Milliman EV Publication

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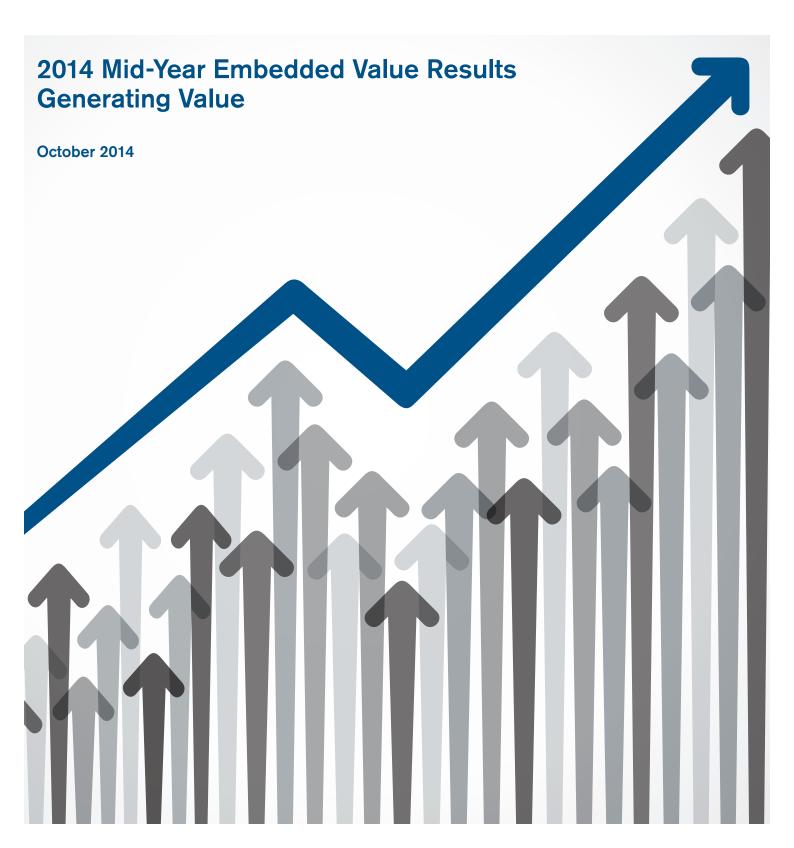


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INTRODUCTION

While disclosed embedded value (EV) results have been broadly positive, gains in the first six months of 2014 have been lower than in the first six months of 2013. Except for the German DAX, most other European equity market indices have remained broadly flat over the first six months of 2014 (see Figure 1 to the right). Reasons for the cautious nature of markets are varied but reflect a number of factors, including general uncertainty about future monetary policy, the effectiveness of government efforts to manage vulnerable economic growth and general confidence in the health of the economy. Against this backdrop, in aggregate, the firms included in the survey have disclosed a broadly static value of new business (compared with the similar period last year), which has contributed to a drag on embedded value growth.

Furthermore, the first half of 2014 has seen no let-up for insurers in their preparations for the forthcoming Solvency II regulatory regime. This is not surprising given that the effective date for Solvency II is just over a year away and firms are being required to demonstrate progressive compliance in the lead-up to 1 January 2016. With this in mind, we believe embedded value has remained an important performance measure for companies in the market and continues to be used in the industry as a key supplementary reporting metric.

As expected, fewer companies published mid-year embedded values compared with the year-end, and the level of detail was scaled back for those that did. One firm opted only to disclose the value of new business—excluding the embedded value result of its in-force business. Of the 32 European companies covered in our 2013 year-end publication, 12 disclosed mid-year results (2013 mid-year: 12). However, those communicating to the market do so in a manner that provides insight over the first half of 2014 regarding the nature of their value generation and areas of challenge. Firms did not disclose any significant changes to their underlying embedded value methodology—in some cases referring to the methodology laid out in the 2013 year-end report rather than re-stating it in the mid-year report.

This mid-year publication provides an update on the embedded value reporting for European insurance companies that have published interim embedded value results in 2014. For a detailed discussion on embedded value methodology, please see our year-end publication 2013 Embedded Value Results—Generating Value.

