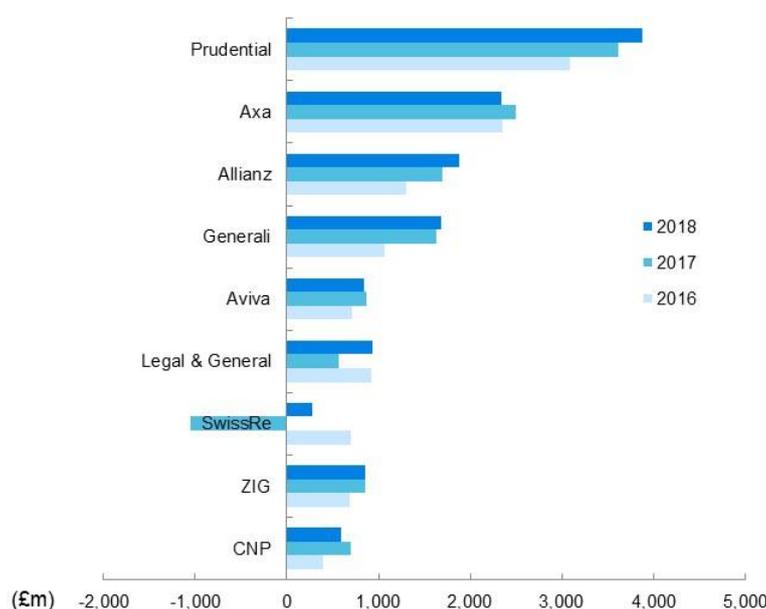
¹³ Eligible Own Funds, AXA's total shareholder value metric, as noted in Figure 5.

Overall, results for new business for CFO Forum firms during 2018 were positive, and increased from the previous year. However, at a company level results were mixed with just over half of companies in our sample experiencing an increase, and the rest experiencing a fall. The total VNB written by the current CFO Forum members (that disclosed their VNB at the end of 2018) was GBP 13.3 billion (EUR 14.8 billion) in 2018, compared with GBP 11.4 billion (EUR 12.7 billion) in 2017. A number of reasons were noted by companies for improved values of new business.

Figure 7 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 2017, Prudential, AXA and Allianz took the top three positions in terms of VNB in 2018.

Companies in the CFO Forum experienced a mixture of movements in their VNB, with approximately 55% of members surveyed seeing an increase in their new business volumes. Legal & General and Swiss Re saw VNB increases of more than 60%.

FIGURE 7: PUBLISHED VALUE OF NEW BUSINESS BY CFO FORUM MEMBERS AT YEAR-END 2016, 2017 AND 2018



Notes:

1. Ageas did not disclose EEV at the end of 2017 and 2018. As a result this firm has 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 2018 exchange rate to exclude the effects of exchange rate in comparison.

Prudential reported an increase in VNB of 7% in 2018, compared with 2017, driven by a beneficial effect of pricing, product mix and other actions reflecting its strategic emphasis on increasing sales from health and protection business in Asia, together with changes in long-term interest rates and other economic assumptions and higher sales volumes, offset by negative foreign exchange effects.

Allianz reported an increase in VNB of 11% in 2018, compared with 2017, with it attributing this to the fact its entities have quickly adapted their products on sale to the economic environment. Changes in non-economic assumptions also served to positively contribute to this movement, although this was offset by foreign exchange adjustments mainly due to a stronger euro.

Generali reported a small increase in its VNB of 3%, largely as a result of management actions performed to shift the business towards more profitable and less capital-intensive products, and to a lesser degree favourable economic variances.

Legal & General reported an increase in new business figures in 2018 compared with 2017 of GBP 369 million. The significant increase is driven by bulk annuity transfers with British Airways and Nortel, offset by differences in the mix of new business including a shift towards lower margin products, as well as competitive pricing movements.

Swiss Re reported a return to experiencing a profit of new business in 2018 compared with the loss experienced in 2017¹⁴. The 2018 result was mainly driven by a strong new business result in Life & Health Reinsurance, partially offset by the Property & Casualty Reinsurance and Corporate Solutions new business results following large natural catastrophe and man-made losses.

