

Will IFRS 17 replace EV?

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Introduction

Acquisition costs associated with life insurance sales are typically very significant. Further, in order to assure an appropriate degree of policyholder protection, regulators generally require companies to provide for future claims through the establishment conservatively estimated policy reserves. Due to these factors, under statutory accounting methods, material losses are often incurred in the course of new business acquisition, with profits emerging slowly over subsequent decades.

Another common attribute of statutory accounting is the calculation of policy reserves based on conditions at the time of policy issue. Assumptions are not updated to take account of subsequent changes in experience or economic environment.

Some GAAP practices, such as US GAAP, try to defer new business acquisition cost so that profits can be recognised more smoothly over an insurance period. These practices may also take account of evolving experience.

JGAAP, the generally accepted accounting principles applied to life insurers in Japan, has the two attributes of statutory accounting described above. Under JGAAP, it is hard to evaluate a company's ability to generate profitable new business. In addition, it may be hard to measure the emergence of in-force profit, particularly as circumstances change. As a result, in the 2000s, many life insurers began to disclose a metric called embedded value (EV). EV is a sum of adjusted net asset value (ANAV) plus the value of in-force business (VIF)—the present value of profits projected to emerge on business in-force at a specified date. The value of new business acquired over the past one year is generally disclosed as new business value (NBV). These measures are frequently used to support the valuation of listed companies, or the valuation of target entities in life insurance merger and acquisition (M&A) situations. From this perspective, investors often find EV more useful than traditional financial statements.

On the other hand, GAAP accounting for life insurers is also about to go through a dramatic change. As business globalisation evolves, the number of general corporations adopting International Financial Reporting Standards (IFRS) in lieu of JGAAP is gradually increasing. As of May 2018, close to 200 companies listed on the Tokyo Stock Exchange have either adopted or announced they will adopt IFRS. IFRS 4, which is applied to both life and non-life insurance contracts, has been effective since January 2005, but it does not stipulate

internationally common standards. Instead it just endorses the various practices employed when it went into effect. Full-fledged standards for insurance contracts were to be issued later. It has now been announced that this very standard, IFRS 17, will come into effect as at January 2021, after more than a decade of intensive discussions.

As IFRS adoption is voluntary in Japan, this does not mean that all the listed insurance companies will adopt IFRS in January 2021. However, IFRS should be highly appealing for globally active insurers because it will ensure that uniform accounting principles can be applied.

IFRS 17 embraces a market value accounting concept under which insurance contract liabilities are constantly updated to reflect environments at the reporting date. It also has a deferral accounting aspect based on a cost and revenue matching principle in which the present value of future profits expected at contract recognition is deferred as 'contractual service margin (CSM)' and is recognised over an insurance period. These features are anticipated to replace the roles that EV disclosure has been taking. However, as the insurance contract valuation by IFRS 17 is very complex, simpler market value accounting approaches like EV disclosure will be still more useful in some situations. This article compares the valuation approaches between IFRS 17 and EV, and infers a potential future of EV disclosure.

Market-consistent value, fair value and fulfilment value

Publicly disclosed EV in Japan for the period ending at March 2018 is compliant with either Market-Consistent Embedded Value (MCEV) principles¹ or European Embedded Value (EEV) principles² defined by the CFO Forum. MCEV is evaluated by a market-consistent approach. While EEV does not need to follow a market-consistent approach, all EEVs published in Japan employ economic assumptions such as interest rates and implied volatilities that are set based on market prices. Therefore both MCEV and EEV can be said to show market-consistent values in general. It should be noted, though, that the way to evaluate the cost of residual non-hedgeable risk (CRNHR), which is required to be explicitly evaluated by MCEV, is not necessarily consistent from one evaluation to another. It is more diverse among EEV companies, and even among MCEV companies, cost-of-capital rates are different.

¹ The European Insurance CFO Forum Market Consistent Embedded Value Principles© (Copyright© Stichting CFO Forum Foundation 2008).

² European Embedded Value (EEV) Principles.

Unlike interest rates and implied volatilities, virtually no market variables exist for noneconomic assumptions such as mortality, morbidity, lapse and expenses. As they need to be based on each company's own experience and future expectations, it is impossible to apply an approach that is fully consistent among all the companies. As the variables are not based on market prices between third parties, the approach is called 'market-consistent.' Accordingly, market-consistent EV can be broadly considered to be the market price of an insurer's assets less the market-consistent value of insurance liabilities (and other liability value).