We also include a comprehensive section on embedded value reporting in Japan. This covers the performance of key Japanese companies reporting embedded value and the *hot topic* issues facing the Japanese market.

This mid-year publication provides an update on the embedded value reporting for European insurance companies that have published interim embedded value results in 2014.

THE STORY IN EUROPE

Low interest rates continue to permeate throughout many European economies, helping to encourage consumers to spend and firms to invest. Furthermore, equity markets have continued to rise from the high levels reached at year-end 2013 (as shown in Figure 1).

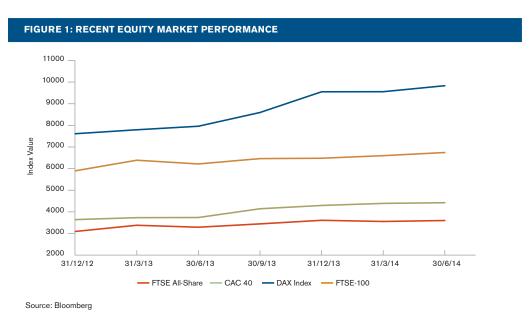


Figure 1 shows that most equity markets continued to rise over the first half of 2014, with the FTSE-100 increasing by approximately 4%, CAC 40 by 3% and the DAX Index by 3%. The FTSE All-Share saw a fall of 0.25%.

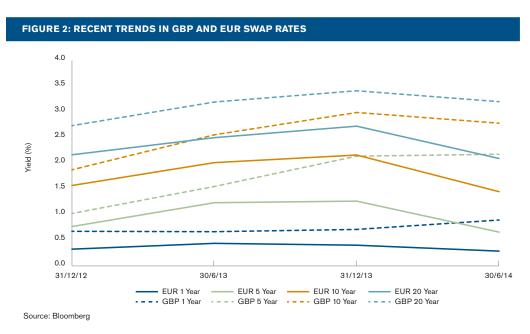


Figure 2 shows that EUR interest rates have been falling in the first half of 2014, as have GBP interest rates at longer durations. At durations of five years and lower, there has been a slight increase in interest rates for GBP, reflecting the prospect of increases in interest rates in the medium to near term.

In light of these prevailing economic conditions, companies maintained the value of the liquidity premium or implemented a reduction within the range of zero to 10 basis points, where an allowance was made in the risk-free rate.

UK Budget

The UK Budget saw new pension reforms announced that were aimed at increasing the flexibility and choice available to individuals in how and when they access their retirement funds. A major change was in respect of the ability for an individual to access all of their pension savings (i.e., withdraw as cash), after taking their 25% tax-free lump sum, at their marginal rate of tax. For many, this removed the potential driver to annuitise, and the impact of this reform is having repercussions throughout the industry. As expected volumes of annuity sales have decreased, though, estimates of the long-term impact of the changes are wide-ranging, with the predicted falls in new business volumes being anywhere between 20% and 90% of previous levels. Figures released by the Association of British Insurers (ABI) indicated that compared with 2013, sales of annuities were 40% lower in the second quarter of 2014. In the same quarter, income drawdown has risen by around 60% from the previous year.

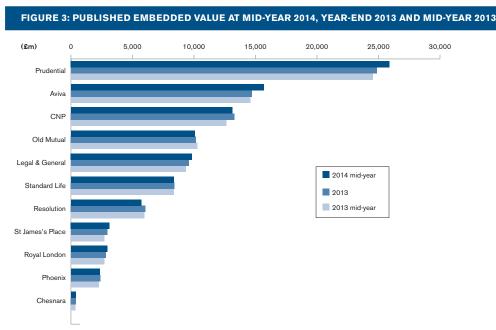
The UK government continues to make changes regarding pensions. In March 2014, the Pensions Minister announced a charge cap of 0.75% to apply to auto-enrolment default funds from April 2015 and estimated that this would increase pension savings by around £200 million.

More recently, the UK government announced plans to scrap the 55% inheritance tax rate on pension savings at death from April 2015 and instead apply the beneficiaries' marginal rate of tax on any amount withdrawn as income.