Four companies experienced a decrease in their VNB in 2018: Aviva, AXA, CNP and ZIG.

Aviva reported a reduction in its VNB of 3%, due to offsetting results across geographical regions. Whereas VNB increased comparatively in Europe and Asia, there was a drop in the UK figures primarily owing to competitive pressures in protection, platform and equity release markets. Business disposals also contributed to the reduction.

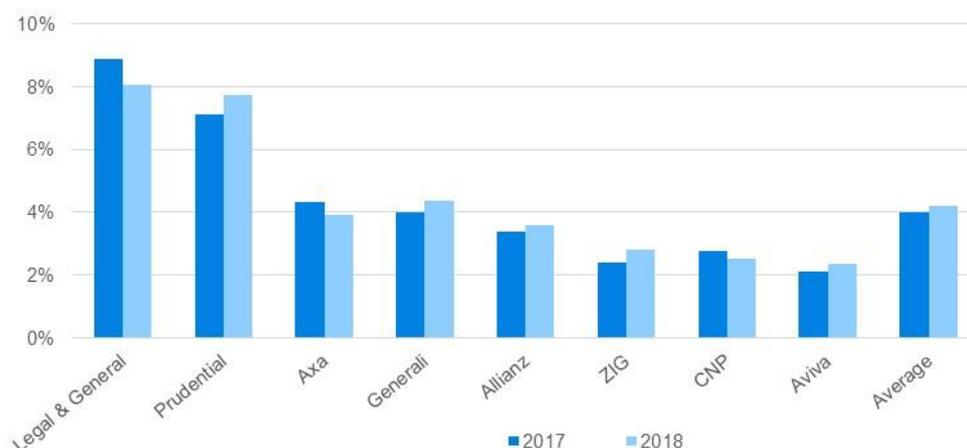
AXA reported a reduction in new business figures of 6% in 2018, compared with 2017, largely owing to differences in the mix of new business including a shift in sales towards a new and relatively lower margin product. In addition to this, it experienced an unfavourable update to investment assumptions (mainly driven by lower interest rates), the appreciation of the euro versus other currencies that are central to AXA's business, and the Initial Public Offering and subsequent sell-down of AXA Equitable Holdings over 2018.

CNP reported a 16% drop in VNB in 2018 compared with 2017, primarily due to a drop in volumes on credit insurance business (consistent with the decline in the credit market in France), changes in non-economic assumptions (for example, claims, surrenders and costs) and changes in the foreign exchange rates. These impacts were mitigated somewhat by an increase in the volume of savings business in Europe (excluding France).

ZIG reported that its VNB dropped by 0.5% in 2018 compared with 2017. The slightly lower performance was attributable to changes in business mix and new business volumes, particularly in North America and EMEA. This was offset by economic variances, mainly in EMEA, and operating variances in Australia and Japan. ZIG also stated that the protection business continued to perform strongly and was the main contributor to the new business value results.

Underlying the VNB results, the average new business margin¹⁵ for the CFO Forum members increased slightly to 4.2% in 2018 from 4.0% in 2017¹⁶. Figure 8 shows the new business margin for CFO Forum members that disclosed results in 2018 and 2017. There was an approximate 17% increase in new business volumes over 2017.

FIGURE 8: NEW BUSINESS MARGIN FOR CFO FORUM MEMBERS AT YEAR-END 2017 AND 2018



Notes:

1. For ZIG, the present value of new business premiums from 2017 has been corrected from our report last year so that it now includes all the business and therefore is consistent with the 2017 VNB figure in the numerator of the ratio.

¹⁴ Swiss Re reported a loss in 2017 largely owing to lower Property & Casualty Reinsurance and Corporate Solutions new business results following large natural catastrophe events in the Americas in the second half of 2017.

¹⁵ 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).

¹⁶ This includes companies disclosing their results in 2018 only.

METHODOLOGY CHANGES

Based on our analysis of companies' embedded value methodologies, we have highlighted below areas where firms have reported changes in their approach over 2018, covering: 1) the risk-free rates and 2) cost of capital (CoC) and cost of residual non-hedgeable risks (CRNHR).