A similar approach is fair value, which is stipulated by IFRS 13 under the IFRS framework. Fair value under IFRS 13 is an amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants (exit price), and therefore a company's own view is irrelevant.

Insurance contract valuation under IFRS once attempted to follow the fair value approach. However, the market for insurance contract sales and transfer transactions is not deep, and many believed adequate pricing would be impractical. IFRS 17 then introduced a fulfilment value approach. The

fulfilment value approach uses as much information available in the market as possible, and unavailable elements are evaluated as an amount each entity would require to fulfil insurance contract obligations. The insurance contract liability on an IFRS 17-based balance sheet is composed of three elements: present value of future cash flows of insurance contracts (PVCF), risk adjustment (RA) and CSM. The sum of PVCF and RA corresponds to a fulfilment value. This fulfilment value of insurance contract liability is conceptually almost identical to the market-consistent value under the EV framework. However, the fulfilment value 'defined by IFRS 17' differs in various aspects from fulfilment values which practitioners or management of insurance companies might adopt.

A related issue is how to apply the fair value approach stipulated by IFRS 17 on a transition date which can be used if the full retrospective approach is impractical to apply. It is supposed to follow IFRS 13 principles, but as described above, there will be difficulties in interpreting the principles when applying them to insurance contract liability valuation.

The table in Figure 1 compares the primary differences among the three approaches which can be expected as of this writing.

FIGURE 1

	Market-Consistent Embedded Value (MCEV)	Fulfilment Value (IFRS 17)	Fair Value (IFRS 13)
FUTURE RENEWAL	Renewal of in-force business is included.	Excluded if certain out-of-boundary conditions such as fully repricable are met.	Renewal of in-force business is included.
FUTURE NEW BUSINESS	Excluded, but new business value in the past one year is separately calculated.	Excluded, but a change of elements due to new business acquisition in the reporting period is disclosed.	In the case of M&A, future new business value is included to some extent for an ability to acquire new business.
EXPENSE ASSUMPTION	All overhead is included.	Overhead not directly attributable, such as product development cost, is excluded.	All overhead is included. Economic efficiency of a third party (market) is reflected.
DISCOUNT RATE	Bottom-up (risk-free interest rates swap rates unless inappropriate) + (illiquidity premium). Option value and non-hedgeable risk allowance are explicitly reflected.	Either bottom-up or top-down (yields on equivalent asset less risk premium irrelevant to liability). If liability cash flows vary based on underlying assets, those characteristics are reflected.	In the case of M&A, the risk discount rate may be used to allow for option value, risk adjustment and other elements.
OPTION VALUE	Time value of options and guarantees (TVOG) is explicitly allowed for by a stochastic method.	Explicit disclosure of liability option value is not required. It is implicitly allowed for by a probability-weighted mean.	Implicitly allowed for.
RISK ADJUSTMENT	Explicitly allowed for. Indirect risks such as operational risk are allowed for. Cost-of-capital rate, if a cost-of-capital approach were applied to risks calibrated to VaR(99.5) over one year, is disclosed.	Explicitly allowed for. Indirect risks such as operational risk are not allowed for. Confidence level (equivalent) shall be disclosed.	Implicitly allowed for.
OWN CREDIT RISK	Not considered	Not considered	A third-party (market) view is reflected.
PROFIT EMERGENCE	Recognised at a time when new business is acquired. Variance from expected values are recognised in each subsequent period.	Profits due to new business acquisition are deferred as CSM, and recognised over insurance period. If losses are expected, they are immediately recognised.	N.A.

As characterised in Figure 1, IFRS 17 evaluates only those elements directly related to insurance contracts, while the corporate value evaluation by MCEV or in an M&A situation tries to incorporate any operational costs and risks from an enterprise perspective. Accordingly, for the purpose of business management and/or a disclosure of business operation and risk information, including enterprise risk management (ERM) aspects, the MCEV approach would better serve the purpose. As IFRS 17 and MCEV share many aspects in common, it would be ideal to develop a system so that conventional MCEV information can be obtained by utilising and adjusting an IFRS 17 framework. This would enable EV to continue to take a role of supplementing (statutory and GAAP) accounting information to provide perspectives more closely linked to key business decisions, in the same way it has previously. If MCEV is calculated as part of a business operation, assumptions used for it will naturally be best estimates, which can then be used for IFRS 17. This approach would be useful and efficient.

For the time being, as IFRS adoption is a voluntary decision in Japan, those insurers which are unlisted or not globally active may see it as more cost-efficient to simply continue to utilise EV, which can be calculated in a much simpler manner.