Embedded value results

Against this economic backdrop, companies included in our mid-year update have had mixed results over the first six months of 2014. Approximately half have seen their embedded value fall.

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Notes: Zurich Insurance group (ZIG) did not disclose embedded value results other than value of new business for mid-year 2014.

The embedded values presented in Figure 3 include both covered and non-covered business. The top three performers based on percentage increases in embedded value (in domestic reporting currency) since year-end 2013 were Aviva, St James's Place and Royal London.

Aviva has seen improvement in all of its key performance metrics and has reached its highest embedded value since 2011. Out of the companies disclosing mid-year results, Aviva was also the highest riser over the last 12 months. Aviva has cited that its improved profitability is due to reducing its debt and expense levels. Operating expenses have reduced by £129 million, compared with 12 months ago. Aviva has also seen greater value added from new business in the first six months of 2013 (up 9%) due to higher sales.

St James's Place new business contribution rose by around 19% from the previous year, reflecting the strong sales experienced. St James's Place have commented that their strong new business growth, together with their strong retention of existing client funds (95%), has resulted in a strong first half of 2014.

Royal London saw strong results in the first half of 2014. The full embedded value result was adversely impacted by a £61 million exceptional cost arising from the introduction of the charge cap on defined contribution group pension schemes. Profit from continuing operations was high, primarily due to improved investment markets.

Value of new business

The overall results for new business were similar to last year, although the performance of individual companies varied over the first half of 2014. The total value of new business (VNB) reached £2.6 billion at mid-year 2014 compared with £2.5 billion at mid-year 2013.

Figure 4 shows the VNB performance over mid-year 2013, full-year 2013 and mid-year 2014. Prudential, Aviva and Legal & General took the top three positions in terms of VNB at mid-year 2014. The top performer by percentage increase compared to mid-year 2013 was Legal & General.

FIGURE 4: PUBLISHED VALUE OF NEW BUSINESS AT MID-YEAR 2014, YEAR-END 2013 AND MID-YEAR 2013 (£m) 1.000 1.500 2.000 2.500 Legal & General Aviva ZIG CNP 2014 mid-vea St James's Place 2013 mid-vea Standard Life Resolution Royal London Phoenix Chesnara

The overall results for new business were similar to last year, although the performance of individual companies varied over the first half of 2014.

Notes: Old Mutual only disclosed its new business results for Emerging Markets at mid-year 2014. This was £45m at mid-year 2014 (2013 year-end: £136m, 2013 mid-year: £69m).

Prudential's value of new business in the first six months of 2014 was more than double that of its nearest competitor in our survey and higher than the first six months of 2013. This was mainly due to higher volumes, as the VNB margins have broadly remained the same.

Aviva was another top performer. This was a result of increased sales volumes over the first six months of 2014 compared with the equivalent period in 2013, which offset a fall in overall new business margin. Furthermore, Aviva also reported stable new business volumes. Growth was particularly strong in Poland, Turkey and Asia, contributing 25% to the Group VNB (HY 2013: 19%).

In this section we discuss how results from embedded values compare and contrast with other metrics used by other stakeholders such as investors or market analysts.

Legal & General saw the strongest percentage increase in VNB from last year. This was a result of the combination of improved new business margins and volumes. Bulk annuity new business premiums quadrupled, including the largest-ever UK Bulk Annuity contract. Individual annuity sales fell significantly following repercussions from the 2014 Budget reforms.

OTHER MEASURES OF VALUE

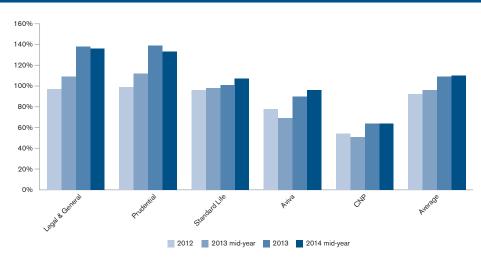
In this section we discuss how results from embedded values compare and contrast with other metrics used by other stakeholders such as investors or market analysts. In particular, we consider how embedded value compares with market capitalisation and then give a brief update on recent developments in both Solvency II and IFRS reporting.