Risk-free rates

One firm, Vienna, changed its approach in 2018 with respect to risk-free rates, to make an allowance for negative interest rates in its scenario modelling. This change to a more sophisticated approach may have been prompted by the prolonged extreme conditions of negative interest rates at short and medium durations recently experienced (as mentioned earlier in this report).

Cost of residual non-hedgeable risks

Figure 9 shows the range of CoC charges used in the CRNHR calculation 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 9: EQUIVALENT COST OF CAPITAL CHARGE FOR NON-HEDGEABLE RISKS AT YEAR-END 2016, 2017 AND 2018

COMPANY	2016	2017	2018
CFO FORUM MEMBERS			
Allianz	6.00%	6.00%	6.00%
Aviva	N/A	6.00%	6.00%
AXA	6.00%	6.00%	6.00%
CNP	2.50%	2.50%	2.50%
Generali	4.00%	4.00%	4.00%
Legal & General*	6.00%	6.00%	N/A
ZIG	4.00%	4.00%	4.00%
OTHER COMPANIES			
Baloise	4.00%	4.00%	N/A
Chesnara	3.00%	2.75%	3.25%
Uniqa	2.00%	6.00%	6.00%**
Vienna	6.00%	6.00%	6.00%

* Legal & General has not explicitly disclosed the cost of capital charge used to calculate its Economic Capital Own Funds (disclosed in 2016 or 2017). 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.

** Uniqa has not explicitly disclosed the cost of capital charge used to calculate its year-end 2018 MCEV. Given that no mention of a change is made in the 2018 report, it has been assumed that the charge is unchanged from year-end 2017.

Figure 9 shows that for 2018, for companies in our survey, the lowest charge was 2.5% used by CNP, and the highest was 6% (the Solvency II assumption) which four companies used.

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 3.25% 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 Regulation¹⁷ (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 an economic value or shareholder value metric.

The Institute and Faculty of Actuaries (IFoA) Risk Margin Working Party published a paper on this subject in September 2019, entitled “A review of the risk margin”¹⁸. Whilst the Working Party’s analysis did not reach a firm conclusion on a preferred calculation methodology, it did see merit in considering the following changes:

- To allow for an automatic change in the assumed cost of capital rate when risk-free rates change
- To allow a prudent illiquidity premium to be used in the calculations of the projected future SCRs and in the risk-free rate used in discounting the future costs of capital
- To allow certain longevity risk to be treated as hedgeable and the relevant part of the Risk Margin to be replaced by the cost of the hedge
- To move to, or to allow as an alternative, the approach being considered under international Insurance Capital Standard.

Solvency II – 2020 Review

The European Commission has requested that EIOPA provide its advice by 30 June 2020 on items it has identified as deserving a reassessment as part of the full review of the Solvency II rules required by the end of 2020 (the **2020 Review**) by the Solvency II Directive. This, as well as other items due to be reexamined, may have an impact on the calculation of firms’ future shareholder value metric.

On 19 December 2018, EIOPA put out a call to all stakeholders for input with respect to the Solvency II reporting and disclosure review in 2020. One of the key areas which will be under scrutiny by EIOPA is the calculation of the Risk Margin, which includes the consideration of allowing varying cost of capital rates for different types of business as well as a review of the assumptions used to derive the cost of capital rate (including absence of leverage); although the cost of capital methodology will not be up for discussion.

On 25 June 2019 EIOPA published a first wave of consultation papers on its proposals for the 2020 Review regarding supervisory reporting and public disclosure and insurance guarantee schemes. On 15 October 2019 EIOPA issued a second wave of consultation, accompanied by an impact assessment document. It is this second wave where stakeholders have been asked for feedback in relation to the possible allowance for the Volatility Adjustment (VA) or Matching Adjustment (MA) in the Risk Margin calculation and in relation to the use of a fixed cost of capital rate. The deadline for submitting information for the second wave is 15 January 2020.

¹⁷ 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.

¹⁸ The paper is available at <https://www.actuaries.org.uk/documents/review-risk-margin-solvency-ii-and-beyond20190909>.

