Survey: Strategic Applications of Economic Capital 2020/2021

Coping with COVID-19: North American life insurers benefit from economic capital model investment

While North American life insurers use economic capital as a strategic management tool in a range of areas, the COVID-19 crisis has illustrated the payback of, and opportunities for, more sophisticated and timely modeling.

From monitoring risk limits to capital allocation and investment strategy (Figure 1), economic capital (EC) modeling is now an established strategic management tool for most North American life insurers. In a recent Willis Towers Watson survey, only 7% of insurers said they don't calculate EC, while the majority have been doing so for at least five years.

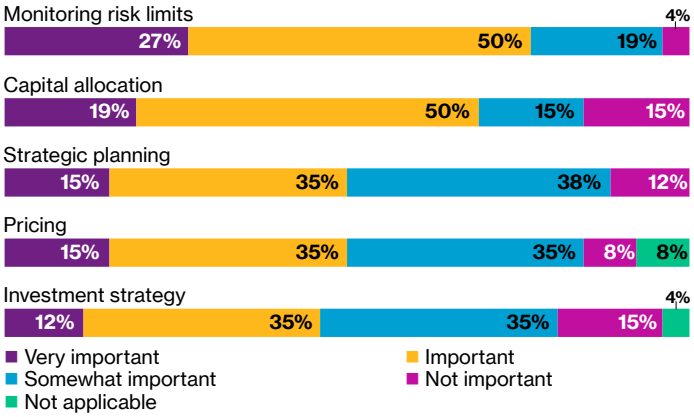
These figures demonstrate the momentum that has gathered behind the use of EC since a comparable 2016 Willis Towers Watson survey of life insurance chief financial officers (CFOs), when 67% said they were calculating EC at that time.

Today, not only is EC calculation very widespread but the results are being regularly reported across multiple dimensions. Of those companies that model EC, nearly all (96%) say they report at a total enterprise level. Around two-thirds also report by both major risk category and business unit/legal entity. Less common but additional forms of reporting include product, individual risk and region.

Unfulfilled potential

Yet, for all the obvious progress made in calculating EC, it also suggests that life insurers have further room to enhance model sophistication and extract more value from their models. Compared against Willis Towers Watson's yardstick of EC modeling best practices, for example, only 35% of companies said they report at least quarterly, just 16% have a dedicated system for calculating EC with automation and controls, and a meager 12% are able to report results within 30 days of valuation.

Figure 1. **Most common strategic applications of economic capital**



Note: Percentages may not add to 100 due to rounding.

Willis Towers Watson

While some companies might argue, "If it ain't broke, don't fix it," we decided to test the theory of unfulfilled potential by asking respondents how they feel EC modeling has helped their organizations weather the recent COVID-19 crisis.

Regardless of how effective companies think their EC models have been in helping them manage the effects of the pandemic, one impact has been to encourage many to plan to make changes to their model as a result. The recalibration of stress scenarios for market and non-market risk factors are the top priorities. Beyond that, though, the results on model efficacy during the pandemic were quite revealing and conclusive:

- Companies that report EC more frequently indicated better effectiveness in managing through COVID-19 impacts.
- Companies with the longest history of calculating EC indicated their economic capital models have been more effective in managing through COVID-19 impacts.
- Companies with shorter EC reporting lag time indicated better effectiveness in managing COVID-19 impacts (Figure 2).

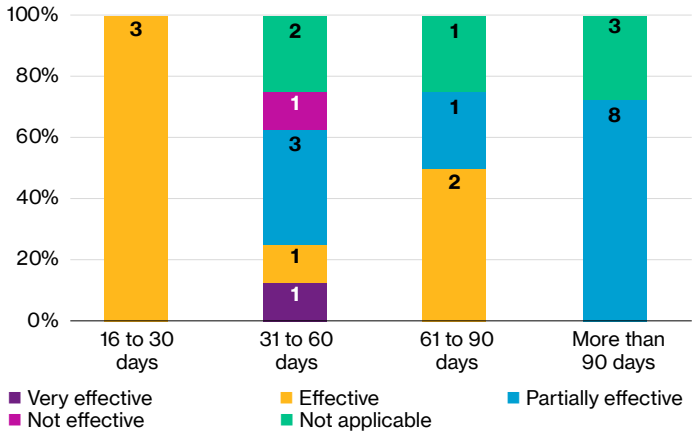
Moving to the next level

Of those companies that are less satisfied with how EC models have helped the business through the pandemic, many readily acknowledge shortcomings in their modeling. Principal among the challenges they say they face are the need to gain more strategic insight from models, refining technical calibrations and methodology, and finding the optimal balance between complexity and ease of understanding. Further adding to the complexity is that nearly three-quarters (73%) of those surveyed continue to rely on multiple systems for actuarial projections and spreadsheets for EC aggregation. Conversely, only 4% do everything on one system, while a further 12% outsource EC calculation to a third party. Upgrading EC processes looks like a clear opportunity for many insurers.

This will be particularly important if more companies switch to setting target capital levels from regulatory capital to EC. Currently 54% say they rely on the regulatory figure, but almost 40% use EC directly or indirectly. This compares with a roughly 70/30 split from our 2016 survey of CFOs.

Some may be put off by the survey finding that EC requirements are at least as large as regulatory capital requirements for a majority of respondents who calculate it – although this depends to some extent on whether insurers are in the U.S., Canada or Bermuda jurisdiction.

Figure 2. **Companies with shorter EC reporting lag time indicated better effectiveness in managing COVID-19 impact**



But it's worth reflecting on the real significance of this finding on the preference for setting capital. There are arguments for EC both ways in our view. On the one hand, if EC is larger, it may be a reflection of more sophisticated EC models to address perceived shortcomings in a broad regulatory approach. Where EC is lower, this is still meaningful information, as it's likely to mean that managing on the basis of regulatory capital requirements would be putting a company at a competitive disadvantage – for example, perhaps by overlooking a company's unique sources of diversification benefits.

Overall our survey confirms there are many applications for economic capital. Recent experience during the COVID-19 outbreak suggests companies can extract the most value from their EC models when results are calculated quickly and frequently. By now several tools and techniques have become established to help achieve this, such as:

- Using curve fitting or proxy function methodology to reduce the reliance on lengthy actuarial model runs and speed up the EC calculation
- Deploying governance and automation tools to reduce the reliance on manual steps in the calculation and reporting process
- Developing standard reporting dashboards that decision makers can regularly review

Our recommendation is that life insurers who wish to lead in this space should explore implementing these within their organizations.

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About the survey

Willis Towers Watson conducted the web survey in September 2020 and received responses from individuals representing 28 North American life insurance companies, including stock insurers, mutuals and reinsurers. As of the end of 2019, the breakdown of total assets of companies surveyed was:

7%	**Less than $1 billion**
32%	**$1 billion to $24.9 billion**
11%	**$25 billion to $49.9 billion**
11%	**$50 billion to $99.9 billion**
39%	**$100 billion or more**

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