Market capitalisation

It is often interesting to compare companies' reported embedded values with their market values at the same reporting date. The former can be seen as the company's own view of the value of its existing business¹ and the latter can be seen as the market's view of the value of the enterprise as a whole. Differences between the disclosed 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 that 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 the timing differences between the availability of embedded value and market data, or a reflection of the view by some analysts regarding the lack of transparency in insurance company financial results.

Figure 5 shows the market capitalisation as a percentage of the embedded value for the current Chief Financial Officers (CFO) Forum members that disclosed embedded values as at 30 June 2014, 31 December 2013, 30 June 2013 and 31 December 2012. Market values have mirrored embedded values in the first half of 2014, with both measures of value rising by 3% on average. Consequently, the ratio of market capitalisation to embedded value has not changed significantly from 2013 year-end.





Source: Bloomberg and embedded value disclosures

Subject to the constraints imposed by the relevant principles under which an embedded value is calculated.

Solvency II developments

Following the formal adoption of the Omnibus II Directive by the European Parliament in March 2014, the final form and implementation date of Solvency II is now much clearer. The Omnibus II Directive, which amends the Solvency II Directive to introduce elements of the long-term guarantees package and to confirm the Solvency II implementation date as 1 January 2016, was published in the Official Journal of the European Union in May 2014 and hence is now legally binding. The adoption of the Omnibus II Directive paved the way for the development of the Level 2 Draft Delegated Acts. Further guidance on the long-term guarantee measures is given as part of the Technical Specifications for the Preparatory Phase which was published by the European Insurance and Occupational Pensions Authority (EIOPA) in April 2014.

Further guidance has been issued by EIOPA on the approval processes that must be followed by firms who wish to implement certain discretionary elements of Solvency II such as the Matching Adjustment and Undertaking Specific Parameters. The guidance has been issued in the form of two public consultations, one covering Set 1 of the Implementing Technical Standards and the other covering Set 1 of the Level 3 Guidelines.

In the meantime, firms have been working towards compliance with the Interim Measure requirements published by EIOPA in September 2013, which has included ensuring that their Systems of Governance are Solvency II-compliant and gearing up to perform an Own Risk and Solvency Assessment (ORSA) in 2014. The level of engagement between Internal Model firms and the regulator also continues to increase as firms work towards Internal Model approval in time for 1 January 2016.

IFRS developments

The International Accounting Standards Board (IASB) has made some progress on its long-running project on insurance contracts. The IASB issued an Exposure Draft (ED) in 2013 for comments, and the period for comments has now closed. The IASB Board is in the process of considering the comments received and making decisions as to the contents of the final standard. The IASB has reached tentative decisions around most of the areas open for consultation.

One outstanding area is the approach to participating contracts (with-profits). The IASB has agreed to replace the 'mirroring' approach which was proposed in the 2013 ED. However, at the time of this report, the IASB had not reached a conclusion around the likely replacement to mirroring. Under the mirroring approach, cash flows on a participating contract are split into:

- Those which vary directly with an underlying asset
- Other cash flows

The accounting approach for the two sets of cash flows is different. Respondents to the ED typically criticised the mirroring approach for its complexity.

A further area the IASB is still to consider is the approach to transition. It will be interesting to see if the proposed timetable, with a final standard issued in 2015 for final implementation in 2018, is still feasible.

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Japanese life insurers continue to provide important information to market analysts through embedded value disclosures.

MARCH 2014 YEAR-END REPORTING, JAPANESE MARKET

Japanese life insurers continue to provide important information to market analysts through embedded value disclosures. The number of reporting companies and the methods employed are unchanged from fiscal 2012. As of the fiscal year ending 31 March 2014, 14 domestic Japanese life insurance entities representing 19 separate life insurance companies disclosed embedded values. The reporting companies accounted for about 80% of Japanese domestic life insurance company assets. In addition, several subsidiaries of European insurers report embedded values as part of their parents' reporting processes. Most Japanese companies employ a market-consistent approach. Several have fully adopted the CFO Forum's Market Consistent Embedded Value (MCEV)² principles over the past few years. Three companies report on a traditional embedded value basis. The relative homogeneity of reporting approaches facilitates comparability across the industry. Figure 6 shows the framework followed by our group of 14 Japanese entities over fiscal years 2013, 2012 and 2011.