Solvency II based value metrics

Firms in the European Union are required to produce 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 at the valuation date as well as the impact of long term guarantees and transitional measures.

As detailed in our 2017 publication "Shareholder value reporting in Europe: Year-end 2017"¹⁹ (the **2017 Shareholder Value Report**), a number of firms (and other industry participants) consider that Solvency II Own Funds may be a suitable value metric to replace embedded value. In support of this, some of the disclosures relating to transaction prices are now being quoted in terms of Own Funds rather than EV as had been the case in the past.

Solvency II Own Funds has many features that could make it a suitable candidate as a metric to measure shareholder value. However, some adjustments to Solvency II Own Funds may be necessary so that the metric better reflects the economic value of the firm. In this section of this report, two approaches are considered that have been previously detailed in Milliman papers, namely:

- Solvency II Adjusted Own Funds (S2AOF), as covered in the Milliman paper "Solvency II Own Funds Approach to Shareholder Value Reporting"²⁰
- Solvency II Appraisal Value (S2AV), as covered by a number of Milliman papers:
 - S2AV: A Valuation Methodology for Insurance Companies under Solvency II²¹
 - Measuring New Business Profitability under Solvency II (S2NBV)²².

There are some inherent challenges in the use of metrics based solely on the data and information in the SFCR and QRTs and some of these are covered in more detail at the end of this section. In addition to this there remain differences in the implementation of Solvency II among countries on points such as the use of the transitional measures, the application of the loss absorbency of both technical provisions, and deferred taxes, to name just a few. These differences may hinder the comparison of Solvency II based value metrics among firms in different countries.

Solvency II Adjusted Own Funds

The S2AOF methodology is a market-consistent metric that is already used by some firms in their supplementary value disclosures. The application of this approach to data disclosed in SFCRs was first covered in the 2017 Shareholder Value Report. For the purposes of the analysis in this section, the definition of S2AOF has been revised to be:

S2AOF =

Own Funds

+ *Foreseeable dividends, distributions and charges*

- *Subordinated liabilities*

+ *Own Funds removed due to the restriction for ring-fenced funds and matching adjustment portfolios*

+ *Risk Margin less TMTP (net of tax)*

- *Ratioed (Gross) Risk Margin*

¹⁹ Wrobel, L., Reynolds, S. & Simpson, P. (December 2018). Op. cit.

²⁰ Milliman (June 2017). Solvency II Own Funds Approach to Shareholder Value Reporting. Milliman Shareholder Value Update. Retrieved 19 December 2019 from <http://uk.milliman.com/uploadedFiles/Solutions/email-marketing/Solvency-II-Own-Funds-Approach-%20Shareholder-Value.pdf>.

²¹ Kent, J. & Morgan, E. (October 2016). S2AV: A valuation methodology for insurance companies under Solvency II. Milliman Research Report. Retrieved 19 December 2019 from <http://www.milliman.com/uploadedFiles/insight/2016/S2AV-solvency-II-valuation-method.pdf>.

²² Morgan, E. & Kent, J. (September 2017). Measuring new business profitability under Solvency II (S2NBV). Milliman Research Report. Retrieved 19 December 2019 from <http://uk.milliman.com/uploadedFiles/insight/2017/new-business-profitability-Solvency-II.pdf>.

As the definition of S2AOF has been revised compared with that used for the 2017 Shareholder Value Report, 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.
- **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.
- **Own Funds removed due to the restriction for ring-fenced funds:** 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. For the purposes of this analysis, this restriction has been removed.
- **Risk Margin less TMTP (net of tax):** 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 (and be subject to taxation). For this reason the (net of tax) Risk Margin has been added in the formula. Similarly, the Transitional Measure on Technical Provisions (**TMTP**) will run off over time and hence would be a drag on future profits (and affect the level of taxation).
- **Ratioed (gross of tax) Risk Margin:** A "ratioed" Risk Margin quantity has been deducted to reflect CRNHR and FCRC. The total of these amounts is approximated by scaling the Risk Margin to allow for the CoC rate applicable to the firm (if available), adjusted for tax where necessary.

