



Insurance Insight Series

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Navigating uncertainty through enhanced business insight

Introduction

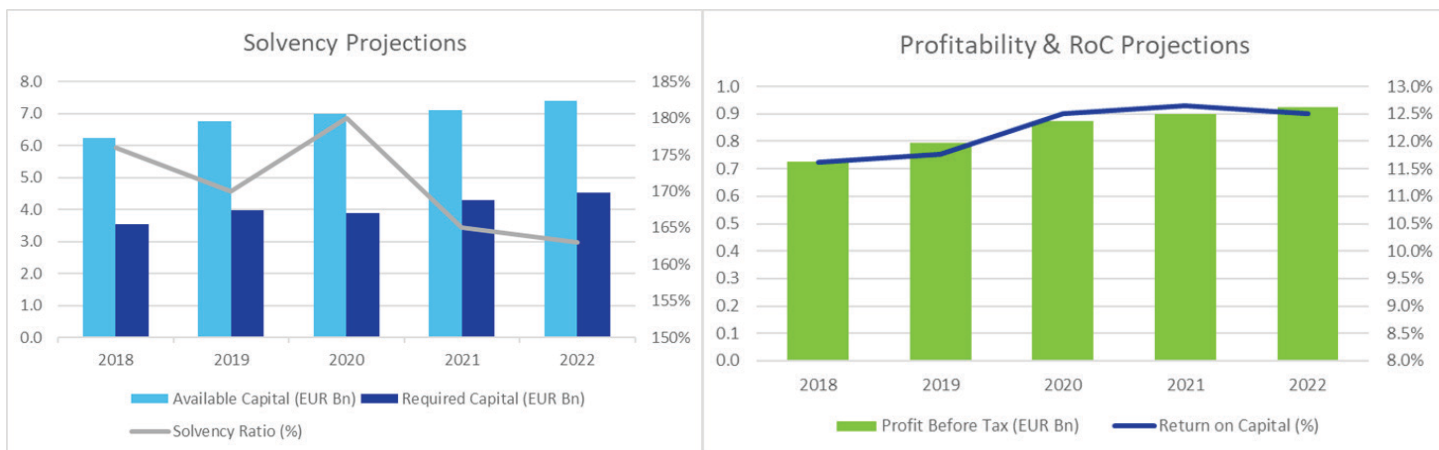
Today's economic and business climate is challenging for insurance companies. Margins are under pressure, and low interest rates in many economies around the world has meant that it is increasingly difficult to generate returns from the assets backing the liabilities.

Furthermore, senior management must manage the business across multiple bases and metrics, made more difficult as accounting standards and solvency regulations continue to evolve. The most significant change for many insurers is the introduction of the new IFRS17 accounting standard which impacts how profits are reported. As a result firms must invest time, sooner rather than later, to understand the implications of IFRS17 on their profitability profile.

In North America the North American Insurance Commission (NAIC) has introduced Principle-based Reserving (PBR) for statutory reserves and Canada has implemented a new solvency regime Life Insurance Capital Adequacy Test (LICAT). Solvency II in Europe has added considerable complexity to the regulatory balance sheet and many other regimes are using some of the key concepts. This trend towards more market consistent measurement, as seen in Solvency II, has meant that volatility in the capital markets has a direct impact on the balance sheet which can be difficult to manage.

In light of the current environment, most insurers are focusing on growth to deliver value to shareholders and policyholders. As part of this growth story, senior management must understand the dynamics of value creation. For example, they must assess the return on the different tranches of allocated capital. The pressure on margins has meant that management of ongoing expenses continues to come under scrutiny. Firms are placing greater focus on cash generation and liquidity management to ensure contractual outgoings and payment of dividends to shareholders are resilient to a range of risks.

To help make the right decisions, senior management needs better insight regarding the impact of those decisions. A business projection capability is a core management tool to deliver such insight. Projecting financials and solvency under alternative forward looking economic and insurance scenarios enables management to assess the impact on the business.



It is becoming increasingly important to assess the impact of different scenarios over a multi-year time horizon, and doing so benefits both internal and external communication. The board wants to assess the impact of adverse multi-period events like a protracted slump or prolonged low interest rate environment, and the impact of historical scenarios, like Japan's economic stagnation and price deflation of the 1990s.