IFRS balance sheet

The previous section summarised differences in insurance contract liability valuation methods. The next topic is what information on an IFRS balance sheet as of each reporting date would be effectively used by investors, stakeholders or insurers' management, compared to MCEV.

As observed earlier, under the MCEV framework, $ANAV + VIF + 1 \text{ year NBV} * \text{multiple}$ gives a rough estimation of a corporate value.

A one-year NBV is not directly available from an IFRS balance sheet. However, it could be obtained to some extent from the change in CSM that is due to new business acquisition in a reporting period, while some differences such as indirect overhead expenses would not be reflected.

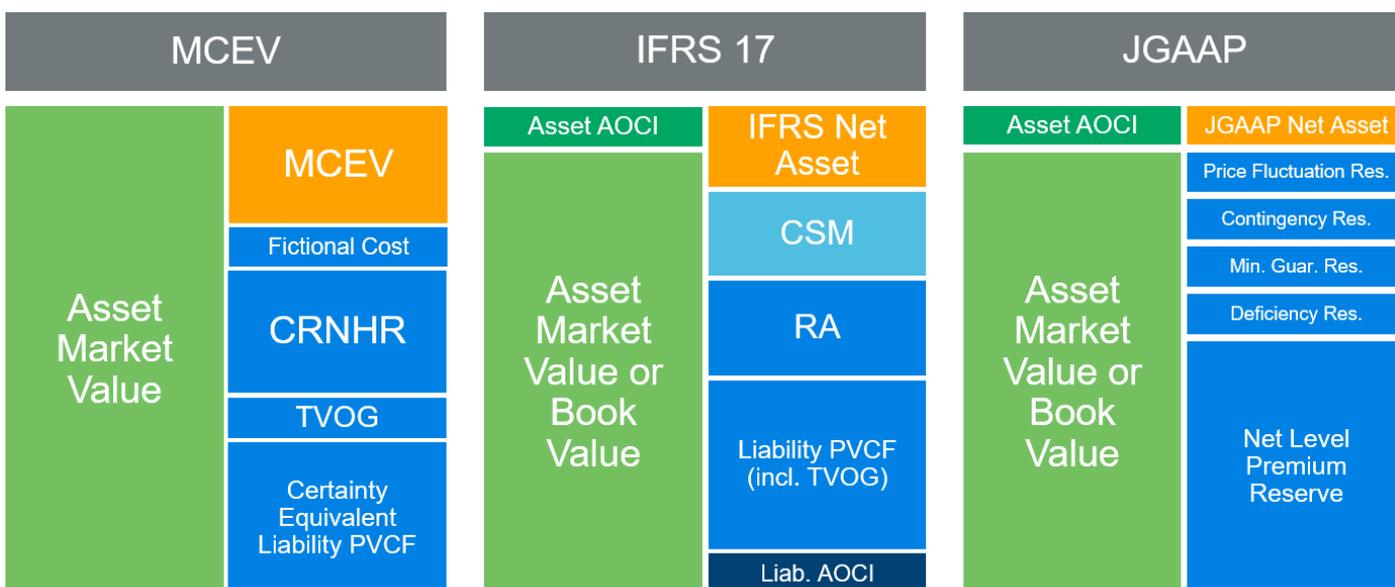
Next, ANAV is, by definition, adjusted from the net asset value on an IFRS balance sheet, and therefore it depends on whether such adjustments will be disclosed. Under current MCEV practice in Japan, it is common to adjust net asset values from a JGAAP rather than IFRS balance sheet. The primary adjustments relate to unrealised gains and losses on held-to-maturity bonds and reserve matching bonds, which are held at cost under JGAAP, and to items that are viewed as liabilities under JGAAP, but may be brought into net assets under MCEV, such as contingency reserves and price fluctuation reserves. IFRS 9 is applied to evaluate financial products on an IFRS balance sheet. Some financial assets such as fixed income securities are not marked to market, but unrealised gains and losses on those assets can be obtained

due to the financial instrument's disclosure requirements by IFRS 7. A contingency reserve is not an insurance contract liability under IFRS 17, and price fluctuation reserve is not an IFRS liability either. Therefore there is no need to adjust the IFRS net asset value for them. As a result, even if some adjustments may be necessary to net asset value on an IFRS balance sheet, unless there is any material item specific to each company, the equivalent information under MCEV would generally be readily available.