Solvency II Appraisal Value (S2AV)

The S2AV methodology is more of a "real-world" based valuation approach and the original Milliman research focused on how this metric may be used to inform transaction pricing (details of how the S2AV approach compared with actual transaction prices can be found in a Milliman white paper²³).

For the purposes of the analysis in this section, the following definition of S2AV has been used:

S2AV =

Own Funds

+ *Foreseeable dividends, distributions and charges*

- *Subordinated liabilities*

+ *Own Funds removed due to the restriction for ring-fenced funds and matching adjustment portfolios*

+ *Risk Margin less TMTP (net of tax)*

- *Cost of capital associated with holding the SCR (including target solvency ratio)*

- *Cost of capital associated with holding the amount: Risk Margin less TMTP*

+ *The proportion of the assumed (net of tax) impact of return above risk-free on risky assets attributable to shareholders.*

This S2AV formula shares some similarities with the formula used for S2AOF above, with the main differences being an allowance for assumed "real-world" returns and for the cost of holding the SCR (including market risks) and the Risk Margin. As a result of these additional elements some further assumptions are required for S2AV, including:

- Target solvency ratio – assumed in this analysis to be 150%
- Spread earned on risky assets – assumed in this analysis to be 5% p.a.
- Shareholders' required rate of return (for cost of capital calculations) – assumed in this analysis to be (RFR + 10%) p.a.

²³ Kent, J. & Morgan, E. (March 2019). Shining New Light on European Insurance M&A. Milliman White Paper. Retrieved 19 December 2019 from <http://uk.milliman.com/uploadedFiles/insight/2019/Shining-light-European-insurance-MA.pdf>.

Comparison of the metrics

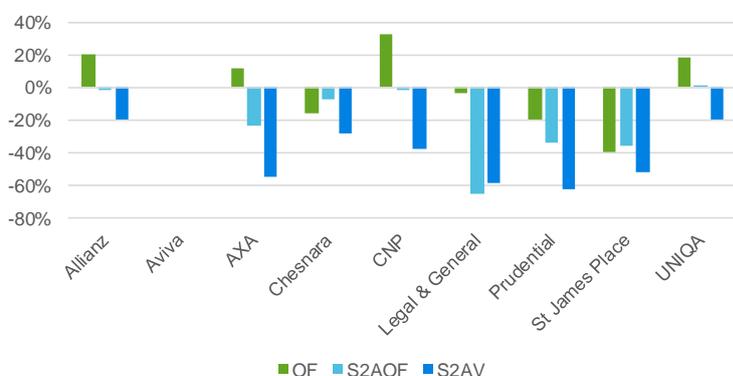
The S2AOF and S2AV methodologies have been applied to data from the year-end 2016, year-end 2017 and year-end 2018 SFCRs for a number of firms in our sample and the results have been compared to the firms' disclosed EV and the level of (unadjusted) Own Funds. The firms in the analysis include CFO Forum members and other companies that disclosed EV at year-end 2018 (but exclude those firms regulated in Switzerland, which are hence outside of the EU).

It should be noted that due to the limited availability of data within the SFCRs, the assumptions required and the approximations inherent in both of the methodologies, the aim of the analysis is not to indicate whether firms' disclosed embedded value may be seen to be "too high" or "too low". Instead, the analysis aims to see whether there is merit in the two approaches to estimating value and highlight any areas where further work or information may be required.

The charts in Figure 10 show a comparison between the level of Solvency II Own Funds, the S2AOF metric and the S2AV metric as at year-end 2016, year-end 2017 and year-end 2018 (where the necessary information was publicly disclosed). Each of these amounts has been shown as a percentage of the disclosed EV for that firm at the valuation date. For example, values above 0% indicate that the result is higher than the disclosed EV.

