

# COVID-19 and enterprise risk management

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At the core of effective risk management is the ability to understand and manage to tail events. In this regard, the COVID-19 pandemic is raising some profound questions for risk practitioners.

The following discusses what we are seeing as the emerging issues, considered from the perspectives of: risk analytics, risk strategy, and the role of the chief risk officer (CRO) and centralized risk function within life insurance companies.

## Risk analytics

Life insurers in the U.S. have made great strides in recent years in developing more sophisticated approaches to stress and scenario testing, and using the results to help better manage their businesses. This includes more attention to what are often called “narrative scenarios,”-- that is, scenarios that describe a stressed environment looking at multiple economic and risk factors simultaneously, and their interrelationships.

However, have life insurers been testing narrative scenarios that look anything like today’s environment? Have companies thought of and tested a stress scenario that captures what we are seeing now in terms of simultaneous crises from demographic, financial, economic, and operational risks? But it would seem that risk management of the future will need to orient itself more towards trying to think about things we haven’t seen before rather than focusing on what we’ve seen historically. For this to be a meaningful exercise, it will need to be a multidisciplinary collaborative exercise – bringing together not just the quants like economists, risk practitioners, and actuaries, but those on the operation’s front line, including business leaders and sales and IT managers.

We develop narrative scenarios to answer the question: “if this set of circumstances happened, what would be the impact on the company?” In some cases, we take our testing a step farther: considering what the outcomes of the scenarios are and the overall impact to the company, we try to prepare sets of responses in the form of management actions should the situation arise. This practice has greatly enhanced the ability of risk practitioners to react to different shocks to the industry.

In addition, the advances that companies have made around stress testing means that they now have a great foundation on how to do more advanced testing relatively quickly. Some companies we are in close contact with have indicated that they have been able to quickly produce results for a stress-on-stress situation, e.g., a pandemic that continues for a prolonged period or a further stressed scenario that builds on the current crisis.

We propose that the role of stress testing will be enlarged in the coming months and years, with reverse stress testing taking prominence. Reverse stress testing refers to calibrating the parameters of the scenarios being tested to find the exact conditions that would make the metrics under consideration cross risk thresholds: a negative financial outcome, such as liquidity or balance sheet issues, or even a reputational or regulatory incident. These tests don’t replace narrative scenarios or more traditional stress testing, but provide a set of boundary conditions for when things may go particularly badly. These boundary conditions align with the risk appetite of the organization and allow for planning future action plans should the scenario materialize. We expect that for those not doing enough reverse stress testing, this will be the next step in the evolution of their quantitative risk management programs. For those who are, particular focus will be given to finding multiple sets of stress calibrations, and conceptualizing the exact conditions that would lead to those abstract parameters in order to formulate management action plans and early risk indicators.

Another question that has come up around stress testing is exactly what metrics are we stressing. While U.S. life insurers may have been focusing their stress testing (and reporting in their ORSAs) protection for their statutory balance sheet and impact on GAAP and/or statutory earnings, the current unfolding stress event may be having more serious consequences for operations and liquidity, including the ability to continue to service customers and write new business. Again, we are aware that some of the best practice companies have been looking at metrics that consider many aspects of their businesses, such as liquidity ratios under various stresses.

While stress testing is invaluable to establish “what if” situations, and thus enable management to be prepared in the event of an actual stress event in the future, the current crisis is putting pressure on the CRO and centralized risk functions to produce numbers and analytics that describe the state of their organizations as of today and to ensure that their stress testing results are realistic and practical in a fast-changing environment.

In the immediate short term, management is being faced with an immediate two-pronged sledgehammer— how to continue to run their operations when their people are quarantined (such as the challenge companies might face with the potential of internet disruption and reduced cybersecurity protocols), plus how to manage the business in the light of such volatile financial markets. In the short to medium term, management faces the outcomes of a rapidly changing economy that appears to be quickly entering into a strong recessionary period, with an expected reduction in demand that will likely affect the ability to sell new business in the near future. In addition, claims management, both operationally and financially, will also likely face unforeseen challenges with a potential increase in claims for products such as workers compensation, term insurance, and possibly critical illness. On top of the need to handle an increased number of claims, life insurers might also face legal and reputational risks with the approval or denial of such claims, given the definition of a peril might not have included a covered event such as COVID-19.

Furthermore, questions are being asked of the CRO as to how operational risks are being properly managed, and how the business is looking, say from an economic capital (EC) perspective, in the current environment. This puts tremendous pressure on the CRO in terms of having to respond quickly, and may also require the collection of information from around the organization to assess where any problems may be lying and need to be addressed.

### COVID-19 AND ECONOMIC CAPITAL

On the specific topic of EC, COVID-19 is raising some very interesting issues.

First, for those companies with EC approaches that involve a market value approach, the available required capital surplus is likely to be diminishing significantly under the current environment. How quickly have companies been able to generate updated EC numbers so that management can be given an up-to-date perspective on how COVID-19 is affecting the economic health of the company? Again, we are aware of some best practice companies that have been able to produce numbers extremely quickly— within days. But for others, such replenishment can take weeks, if not months.