The last issue is VIF. Under the MCEV framework, VIF is almost equal to the difference between the statutory policy reserve, which is the insurance contract liability of JGAAP, and the market-consistent value of insurance contracts (after tax). Under the IFRS framework, although the methodology differences described in the previous section should be kept in mind, if assuming the fulfilment value of insurance contracts under IFRS 17 is roughly equivalent to the market-consistent value, then CSM can be said to represent or correlate closely with VIF. However, some cautions are in order. The VIF of MCEV is for the most part equal to the present value of future JGAAP profits to emerge from in-force business. As the current JGAAP is identical to statutory accounting, it allows for the cost of holding statutory reserves and additional capital required by the solvency margin regulation (or the internal target if greater), or so-called cost of capital (the opportunity cost arising from the need to hold required capital, thereby impeding the immediate distribution of earnings to shareholders). In this sense the VIF of MCEV is the present value of distributable earnings to shareholders. On the other hand, CSM does not allow for such costs of capital, but assumes that insurance contract liability under IFRS 17 will be held in future periods. In addition, if the effect of subsequent discount rate changes is reflected through 'other comprehensive income (OCI),' there is an accumulated OCI (AOCI) of insurance contract liability. In this case, for example, unprofitable endowment or whole life insurance with negative spreads could have a positive CSM, which is important to keep in mind. CSM could also be materially affected by which approach of full retrospective, modified retrospective or fair value is used at the transition date, as stipulated by IFRS 17. Furthermore, the difference in the future renewal treatment, expense assumptions and other items described in the previous section could also have a large impact. CSM is the present value of expected future IFRS profit based on such a series of conditions, which is not necessarily close to distributable earnings for investors.

A skilled professional specialising in insurance company valuation could estimate corporate value to some extent, carefully utilising information available on an IFRS balance sheet. However, in practice, the number of market participants who can construct such a valuation will be limited. Especially in cases where such a valuation may differ significantly from MCEV and the perspectives of management, disclosure of MCEV will continue to be very useful.

FIGURE 2



IFRS period-by-period profit

Interpretation of IFRS period-by-period profit is studied in this section. First of all, both MCEV and IFRS differ significantly from current JGAAP accounting. As current JGAAP accounting is identical to statutory accounting, under which conservative net level premium reserves are held, losses will typically occur at the time of new business acquisition; profits are then recognised over an insurance period. Valuation assumptions underlying policy reserve are not revised after issue unless reserves are no longer conservative, for example in a situation where a large negative spread exists.

Under the IFRS 17 framework, the present value of profit expected at new business acquisition is deferred as a CSM, and the CSM is amortised into profit over an insurance period as the insurance obligation is fulfilled. If actual experience is identical to expected, then release of the CSM and the RA is the profit in the reporting period. The effect due to the difference between the actual and the expected is evaluated at the end of each period, but only the portion corresponding to the reporting period is recognised as profit or loss. With regard to the portion corresponding to the future periods, noneconomic variance is absorbed by adjusting CSM, and economic variance is, depending on the insurance contract type, either absorbed by adjusting CSM, or reflected in OCI, which is designed to achieve relatively stable profit emergence.

Although JGAAP and IFRS 17 are different, as described above, both are largely influenced by the general accounting principle of recognising profit over an insurance period as the insurance obligation is fulfilled.

In contrast, MCEV recognises expected profit at a time of a new business acquisition, and subsequent actual versus expected variances are fully recognised in each period, including the portion corresponding to future periods. As a result, period-by-period profit varies dynamically, which is an outstanding feature. Because insurance policies are not actually settled at each reporting period, some see it as inappropriate to vary sensitivity to those changes which would offset each other over multiple periods, in particular if they seek stability in reported results. However, others would say that this volatility represents the substance of the insurance business. In fact, it is not guaranteed that the current period profit or loss will be offset in the future, and usually such a dynamic volatility is caused by the significance of asset liability management (ALM) risk rather than noneconomic assumptions such as mortality. In this sense, EV is a very useful measure for the management, who are required to make timely business decisions, or for regulators, or for investors in M&A or other situations.

As noted above, the period-by-period profit signature of IFRS 17 is somewhat closer to JGAAP than MCEV. However, the income statement is not provided in the conventional way broken down by cash flows such as premium income and claim payment, but it can be said to be closer to JGAAP source of earnings, where the reserve change is broken down into insurance and investment margins. The table in Figure 3 tries to compare period-by-period profit components between MCEV, IFRS 17, and JGAAP source of earnings, setting aside differences in detailed treatments. As stated above, assumption changes for MCEV represent the portion corresponding to future periods, and it does not affect current year profit under a traditional (JGAAP) approach. IFRS 17 current year profit may be affected in a certain condition such as the case if CSM is not sufficient to absorb the effect.