A core part of this analysis is being able to assess the impact of different management actions, like strategic asset allocation, new business volumes and pricing, reinsurance, and M&A, which may be deployed to create value or mitigate the impact of a particular scenario. Assessing the impact of each scenario allows management to develop and test forward-looking action plans that can be implemented in response to particular events.

The impact of these forward looking scenarios and management actions must be assessed across the key metrics used to run the business. The different corporate functions (for instance CFO, CRO, and CIO) each has a slightly different perspective.

From a business projection perspective, the CFO's primary focus is financial planning and capital budgeting to ensure that capital is being deployed effectively across the business. The CRO is

interested in how risk exposure evolves over time under different stress tests, and whether limits associated with the risk appetite have been breached. The CIO is more focused on asset and liability management and asset allocation.

There is an increasing overlap between these disciplines and the corporate functions are working closer together to ensure greater consistency. However, it is an area that is still evolving. It makes sense to move towards a common projection capability to simplify processes and deliver consistent business insight within each corporate function and for the business as a whole.

Forward-looking insight sounds easy in theory, but there have been historical challenges

Although senior management's insight needs are relatively clear, modeling multi-period projections for an insurance company, particularly a life insurance company, across a range of metrics in a holistic, timely, and consistent manner is a difficult task. Business projections are not new, as firms have been doing projections for many years as part of the planning cycle and stress testing. However, modeling an insurance business has become increasingly complex and there are practical constraints for many firms.



Gaps in coverage of the key business metrics

Insurance companies are managed using a range of metrics, each providing a view of the business through a particular lens. For example, profitability is driven by the applicable accounting standard, such as IFRS or Local GAAP, whereas solvency is assessed against the relevant solvency regulations, for example NAIC Risk-Based Capital in the US or Solvency II in Europe, plus any additional internal requirements.

There is a danger of focusing only on a specific basis. Projecting on the accounting basis alone does not account for any capital constraints that can arise through the solvency regulations. Conversely, projecting the regulatory solvency basis does not show the expected emergence of accounting profits.

In addition, some key metrics require a combination of outputs from different bases. For example, return on capital metrics requires a combination of outputs from both the accounting and solvency bases.

To have a comprehensive forecast of the business, firms must project all the key metrics against which the business is being managed in a consistent modeling framework.

Forecasting a changing economic and insurance environment requires specialist knowledge

A key input into the projection capability is the multi-period scenarios representing the events that senior managers are most interested in. These forecasts are required to help senior management assess the risks and opportunities resulting from a changing economic and insurance environment. The focus

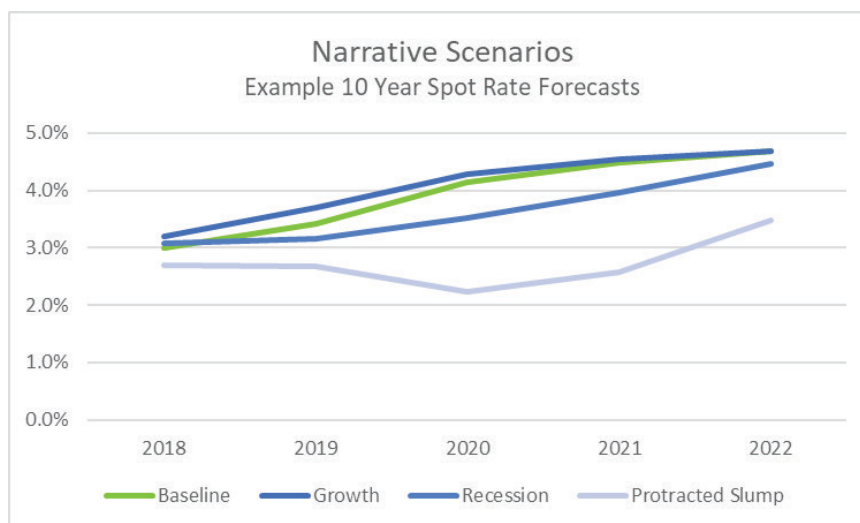
is mainly on adverse scenarios to test the robustness of the business but also includes some upside scenarios.

One of the main challenges is these macro scenarios require specific domain expertise such as economists, quants, and data specialists. In addition, these macro scenarios are not sufficient on their own to feed into the projection framework as they do not contain all the information required. For example, the macro scenario might only forecast two points on the yield curve, 1-year and 10-year spot rates, whereas the full yield curve will be required for discounting liabilities at future points in time. Again this approach requires specialist expertise to expand the macro scenarios so they can be used in the modeling framework.