FIGURE 6: EV REPORTING PRINCIPLES

	2013 8	§ 2012	2011	
	REPORTING ENTITIES	INDIVIDUAL COMPANIES	REPORTING ENTITIES	INDIVIDUAL COMPANIES
EEV	0	0	0	0
MARKET-CONSISTENT EEV	8	11	7	12
MCEV	3	5	3	2
OTHER	3	3	3	3
TOTAL	14	19	13	17

Source: Embedded value disclosures

For companies reporting under a market-consistent basis, it is fair to say that any deviations from the principles of the CFO Forum are minor. The most common—showing the sensitivity of results to a change in yield curve of 50 basis points rather than 100 basis points—is not unreasonable given the persistent low interest rate environment.

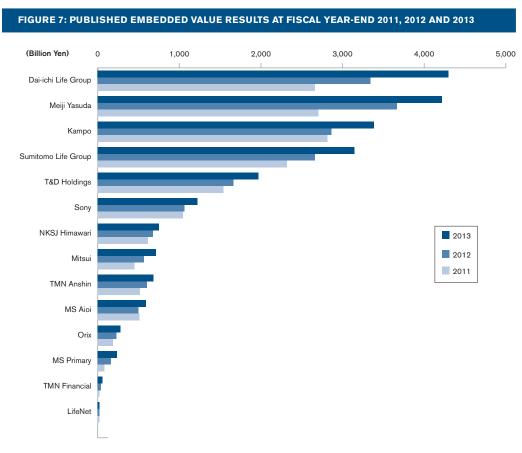
Recent trends in reported embedded value

Embedded values dropped materially after the 2008 financial crisis, due mainly to the impact of declining equity values on reported capital and surplus. Although results in the immediate post-crisis years were volatile, results have now dramatically recovered.

Fiscal 2013 was a particularly favorable year. This was due to both market movements and solid operating results. In spite of the fact that ALM considerations limit equity investments in companies' general accounts, the strong performance of both domestic and international equity markets drove a significant increase in adjusted book value. All companies achieved a solid contribution to value from new sales.

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Published embedded values for the past three years are shown in Figure 7:



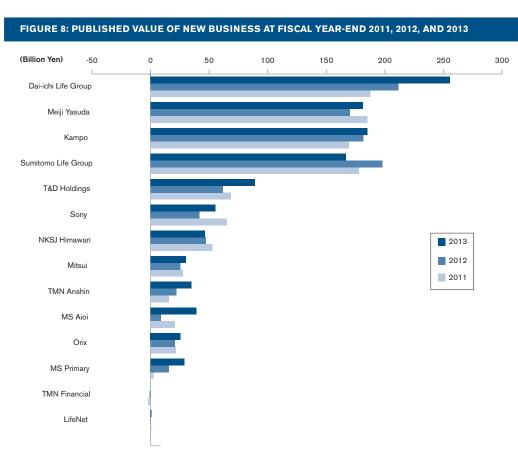
Source: Embedded value disclosures

Dai-ichi Life and Meiji Yasuda continue to vie for the number-one spot in reported EV, having both passed Kampo when market conditions improved in fiscal 2012.

Companies with large variable annuity blocks experience favorable results in 2013 as equity market improvements saw guarantees move out of the money.

Companies with large variable annuity blocks experience favorable results in 2013 as equity market improvements saw guarantees move out of the money.

Recent trends in new business values are shown in Figure 8.



Source: Embedded value disclosures

New business value accruals have generally been level over the past several years, reflecting several counterbalancing factors.

New business value accruals have generally been level over the past several years, reflecting several counterbalancing factors. While sales have declined moderately at many companies, profitability per unit has increased due in part to product re-pricing and, in 2013, to a somewhat improved interest rate environment.

With strong growth in new business value in both 2012 and 2013, Dai-ichi Life Group has surpassed industry averages. The company's favorable results in 2013 appear tied to increased profitability on new sales at the parent and strong growth in new business volumes at Dai-ichi Frontier.