Second, there is the question of how EC models should be re-calibrated in the current environment. Even for long-term valuation approaches, such as real-world run-off methods, should we be re-evaluating our long-term assumptions, including

correlation assumptions? How extreme is the current crisis? Is this the 1-in-200 event that regimes like Solvency II have been looking to capture, or is there worse that could come? An argument could be made that with the Spanish flu being about 100 years behind us, and the financial and economic events of 2008 not even two decades in the past, the current situation is not a 1-200 event. What are your models and your calibrations telling you? How are our EC models treating the current low rate environment or potential negative rate environment? Are they producing results that make sense as these situations are becoming more and more likely to occur?

Third, have EC models been too simplistic in capturing how risks interact? Most insurers will use a correlation matrix to capture diversification effects, and it may be dynamic in that correlations may be allowed to change depending on how extreme the circumstance is (thus enabling the feature of “all correlations go to 1” in times of distressed markets). However, such matrices do not capture more complex dependency structures, such as a pandemic that may cause a market crash, whereas a market crash wouldn’t necessarily cause a pandemic. This is an area of EC that life companies will need to explore more carefully going forward, and could be an area where stressed “narrative scenarios” and reverse stress testing could play another important role.

Finally, COVID-19 puts into perspective the whole question of what EC really means. There remain many uncertainties as to where we will ultimately land, but from where we are today, it does not take a lot of imagination to extrapolate to some very worrying scenarios. EC cannot be relied upon as the panacea in truly extraordinary times. It does not provide a unilateral guarantee of financial security or operational resilience.

## Risk strategy

Turning now from risk monitoring and reporting to risk strategies: immediate actions are focused on taking measures to ensure operational risks associated with office closures and working from home are being managed properly, including being able to get access to internet and e-mail when needed. Insurers face particular challenges here in that many processes and procedures continue to require paper transactions and/or in-office engagement. They could include, for example, areas of the business that involve collateral may be highly paper-based; derivative transactions may mandate on-premise trading; and many centers that involve policyholder interaction may require in-office staffing. COVID-19, if not already changing policies in these areas, is for sure likely to start dialogue around these areas.

Regarding the turmoil in the financial markets caused by COVID-19, the “usual suspects” of equity crash, credit spread widening, and interest rate declines are things that the industry is already well versed with, and of course the “lower for longer” interest rate issue has been on the table for many years already. However, the threat of negative interest rates in the

U.S. (including long-term rates) exacerbates and gives more urgency to addressing what was already a looming reinvestment crisis for life insurers. We have seen at least one company outside of the U.S. recently “bite the bullet” and purchase a large interest rate hedge for protection against their expectation of persistently low interest rates. While expensive, perhaps we may see more companies seeking interest rate strategies along these lines? Also, negative interest rates raise some major modeling issues for risk practitioners— how do we model policyholder and insurer behavior in such an environment? And are your modeling platforms doing the right thing in negative rate scenarios, e.g., buying/selling assets as you might expect.

We also think that the time has come for risk management aspects to get brought more into strategic asset allocation decisions, if they haven't already at your company, e.g., considering the potential EC impact of a particular asset mix. Not only will this help insurers get more comfortable with their investment decisions by being better informed, but they also may help pave the way for a wider range of assets to be brought into consideration, which will provide opportunities to pick up extra yield as well as get more diversification.

And what about things that may not be currently happening in the investment arena but could conceivably occur as an offshoot of the current environment? For example, life insurers have moved increasingly into commercial real estate (physical properties and loans) in recent years in an attempt to pick up extra yield. Are we about to see a major change in the

commercial real estate market now that working from home has become prevalent overnight, and it is likely that many employers may choose to transition to an increased working from home mix for their operations after the COVID-19 crisis is over? What might this mean for life insurers' investments?

There are many other aspects of management action that will unfold over the next few months to years as a result of COVID-19. What can companies do from a product perspective? Life insurers had already been working aggressively to cut guarantees in products. Is there more there that can be done? Will COVID-19 affect future underwriting decisions and selection criteria, and how will it affect both product design and pricing?

## The role of the CRO and centralized risk function

One thing for sure that COVID-19 is making very apparent is just how critical a role the CRO and the centralized risk area has in times such as this. From what we are hearing across the industry, the CRO is at the table when critical management decisions are being made, often as part of a crisis management committee that comprises executives from across the company and meets daily. Also, at many companies, the preparation of management reports in the light of the pandemic involves collaboration with many parts of the business and the centralized risk function has an invaluable role as a centralized “filter.” With so many people from around the firm grabbing and giving information, the importance of this role of coordinator cannot be overemphasized. Furthermore, in some organizations, the CRO has had to take an active role in engaging with first line functions and trigger business continuity plans where first line wasn't fast enough on getting started with them.

In a crisis, clarity can be elusive. When the new normal bears little resemblance to the past, and data and information for decision making are in short supply, organizations turn to their trusted advisors to help them find a way forward. For more than 70 years, Milliman has been among the most trusted of those advisors to the Life insurance industry.

Our ongoing efforts are helping our clients understand, anticipate, and respond to the full range of possible impacts from this public health crisis. Milliman is advising the full spectrum of stakeholders to help them answer important business questions. We are:

1. helping insurers make certain they have **adequate financial reserves and sufficient capital**
2. supporting insurers with the adjustment of their **enterprise risk management and ORSA frameworks**
3. measuring how this crisis affects **life insurance products' design, pricing, valuation, and reinsurance**

The need for professional insight and advice is now more important than ever. For more information about how Milliman can help your organization find clarity in this time of uncertainty, contact your Milliman consultant or email us at [COVID19@milliman.com](mailto:COVID19@milliman.com).



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