FIGURE 10: COMPARISON OF VALUE METRICS FOR YEAR-END 2016, 2017 AND 2018

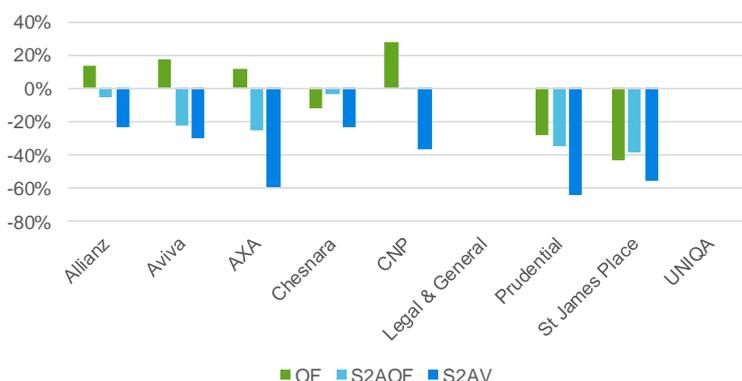
YEAR-END 2016



YEAR-END 2017



YEAR-END 2018



The following observations can be made from the comparison of the various metrics:

- The results look to be consistent year-on-year, that is, any unders or overs compared to the disclosed EV seem to be similar for each firm at each year-end.
- For many firms, S2AOF is the closest to the disclosed EV. In a number of cases (Allianz, Chesnara, CNP and Uniqa) the value of S2AOF almost exactly matches the disclosed EV. This may be expected as S2AOF is a market consistent measure, which is the more common approach for supplementary value disclosures (compared with a real-world approach).
- The S2AV results tend to be around 20% to 60% lower than the disclosed EVs, which is not too dissimilar to some of the results shown in the next section comparing disclosed EV versus market capitalisation. On average market capitalisation is 12% lower than disclosed EV as at year-end 2018, with one firm being 27% lower. It should be noted that market capitalisation would make an allowance for other potential areas of value, such as the value of new business, which are not included in the S2AV results in this section. This may explain some of remaining difference.
- For two companies (AXA and Legal & General) a large part of the differences can be attributed to the inclusion of the value of subordinated liabilities in the disclosed EV. If the value of subordinated liabilities is removed for the disclosed EV, the differences compared with S2AOF and S2AV reduce.
- For almost all firms in our sample and for all years, the value of S2AOF and S2AV is lower than Own Funds (the exceptions being Chesnara and St James' Place – two firms with no reported subordinated liabilities).
- The value of S2AV is the lowest value metric in almost all cases, sometimes materially so. This may be expected as the S2AV metric includes an allowance for the cost of capital on the SCR (including any target solvency ratio) though this is partially offset by the inclusion of assumed excess returns on risk assets.
- Both the S2AOF and S2AV methodologies also make no allowance for some areas of value that may typically be included in an EV, such as value arising from beyond the contract boundaries on certain lines of business.

There are a number of limitations of using the S2AOF and/or S2AV methodologies based solely on data and information contained in the SFCRs and QRTs, such as:

- **The lack of information on the potential value beyond any 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 and hence included in the Solvency II balance sheet. 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 (or SFCR). As a result, an adjustment to allow for this cannot easily be made to a Solvency II based metric by external parties without considering other information.
- **The lack of information on the ring-fenced fund restrictions.** Whilst some information is disclosed around restrictions arising from ring-fenced funds in the QRTs, it is not necessarily sufficient to be able to establish what share of the associated adjustment is apportioned to shareholders (and hence should be reflected in the economic value).
- **Approvals:** As there are fewer restrictions relating to supplementary value disclosures, firms may make allowance for some items in their disclosed 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 matching adjustment approval under Solvency II.

While many of the data and information limitations detailed above apply equally to both approaches, the S2AV methodology, due to its more complex nature, has some further areas to consider such as:

- Setting reasonable assumptions for the target solvency ratio and the shareholders' required rate of return. High-level assumptions have been used in the analysis within this section whereas the assumptions would typically vary from firm to firm.
- Estimating the amount of risky assets held by a firm and setting a reasonable (single) overarching assumption for the excess return premium and the proportion attributable to shareholders.
- Determining the duration of the business under consideration to apply within the calculation of the cost of capital items (and the present value impact of real-world returns on risky assets). A broad estimate can be found by comparing the value of the Risk Margin to the SCR held in respect of non-market/non-hedgeable risks. However, this can be difficult for (partial) internal model firms and firms with a complex group structure

due to the bespoke nature of the aggregation methodology (compared with standard formula or less complex firms). If, for example, firms disclosed information on the run-off pattern of their liabilities this could prove useful in refining the calculations.