Risk discount rate overview

The key areas of consideration when determining the risk discount rate to use in the calculation of embedded value include:

- Whether to construct the risk discount rate using a bottom-up or top-down approach
- Whether to use swaps or Japanese government bonds (JGB) as the underlying basis for the riskfree rate
- Whether an allowance for any liquidity premium is made
- The extrapolation of the yield curve

Because the majority of Japanese companies employ some form of market-consistent methodology (see Figure 9), a bottom-up approach is the most commonly followed.

FIGURE 9: OVERVIEW OF RISK DISCOUNT RATE CONSTRUCTION Risk Discount Underlying Rate Basis for Liquidity Extrapolated Methodology **Corporate Group Principles** Discount Rate Premium **Risk-Free Curve?** EEV (MC) IGB Dai-ichi Life Group bottom-up Not disclosed Kampo EEV (MC) bottom-up JGB Not disclosed Y, flat beyond year 30 LifeNet EEV (MC) Not disclosed Not disclosed bottom-up swap Meiji Yasuda EEV (MC) bottom-up JGB Not disclosed Υ* EEV (MC) Mitsui Not disclosed Y, flat beyond year 30 bottom-up swap MS Aioi EEV (MC) bottom-up JGB Not disclosed Y, flat beyond year 30 MS Primary EEV (MC) Not disclosed bottom-up Y, flat beyond year 40 swap NKSJ Himawari MCEV bottom-up **JGB** Ν Y, flat beyond year 40 Orix TEV top-down N/A N/A **MCEV JGB** Ν Sony bottom-up Y, flat beyond year 40 Sumitomo Life Group EEV (MC) JGB bottom-up Not disclosed MCEV T&D Holdings JGB Y, flat beyond year 30 bottom-up Ν TMN Anshin TEV top-down N/A N/A N/A TMN Financial TEV N/A N/A N/A top-down

Source: Embedded value disclosures

All companies following market-consistent methodologies use swap rates or JGB yields to represent the risk-free rate; at this point, no company discloses the use of a liquidity premium and there does not appear to be a move in that direction. Many companies prefer to use JGB yields in lieu of swaps, which is due in part to the relatively high proportion of general account assets allocated to JGBs. MCEV companies using JGBs as the risk-free proxy report a sensitivity showing results under the swap curve.

^{*} Takes into consideration the relevant Japanese swap rate for periods greater than 30 years.

Extrapolation of the yield curve is commonplace. Once again, there is a fairly even split in approach, with companies choosing either 30 or 40 years as the point after which the yield curve is assumed to be flat.

Cost of capital

As the majority of companies apply a market-consistent approach to their embedded value reporting, the cost of capital is typically modelled using a frictional cost approach. The required capital used in the calculation is generally set with reference to the Japanese regulatory solvency standard, often guided by the results of an internal model. It is typical to include a sensitivity showing the value that would emerge assuming adherence only to the minimum statutory requirement.

Residual non-hedgeable risks

As required by the CFO Forum MCEV Principles, all companies reporting under an MCEV approach explicitly allow for a cost of residual non-hedgeable risks (CRNHR). All follow an economic capital approach, with Sony and NKSJ disclosing methods that parallel those prescribed under Solvency II. Japanese companies reporting under EEV typically employ a simplified model. Details are described in Figure 10.