FIGURE 3

MCEV	IFRS 17	JGAAP Source of Earnings
NEW BUSINESS VALUE	(available in notes)	(not available)
EXISTING BUSINESS CONTRIBUTION (OTHER THAN UNWIND OF DISCOUNT RATES)	Insurance service result	Mortality margin
OPERATING VARIANCES	= Insurance revenue – Insurance service expenses	Expense margin Surrender and other reserving margin
NONECONOMIC ASSUMPTION CHANGES	Recognised if unable to be absorbed by CSM	–
EXISTING BUSINESS CONTRIBUTION (UNWIND OF DISCOUNT RATES)	Net investment result	Interest margin
ECONOMIC VARIANCES	= Investment return - Finance expenses (credited interest)	Other investment margin
ECONOMIC ASSUMPTION CHANGES	Recognised if general model, OCI can be utilised. Recognised if variable fee approach is applied and unable to be absorbed by CSM	–
OTHER INCOME	Other income	Other margin
SHAREHOLDER DIVIDEND PAYMENTS	(change in equity)	–

When CSM is exhausted, reserve variances corresponding to future periods are recognised in profit or loss if a variable fee approach is applied, or if a general model is applied and OCI is not utilised, resulting in a behaviour similar to MCEV. As CSM is amortised over time, older policies have less absorbability by CSM, and are more vulnerable to assumption changes. Users of IFRS 17 statements should have a good understanding of this feature that the period-by-period profit of IFRS 17 can behave in a manner similar to MCEV, depending on particular situations.

Comparability

As insurance company valuation relies on various assumptions, comparability between companies and use of adequate assumptions are traditional issues and have long been discussed.

As the traditional JGAAP requires a net level premium reserve in principle as well as the use of standard valuation interest rates and mortality rates, relatively greater comparability would be expected. However, the standard valuation interest rates and mortality rates are basically locked in at the initial recognition. Although loss recognition tests could lead to additional deficiency reserve establishment, combined with its conservative nature, the weakness is that it does not portray a current estimate at the valuation date. Comparability may not hold, for example, because of inconsistency among different eras of business due to the locked-in nature of assumptions, or the standard valuation requirements being exempted for those issued before 1996, when the Insurance Business Law was revised, and for foreign currency-denominated business. In particular, as JGAAP is applied only to Japanese entities, it is largely disadvantageous that it cannot be compared to foreign entities.

While EV disclosure makes it possible to compare against even foreign entities, the traditional EV in early periods, which used a traditional deterministic approach, was criticised for inconsistency between companies with regard to assumptions and risk allowance. In order to improve the consistency, EEV defined principles of EV calculation methods and disclosure requirements, and MCEV further required economic assumptions such as interest rates to be market-consistent. As MCEV is voluntarily disclosed, and still depends on each entity's own discretion in areas such as noneconomic assumptions, a statement by the director is added and an external opinion by independent actuarial professionals is obtained. With these improvements, a certain level of comparability between companies has been achieved, and EV disclosure has become common to provide a current estimate of the corporate value. However, due to its voluntary nature, not all insurers disclose EV. In Europe, as Solvency II disclosure can mostly replace EV disclosure, the number of companies which separately disclose EV is decreasing. Comparability is therefore still a challenging issue.

A fundamental objective of IFRS is to enhance comparability, not only among insurance companies, but also across industries. In Europe, consolidated financial statements of listed companies must follow IFRS. As it is a mere replacement of IFRS 4, the current standard for insurance contracts, all listed insurance companies will be able to be compared using IFRS 17. On the other hand, Solvency II disclosure is replacing EV in Europe. Solvency II is required not only for listed companies but also for all other insurance companies under the regulation of the EU. As Solvency II is quite similar to MCEV, IFRS and Solvency II may become dual standards in Europe.