Numerous models across multiple stakeholders does not help

The business projection capability must have a clear link with the complex actuarial and capital models (the 'heavy models'). Establishing that link can be a challenging process due to the numerous models that are required across different functions to feed into the projection process. In addition, the primary application of these models is for valuation and solvency reporting purposes.

The actuarial engines have projection capabilities but the ability to project the business holistically from both a shareholder and policyholder perspective usually requires many manual processes and the final results tend to be aggregated via numerous linked spreadsheets. Solvency projections are also potentially complex and it might not be possible to use the existing capital model directly. For example, in Europe under



Solvency II many firms adopt a simplified approach, like risk driver, for projecting the capital requirements relative to the methodology used for solvency reporting. However, these simplified approaches might not fully capture the dynamics that drive capital requirements.

A further challenge relates to life liabilities with options and guarantees. Options and guarantees can be sensitive to the economic path over the projection time horizon and will often require stochastic scenarios for the valuation of the liabilities at each future point in time. This complexity means that the projection models are slow to run and difficult to set up.

Projection capabilities based on consolidation spreadsheets that rely on rerunning the heavy models every time tend to be time consuming, and do not have flexibility to deal with the increasing number of senior management “what-if” requests.

The way forward, an insight oriented approach to business projections

Start with the end-in-mind to implement a holistic business projection framework

There must be a clear vision to deliver a business-oriented projection framework. Such a framework has to deliver business insight to senior management. Some key questions to ask:

- » Which metrics are used to run the business?
- » Which economic and insurance scenarios are important to senior management?
- » What management actions does senior management want to be able to assess?
- » What level of analysis is required?

Insurers have invested heavily in their actuarial and capital models due to regulatory changes in recent years. So it makes sense to use the solutions that are already in place. These models provide the building blocks for a holistic projection framework, with the ability to project the components of the balance sheet and income statement. Although the data generated by the heavy models might not always be in a user-friendly format.

As a minimum, senior management requires a projection framework that aggregates the various sources of projected data in a way that is streamlined, easy to use, and provides analysis capabilities for the business. However, it is not always practical

to go back to the original actuarial and capital models to answer each “what-if” question. The use of agile modeling techniques such as cash flow flexing and proxy functions can help to mitigate the timeliness challenges associated with rerunning the heavy models each time.

Agile modeling provides a complementary projection capability to the heavy models and enables insurers to look at a wider range of scenarios and management actions. Where a particular business projection requires more detailed analysis, the relevant heavy models can be rerun to check that the dynamics are fully understood.

A projection framework that meets the needs of today’s senior management must be designed from outset to deliver insight in an accessible way. It is best achieved through a modern technology platform focused on the key business metrics, with what-if analysis and dashboard capabilities. Allowing access for multiple users within the business with appropriate governance and controls built into the solution.

Spreadsheets are useful initially but one of the key challenges is that they are not flexible or easy to evolve after initial development, making it difficult to deal with new requests from management. In addition, they are unlikely to have the drill-down capabilities associated with a well-designed data model.

Using the right expertise for the scenarios

Projections are only as good as the underlying scenarios that are fed into the process. Having the right expertise within the business is important to ensure that the forward looking scenarios are representative of the events that senior management are most concerned about.

Processes to generate both the macro and expanded scenario sets can be manual and resource-intensive. We expect these processes will evolve over time, becoming more streamlined with greater automation, to align with the needs of senior management.

Not all insurers have the internal expertise to provide macro-economic scenarios and associated expanded scenarios. Using external expertise can be an effective way of accessing plausible narratives that allow for the most recent economic data, conditions, and expectations. Off-the-shelf scenarios can be quickly incorporated into decision making and stress testing processes, and have potential to evolve into more bespoke scenarios that address specific needs of the business. A good

example of this approach might be for specialized datasets, such as housing price indices.

In summary

The insurance industry increasingly needs better business insight. Today's economic and competitive landscape is challenging, so senior management must be confident that they are making the right decisions that create value for both shareholders and policyholders.

A business projection capability has become a core management tool, allowing insurers to understand how their business reacts under a range of events over both the short- and long-term. A modern projection framework, combined with plausible forward-looking scenarios, allows management to assess the impact on key metrics in a consistent and timely manner. These tools promote better understanding of value creation opportunities, and potential risks, and support more effective planning, and enhanced risk-based decision-making.

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