FIGURE 10: OVERVIEW OF APPROACH TO RESIDUAL NON-HEDGEABLE RISKS

Group	Model	Method	Equivalent cost of capital charge	Covered risk
Dai-ichi Life Group	Simple model	Not disclosed	N/A	Operational risk and the risk from uncollectibility of carrying loss on tax accounting basis are explicitly disclosed.
Kampo	Simple model	Not disclosed	N/A	Operational risk, catastrophe risk and the risk from uncollectibility of carrying loss on tax accounting basis are explicitly disclosed.
LifeNet	Simple model	Not disclosed	N/A	Operational risks, counterparty risks, lapse risks, mortality and morbidity risks are explicitly disclosed.
Meiji Yasuda	Simple model	Not disclosed	N/A	Operational risk, pandemic risk and the risk from uncollectibility of carrying loss on tax accounting basis are explicitly disclosed.
Mitsui	Simplified model about operational risk Solvency II type method is followed	Operational risk is calculated by cost of capital	6.0%	Operational risk is calculated by Solvency II type method. Other risk is not explicitly disclosed and calculated by simple model.
MS Aioi	Simple model	Not disclosed	N/A	Operational risk and the risk from uncollectibility of carrying loss on tax accounting basis are explicitly disclosed.
MS Primary	Simple model	Not disclosed	N/A	Counterparty risk from the reinsurer for minimum guarantee risk from variable insurance, operational risk and the risk from uncollectibility of carrying loss on tax accounting basis are explicitly disclosed.
NKSJ Himawari	Solvency II type (LTGA)	Cost of capital	6.0%	An allowance for the uncertainty of non-economic assumptions and the portion of economic assumptions considered to be non-hedgeable.
Sony	Solvency II type (like QIS5)	Cost of capital	2.5%	An allowance for the uncertainty of non-economic assumptions and the portion of economic assumptions considered to be non-hedgeable.
Sumitomo Life Group	Not disclosed	Cost of capital	2.5%	Operational risk, unavoidable market risk, uncertainty risk of non-economic assumption and the risk from uncollectibility of carrying loss on tax accounting basis.
T&D Holdings	Economic capital (calibrated to a 99.5 percentile value at risk over one year)	Cost of capital	2.5%	An allowance for the impact of extreme events as operational risk, catastrophe risk, reputational risk, other asymmetric impact of non-economic assumptions, the risk of unrecoverable tax losses and non-hedgeable financial risks. Also an allowance for additional uncertainty which is not included the elements above is considered.

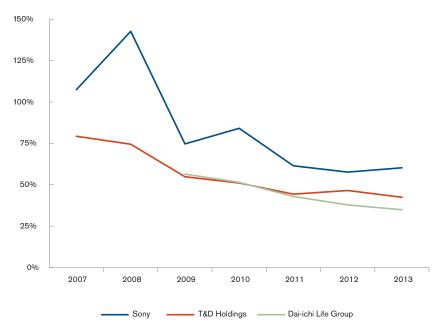
Source: Embedded value disclosures

MARKET CAPITALISATION

Equity performance for Japan's listed life insurers was reasonably good in fiscal 2013. However, this appears to reflect the performance of the broader market more than investor interest in Japan's life insurance sector. Indeed, as shown in Figure 11, over the past year, the ratio of market capitalization to embedded value has continued to languish in a range of 35% to 60%. This contrasts with the situation among European insurers, where ratios above 100% are again the norm.

Equity performance for Japan's listed life insurers was reasonably good in fiscal 2013.

FIGURE 11: JAPANESE LISTED LIFE INSURERS: TREND IN MARKET CAPITALISATION TO EMBEDDED VALUE



Note: For Sony, market capitalisation reflects Sony Financial, while embedded value is that for Sony Life, the largest contributor to Sony Financial value.

Source: Nikkei Kaisha Jouhou, Financial Reports and embedded value disclosures

What accounts for the tremendous gap in investor perception of value? Are investors missing an opportunity?

The table below, reproduced from last year's report, describes some of the possible reasons for the low market cap to EV ratios among Japanese companies.

FIGURE 12: POTENTIAL REASONS UNDERLYING THE LOW RATIOS OF MARKET CAPITALISATION TO EMBEDDED VALUE FOR JAPANESE LISTED LIFE INSURERS

