

top issues

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Insurance modernization

New metrics: Increased efficiency, lower costs and better analysis

The insurance industry in 2015



pwc

New metrics

Increased efficiency, lower costs and better analysis

It has become vitally important for insurers to understand how new and evolving insurance regulations and financial reporting requirements will affect their strategy, operating results, product design and pricing, and how they manage their in-force business. Effective execution of these changes is increasingly being defined by how promptly a company can understand and act on the value impact to the business and then communicate it in a way that stakeholders can clearly understand. As part of their focus on insurance modernization, thoughtful boards and senior management have made meeting this challenge a priority.

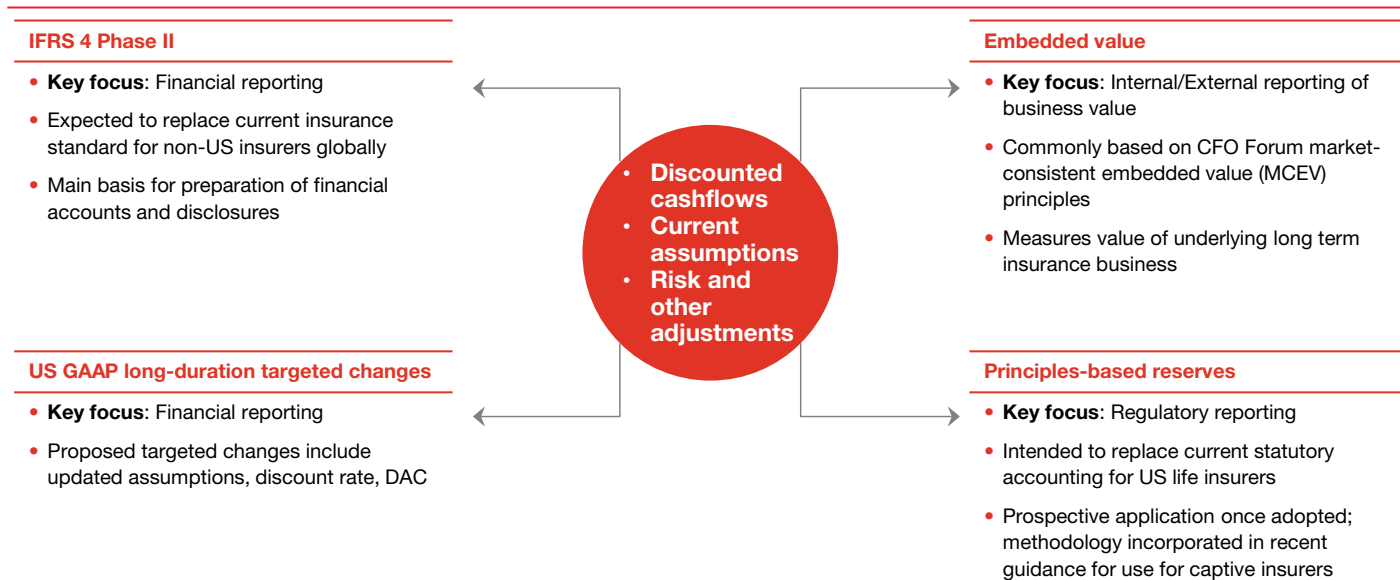
Value metrics, which insurers have used for many years, are changing. In the not-so-distant future, management and stakeholders will need to learn a new “language,” and current processes and systems will need reengineering to help in the translation. Accordingly, insurers need a framework that allows boards and management to actively make effective decisions by concurrently producing and utilizing new metrics in a controlled, efficient and timely manner.

New reporting metrics have common key principles, around which insurers can develop an effective metrics and communications framework.

In the following pages, we focus on four different reporting metrics to which the US life insurance industry is or will be exposed (see Figure 1), namely US GAAP targeted improvements to long-duration contracts, principles-based reserving (PBR), IFRS 4 Phase II, and embedded value (EV). A notable characteristic of each of these new metrics is that they have common key principles, around which insurers can develop an effective metrics and communications framework:

- **Discounted cashflows** – Requires projections of future cashflows and discounting them to current valuation date.
- **Current assumptions** – Use of assumptions based on current market environment and emerging experience.
- **Risk and other adjustments** – Adjustments to underlying assumptions as required by the reporting framework.