In Japan, IFRS can be voluntarily adopted by listed companies for their consolidated financial statements, but full adoption is not planned. The large insurance companies listed in the Tokyo Stock Exchange First Section are the so-called three mega non-life-oriented insurance groups: Tokio Marine, MS&AD and SOMPO, along with the life-oriented insurance groups: Dai-ichi Life, Kampo Life, T&D and Sony Financial. Apart from Dai-ichi, the other three among the four largest traditional Japanese life insurers are mutual and therefore not listed on the Tokyo Stock Exchange, nor is the US Prudential group, which is of comparable scale. The three mega non-life groups and the Dai-ichi Life group have sizable overseas businesses. This could make the case for voluntary adoption of IFRS relatively more compelling, given the benefit of standardisation of accounting approaches among subsidiaries and affiliates, and the likelihood of wider global scrutiny. However, even if IFRS is voluntarily adopted, JGAAP statements will still be necessary, for the time being, for stand-alone statements submitted for statutory purposes. As IFRS 17 is very complex and requires significant implementation cost including information technology (IT) and human resources, then considering the current voluntary nature, unless such standardisation needs or other synergies are envisaged, incentives to replace EV with IFRS to supplement JGAAP are unlikely to be high. In this situation, if some replace EV with IFRS, comparability could be reduced from the present situation.

An economic solvency regime similar to EU Solvency II has been in discussion in Japan for over a decade, but its implementation has not been announced yet and therefore it is impossible to infer if associated disclosures can replace EV. On the other hand, own risk and solvency assessment (ORSA) consistent with each company's internal risk management policy has evolved considerably. In particular many of those listed insurers described above which have been actively disclosing MCEV are also actively disclosing their economic solvency ratio (ESR) based on internal risk models. As ORSA is promoted by the International Association of Insurance Supervisors (IAIS), it is being implemented globally including Europe, US, and Canada. ORSA in Europe and Japan is largely influenced by Solvency II or MCEV where a market-consistent approach is often used, or it tries to evaluate MCEV at risk. This may imply the dual standards in Japan could turn out to be IFRS and ORSA.

However, ORSA is by definition a risk evaluation based on each company's own view. One of the motivations for regulators to facilitate ORSA would include preventing all insurers from falling into a crisis situation by forcing them to obey a single solvency regulation when unexpected risk events have materialised. With this background, regulators tend to provide guidelines about building a structure to conduct own risk assessment, but not prescribe how it should be evaluated.

Both IFRS 17 and ORSA are fundamentally principle-based. By following those principles, liability valuation is expected to be under a certain control, or valuation processes and model governance are expected to improve. On the other hand, assumption development and valuation methods are largely at the discretion of each company, while there are certain principles, for example, that should not contradict information available in the market. Actuaries have been instrumental in this area and are expected to take a role of making decisions and judgements on various assumptions and methods with highly professional knowledge, considering aggregate past experience and behaviour as well as future expectations and trends. This will not change with IFRS 17. Rather actuaries should focus even further due to IFRS 17 or by leveraging the resources generated by industrialisation of insurance liability evaluation as well as opportunities from the insurtech evolution. Nevertheless, making adequate professional decisions will continue to be a challenging task, and it would need to be enhanced, for example, by collecting a wider variety of various statistical data, and benchmarking assumptions and methods for their actuarial adequacy by obtaining independent third-party opinions.

Conclusion

IFRS 17 is expected to assume part of the role EV has played in supplementing JGAAP information. However, it will not be able to fully convey business characteristics, due to such requirements as contract boundary and exclusion of overhead expenses.

IFRS 17 has both fair value and cost/revenue matching (deferral) aspects and calls for highly complex professional skills for its analysis, compared to simpler statutory accounting and MCEV. Insurers are expected to continue to provide information to facilitate investors' sound decision making through efforts such as enhancing risk disclosure and/or utilising external professional knowledge and independent third-party opinions.

How Milliman can help

Milliman has a depth of experience and expertise in insurance liability valuation, including support to M&A, initial public offerings (IPO), independent third-party EV reviews, US GAAP and IFRS accounting implementation.

With regard to IFRS 17, Milliman is also providing a wide variety of practical actuarial solutions by leveraging deep insight obtained by having closely followed its development over the past 20 years.

- Advice, reviews and opinions on assumption and methodology development for IFRS 17 and other economic (risk) valuation
- IFRS 17 gap analysis through the use of our readiness assessment tool
- Impact assessment on differences between IFRS 17 and MCEV
- Lease of actuarial software and cloud-based solutions for insurance liability valuation including IFRS 17
- Lease of automatic model point reduction tools and economic scenario generators for stochastic valuation
- Insurance liability valuation outsourcing including IFRS 17

If you have any questions or comments on this paper or any other aspect of insurance liability valuation, including IFRS 17 and internal model application, please contact your usual Milliman consultant, or a Milliman Tokyo office representative.

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