Reason	Explanation
Low Discount Rates and Long Tail Profits	Some analysts and potential investors may be concerned that the low risk-free rate used to discount long tail profits leads to an overstatement of value, especially on highly profitable protection business. While the low discount rate should be compensated for by the CRNHR and other elements underlying market-consistent reporting, investors may not fully understand the methodology or may believe that the CRNHR is understated.
Fear of Price Competition	Japanese company mortality and morbidity margins exceed margins that can be earned in many of the developed markets on broadly similar business. Investors likely fear growing price competition.
Saturated Market	The Japanese population is highly insured; the potential size of the market may be declining because of Japan's declining population and workforce. Combining this concern with the fear of price competition, investors may place little value on new business.
Possible Understatement of the Cost of General Account Options	Insurance companies offering book value withdrawals on traditional savings products face potentially severe disintermediation risk. A material increase in interest rates will certainly lead to an increase in lapses. Though it is difficult to model policyholder behaviour, if rates were to return to historical norms, the market may experience materially increasing lapses.
	In addition, whilst most companies now believe that liability durations exceed the durations of their asset portfolios, it is not difficult to envision scenarios where this relationship is reversed. Japanese companies may be exposed to material balance sheet risk, and this may be depressing market capitalisations.
Broader Macroeconomic Concerns	The low valuation of Japanese life insurers likely reflects general market concern, in particular concerns over Japan's economy, demographics, global competition, and the prospects for 'Abenomics'.
Limited Market Acceptance of Embedded Value as a Performance Measure	Analysts may not fully accept or understand the approach. Results have been volatile, which is due both to volatility in life insurer balance sheets and to the impact of fluctuating market interest rates. In spite of the low ratio of market caps to embedded values, price-earnings ratios are rather high. Confusion over this disconnect may be depressing insurer values.

Most of the established European players are highly diversified geographically and by business line. While some of these concerns apply to European insurers as well, we note the following contrasts:

Diversification by jurisdiction and business line

OF EEV AND NBV BY REGION

Most of the established European players are highly diversified geographically and by business line. Many write a good balance of risk and investment business; some have important non-life operations; all write through multiple channels.

As an example, the regional diversification of AXA's embedded value is shown in Figure 13 below:

FIGURE 13: AXA LIFE AND SAVINGS BUSINESS: PERCENTAGE DISTRIBUTION

Country/Region	EEV	NBV
France	23	13
United States	14	16
Switzerland	18	10
Germany	9	3
Belgium	6	2
Central and Eastern Europe	2	1
UK	3	1
Japan	12	25

Source: AXA Financial Reports

Southeast Asia, China, India Mediterranean, Latin America

Hong Kong

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While the majority of AXA's existing business value emerges from the developed markets of Western Europe, they are generating substantial value on a global basis. AXA's diversification is particularly notable as measured by new business value. About half of new business value is generated in Asia. They have a strong presence in the United States and are generating material value in the emerging markets of Latin America.

Risk management and reporting

While Japanese life insurers have made strong progress over the past decade in the area of risk management and reporting, they continue to lag behind leading Western insurers. For European insurers, the initiatives of the CFO and CRO Forums, the move towards Solvency II and efforts of progressive regulators (such as those in Switzerland and the UK) have led to material improvements in risk measurement, management and reporting. The development of internal models, the adherence to a 'use test,' and the direct linkage of financial reporting to modeling and risk management efforts have enhanced value at many organizations. This is almost certainly being recognized by investors and the value accorded by the markets.

The most successful organizations—indeed, those with the higher market cap to EEV ratios—have succeeded in embedding a risk culture within their organizations. Rather than following perfunctory protocols, they have customized management and modeling approaches to reflect internal needs and circumstances. They have combined technical competence with the intuition and years of experience of senior management.

However, as a result of FSA and individual company initiatives, Japanese company practice is steadily improving. Virtually all companies evaluate risk appetite. Internal models and stress testing have gained wide acceptance as a part of risk management activities. Many companies have implemented economic capital approaches to support the capital allocation process and ERM protocols are increasingly integrated with strategic and operational discussions.

Although disclosure has arguably lagged the implementation of risk management practices, we expect improvement on this front over the next several years. Indeed, we see no reason that risk management and reporting practices at Japanese companies cannot meet or exceed those of their Western counterparts. This will be recognized by investors and should translate into increased market value.

Given the current level of valuations, it is reasonable to assume that greater transparency could lead to higher equity prices. Will we look back on the recent past as a remarkable buying opportunity? It is of course impossible to say, but the longer the low ratio of market cap to embedded value persists, the more of an enigma it would appear to be.

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