Figure 1: Reporting metrics and common principles



Common key principles

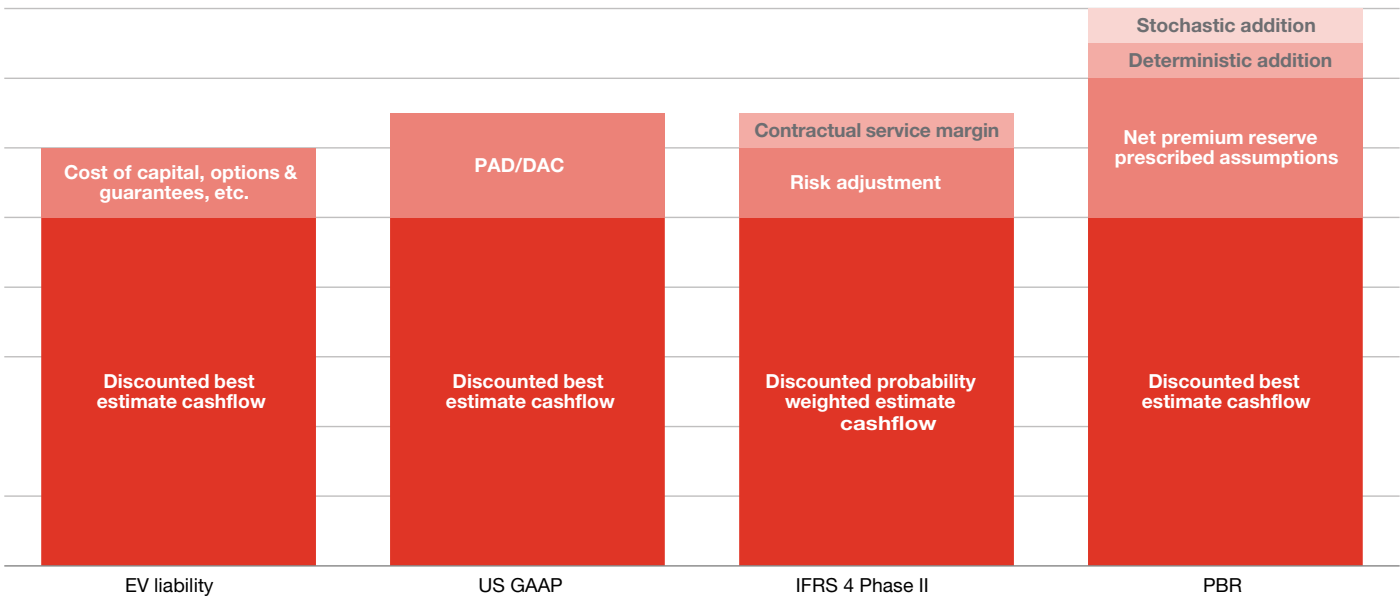
Insurers can apply the common principles underlying the new metrics to reduce current duplication of effort and infrastructure, particularly within the finance, actuarial and risk areas. Based on our experience with the industry, redesigning data, processes and systems around these common principles can result in significant process and cost efficiencies, notably fewer actuarial systems, less reconciliation effort and fewer specialized resources in the reporting process, and better use of centralized shared services.

Redesigning data, processes and systems around common principles can result in significant process and cost efficiencies and help offset the cost of a transformation.

A promising approach to leveraging these common principles is to redesign processes and systems around an “anchor” metric that best represents the range of metrics that will need to be produced. In many cases, life insurance companies are using an EV-based metric as this anchor because 1) its most basic building block is based on a valuation using best estimate assumptions and 2) it commonly aligns with economic analysis to support business decision-making. This allows more intuitive analysis of value changes from actual experience and basis updates. Figure 2 shows a simplified representation of the various building blocks and focuses on the key components that are common throughout the metrics, namely:

- **Probability weighted discounted expected cash flow/ Best Estimate Liability** – This is the foundation for each metric and represents the present value of future best estimate cash flows using assumptions based on current experience.
- **Allowance for risk and other adjustments (e.g., provision for adverse deviations (PADs), risk adjustment, value of options etc.)** – These adjustments are metric specific but generally reflect an adjustment to the best estimate assumptions used above, or to the range of assumption scenarios incorporated.

Figure 2: Common building blocks across multiple reporting bases – illustrative*



* The relativities of the different building blocks are illustrative and are not meant to represent the valuation of a specific product or the impact of different bases.

Other common foundational elements include:

- **Data** – The underlying valuation data generally will be the same, even though it may be simplified or stratified to reduce run time.
- **Product features** – The cashflows produced will follow the modeling of the product features being valued.
- **Modeling engine(s)** – The same modeling engine can be used.

Although not represented in Figure 2, a similar analysis for other regulatory and capital metrics will result in similarly leverageable building blocks, which increases the rationale for implementing this approach.

The design of the ultimate processes and systems naturally will require fine tuning. For example, the discount rates and expense assumptions used for a US GAAP valuation may be different from those required in an EV calculation. Therefore, while the approach for calculating best estimate cashflows (and hence the underlying actuarial systems) can be identical, some of the required inputs and methodologies to the calculation may differ.

Benefits of the anchor metric approach

In addition to the process and cost efficiency benefits we note above, the anchor metric approach also provides a number of analytical benefits. Most insurers spend a significant amount of time and resources on trying to rationalize and explain the metrics they produce, rather than trying to analyze the results to provide management with business insights. Obviously, this rationalization in addition to trying to reconcile the various metrics is not the most efficient or effective use of time and resources.