For many of the issues raised above, the limited nature of the information publicly disclosed currently by firms under Solvency II inhibits the opportunity to make the necessary adjustments to more accurately reflect the economic value of a firm, particularly for external parties such as analysts. However, firms wanting to use these methods to calculate their own shareholder value metric have access to more granular information, and the analysis in this section indicates that a shareholder value metric using Solvency II Own Funds as a starting point (such as S2AOF and S2AV) may have some advantages over other independently calculated measures (depending on the purpose). Alternatively, external parties may seek to supplement the information in the SFCRs with other publicly available information to further enhance the calculations of S2AOF and S2AV.

At a high level, a projection of the Solvency II balance sheet underpins Solvency II based shareholder value metrics. Projections of this kind, particularly in real-world scenarios, pose a number of challenges. For example, the projection of the Risk Margin can be difficult as the Risk Margin at a point in time is based on a projection of the SCR, so a “full” Risk Margin projection may require nested projections (although typically more approximate methods will be used). Users of these Solvency II based methods should consider these challenges when using such metrics.

On 25 June 2019 EIOPA published a Consultation Paper²⁴ (CP) on its proposals for the 2020 Review regarding supervisory reporting and public disclosure. Milliman has produced a summary of the CP and the feedback EIOPA received from various stakeholders²⁵. Among the potential changes proposed to SFCRs is the inclusion of a standardised set of sensitivities (that are similar to those currently published under the MCEV and EEV principles) and the disclosure of the drivers of changes in Own Funds over the reporting periods. These suggestions are likely to be positively received by analysts and other interested parties though it remains unclear whether this goes far enough to capture the level of granularity sought after by such users. Furthermore, this additional quantitative information may not address all of the limitations that have been highlighted above.

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

²⁴ The paper is available at https://eiopa.europa.eu/Publications/Consultations/Call%20for%20input_reporting_disclosure%20review%202020.pdf.

²⁵ Milliman (September 2019). EIOPA Consultation Paper on proposals for Solvency II 2020 review. Milliman Briefing Note. Retrieved 19 December 2019 from http://assets.milliman.com/ektron/EIOPA_Consultation_Paper_on_proposals_for_SolvencyII_2020_review-Package_on_Supervisory_Reporting_and_Public_Disclosure-Solvency_and_Financial_Condition_Report.pdf.

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.

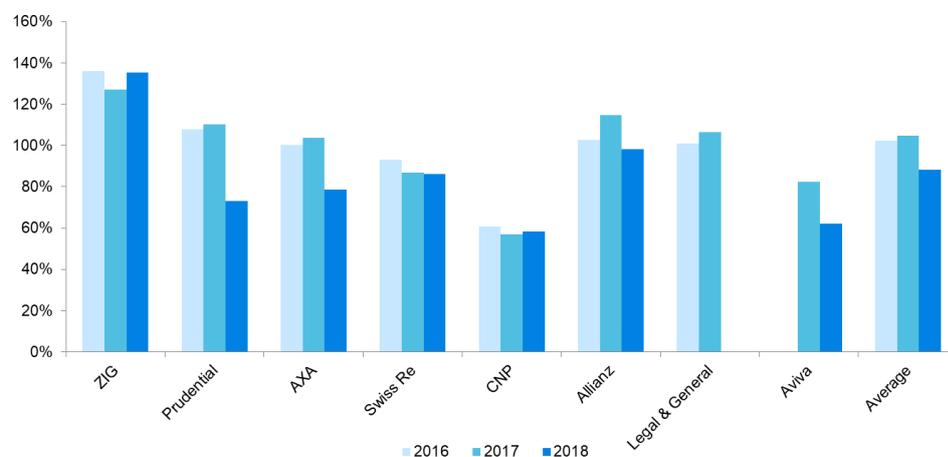
MARKET CAPITALISATION

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, and more general market sentiment, 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 2016, year-end 2017 and year-end 2018.

FIGURE 11: MARKET CAPITALISATION AS A PERCENTAGE OF EMBEDDED VALUE AS AT 31 DECEMBER 2016, 2017 AND 2018



Notes:

1. Allianz did not disclose its Total Group MCEV for 2018 – it disclosed only the MCEV for its covered business. An approximate allowance has been made for the non-covered business.
2. Legal & General did not disclose its Economic Capital result (i.e. total shareholder value metric) for 2018.
3. Aviva did not disclose embedded value results for 2016.
4. For comparative purposes, the "Average" results exclude Legal & General and Aviva.
5. Market capitalisation has been sourced from Bloomberg for the last trading days of 2018, 2017 and 2016.

The average ratio of market capitalisation to embedded value was 88% as at year-end 2018. Looking at individual ratios, all but one company were in the range of 73% to 135% (compared like-for-like with 87% to 127% in 2017), with CNP outside this range at 58%.

Legal & General and Allianz did not disclose EV in 2018 for the Group, thereby reducing the number of firms included in this part of the analysis. As a result, the average ratio is more susceptible to any volatility observed in the underlying movements of individual firms.

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, IFRS 17 will most likely apply for accounting periods starting on or after 1 January 2022²⁶. However, entities are required to provide a prior year of comparative figures.

In June 2019, the IASB issued an Exposure Draft seeking the views of stakeholders on a range of amendments to IFRS 17 that were proposed in response to issues raised during implementation²⁷. The consultation period closed on 25 September 2019 and Milliman has created a summary of the industry responses²⁸.

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. More detail, as well as a comparison of the IFRS 17 balance sheet with MCEV and Solvency II equivalents, is provided in the 2017 Shareholder Value Report.

The disclosure requirements of IFRS 17 are substantial, and the intention is that the level of disclosure will allow interested parties – investors and 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 and S2AV approaches 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 17 balance sheet are likely to be necessary to estimate shareholder value.

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) has developed a risk-based global Insurance Capital Standard (ICS). The IAIS expects that ICS will apply to the approximately 100 Internationally Active Insurance Groups (IAIGs).

An IAIG is defined as an insurance group where:

- The group’s premiums are written in at least three different jurisdictions and the gross written premiums outside of its home jurisdiction are at least 10% of the group's total gross written premiums; and
- The group’s total assets are at least \$50 billion or gross written premiums are at least \$10 billion (on a rolling three year average basis).

In 2019 the IAIS undertook further quantitative field testing which was the first testing of the revised standard, ICS Version 2.0, consulted on in 2018.

²⁶ 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.

²⁷ For further reading please visit <http://www.milliman.com/IFRS/> where summary papers of the various amendments can be found.

²⁸ Bulpitt, T., Verheugen, H. & Kay, A. (October 2019). Op. cit.

On 14 November 2019, the IAIS announced that it had adopted “a comprehensive set of reforms that will enable effective cross-border supervision of insurance groups and contribute to global financial stability”.

The reforms adopted include:

- The Common Framework (**ComFrame**), which establishes supervisory standards and guidance focusing on the effective group-wide supervision of IAIGs.
- The ICS is being developed with the purpose of creating a common language for supervisory discussions of group solvency of IAIGs to enhance global convergence among group capital standards. The newly agreed ICS Version 2.0 has a five-year monitoring period, starting in January 2020. During the monitoring period, ICS Version 2.0 will not trigger any supervisory action but will be used for confidential reporting and discussion in supervisory colleges to provide feedback to the IAIS on the ICS design and performance.
- The IAIS adopted the Holistic Framework for the assessment and mitigation of systemic risk in the insurance sector, for implementation from the beginning of 2020. This framework recognises that systemic risk can arise both from sector-wide trends with regard to specific activities and exposures, as well as from a concentration of these activities and exposures in individual insurers.

The hope is that these reforms will create more consistency and better regulation by members of the IAIS when dealing with large international firms. It is not yet clear what the impact will be on such firms in terms of the level of capital the new system will require when fully implemented. The introduction of ICS may result in changes to the way such groups will measure and report their value to shareholders.



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