Breaking down metrics into common building blocks and redesigning processes and systems to promote consistency across building blocks can significantly reduce the time rationalizing and reconciling results. For example, using the same data and projection engines can eliminate the need to validate data sources and coding differences across systems. Also, defaulting to the same base building block across metrics (e.g., discounted best estimate cashflow) can facilitate the reconciliation process because each metric has essentially the same starting value. Accordingly, analysis of results also becomes easier because each change in assumption or methodology can be explained relative to the base building block.

Figure 3: Illustrative approach to analyzing results

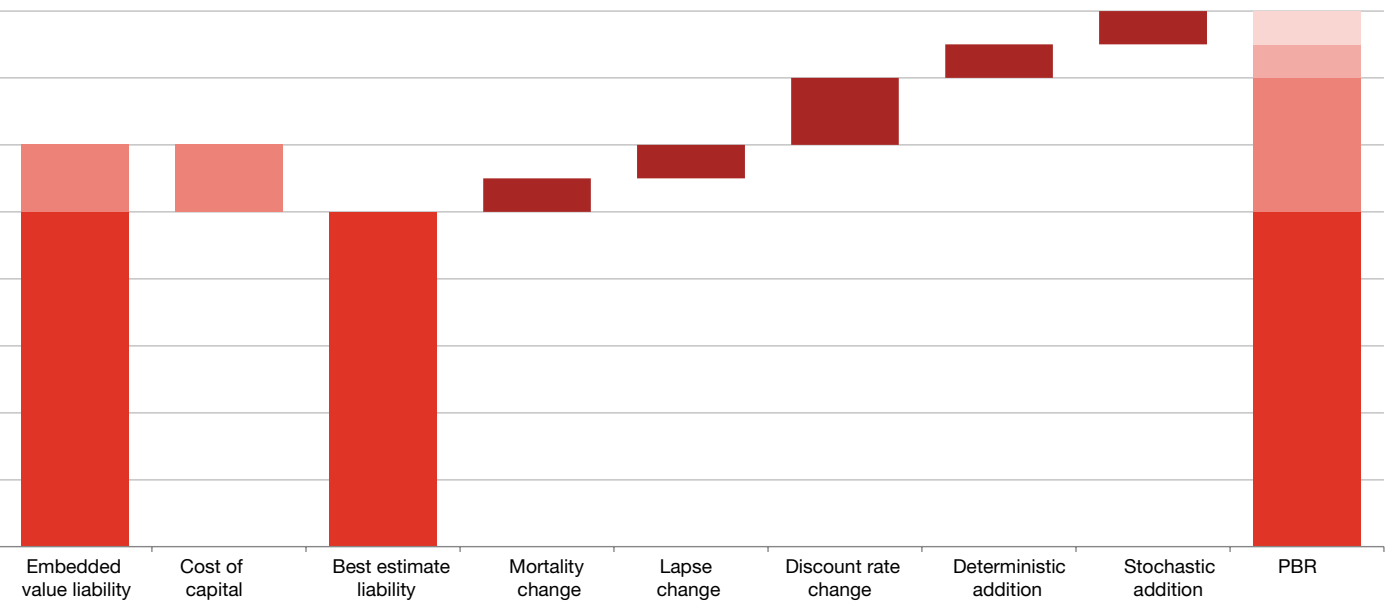


Figure 3 is a simplified illustration of reconciling two metrics (in this case, EV liability and PBR) and how the various assumption and methodology changes could be analyzed relative to the base building block or chosen anchor metric. In this illustration, we have chosen the EV liability as the primary metric used to measure value and removed the cost of capital (which is basis specific) to arrive at our base building block or anchor metric (the best estimate liability). From there, each assumption change (mortality, lapse and discount rate in this case) and methodology change (deterministic and stochastic calculations) can be determined by applying each basis and methodology change sequentially to the base building block to arrive at the PBR metric. This type of analysis not only clearly illustrates what is driving differences between the metrics, but also shows the materiality and direction of those changes, thereby aiding managements' understanding of what is driving the value of the business.

Implications

- The many new insurance regulations and evolving financial reporting requirements make it necessary for boards and management to see in real-time how their decisions impact the value of the business according to these different metrics. Companies that can effectively meet these requirements will have a strategic advantage.
- Investment in technology solutions and redesigning processes to meet the new metrics' demands is inevitable and likely to be significant. Because these metrics share a number of common principles, there is a compelling business case to redesign data, systems and processes around their commonalities.
- Redesigning data, systems and processes around the new metrics' commonalities is likely to result in lower implementation costs, less reconciliation effort, fewer systems and processes, more efficient use of resources, and more valuable and timely analysis.

***New metrics:
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