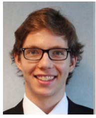
What can COVID-19 teach us about Insurance Risk Management?



"it is always better to identify your weaknesses in a stress test than in reality!"

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Introduction

COVID-19 has dominated the news since late February 2020. We are all aware of the effect it has had on our lives already: I write this piece from my home a few weeks into Guernsey's lock down. In such a rapidly developing situation it would be irresponsible of us to attempt to draw conclusions regarding COVID-19's impact on the insurance industry specifically. Nevertheless, while insurers prepare for the oncoming claims, it may be useful to consider what the pandemic can teach us about risk management in the context of Solvency II, how insurers could plan for similar outbreaks in the future, and whether any lessons we learn could be expanded to help insurers plan for other extreme events.

Pandemics in the Standard Formula

As part of the Solvency II standard formula, insurers must consider their exposure to pandemic scenarios. The Solvency II regulations[1] specify two considerations for pandemic shocks.

The first is for life insurers and is specified as an increase of "0.15 percentage points to the mortality rates (expressed as percentages) which are used in the calculation of technical provisions" [2] .

The difference sounds small and indeed in the mortality curves looks fairly small as illustrated in the graphs below. But to put this in context, if we were to follow a group of 100,000 people over the next ten years, the increased mortality rates would result in about 1,500 more deaths.

The second way pandemics are included in the standard formula is for insurers with health exposure, e.g. medical expense lines. This stress is defined with reference to the loss in own funds equal in value to 0.0075% of the total affected income protection exposure and 40% of the total medical expenses exposure (on a per country basis).

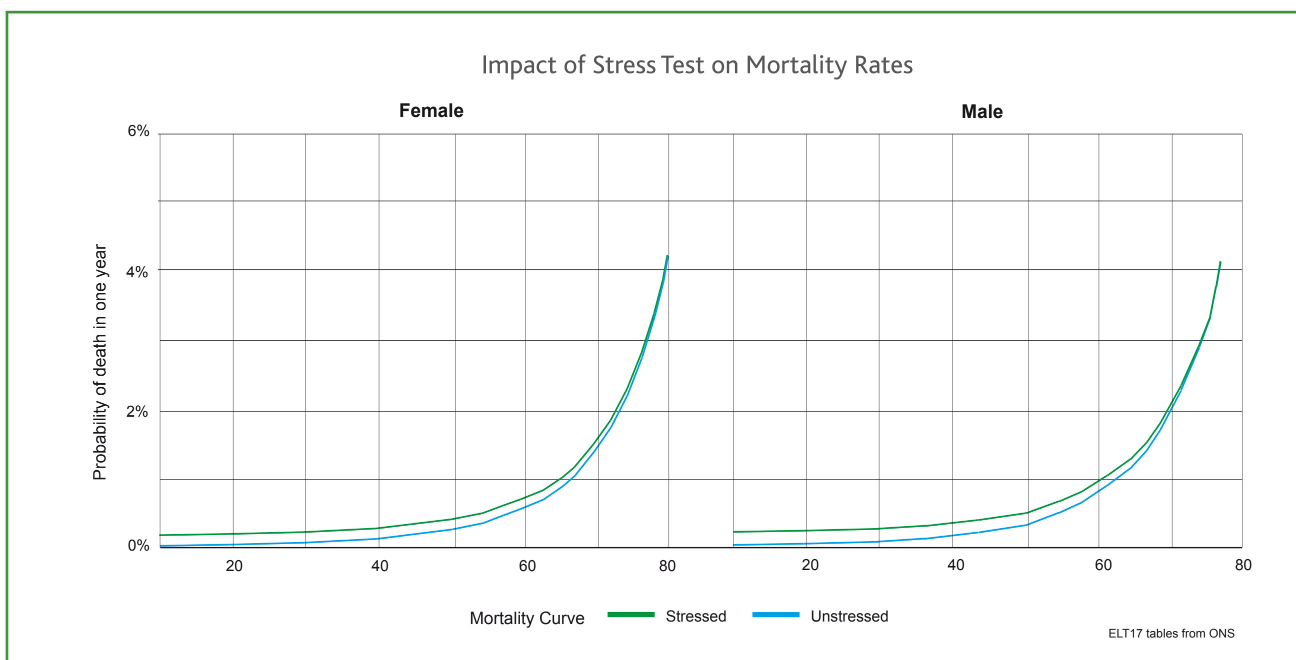
This leaves a gap: The standard formula only considers the direct impact of pandemics on claims, and so only considers those lines of insurance that cover life or medical risks. However, experience over recent months tells us it should be clear that an insurer that does not write medical business is not insulated against the effects of a pandemic.

So how should an insurer plan for a pandemic event? The answer is in the ORSA [3].

ORSA: The perfect tool for risk management

If not considered properly, the ORSA could be viewed as a needlessly expensive additional requirement put on insurers. If used to its full potential, however, it is a powerful tool in risk management.

At its heart, the ORSA allows insurers to ask "what if" questions in an explicitly quantitative way. It is precisely the place to consider how particular scenarios could lead to adverse experience. It is also a useful framework to plan management actions and predict their effectiveness. After all, it is always better to identify your weaknesses in a stress test than in reality!



[1] EU Commission Delegated Regulation 2015/35
[2] Delegated Regulation 2015/35 Article 143
[3] Own Risk and Solvency Assessment

Example

Let's look at what might happen in practice to a small insurer that writes motor business, travel insurance and property insurance. Under the standard formula, this insurer has no exposure to pandemic risks, but the truth is likely to be drastically different.

The first impact is likely to be through the investment markets. Betweeen late February 2020 and late March, over the same period, the price of oil had fallen by about half, before briefly going negative. On 9 March, the S&P500 dropped 7% leading to a fifteen minute halt in trading across the US; the first since December 2008. Changes in asset values alone are likely to impact the insurer significantly.

On 11 March 2020, the Bank of England cut UK base rates of interest to 0.25%; shortly after on 15 March, the Federal Reserve cut US base rates to 0%. The Bank of England cut the base rate again on 19 March to 0.1%. Such attempts at economic stimulus from central banks are one of their key tools. As such, when an insurer is thinking about disaster scenarios, it should factor in interest rate cuts as part of its modelling. Indeed, the insurer could take a view as to whether the standard formula's parameters need to be adjusted. For example, under a pandemic, does the insurer really think that the risk correlations of the standard formula will still hold?

As the pandemic spreads, we have seen that restrictions could be placed on the day-to-day running of the insurer. As staff begin to self-isolate, expenses are likely to increase as preparations are made for remote work. If staff are adjusting to remote work for the first time, productivity is likely to be affected, which could impact all areas of the insurer's business from claims handling to product development to compliance. Eventually some staff could get sick, leading to a complete loss in productivity over some elements of the business.

The same forces affecting the insurer's employees will also affect its customers. Many people will look to cancel previously planned travel and are unlikely to book any new travel, at least for a while. This is going to result in abnormal claims experience under the travel insurance policy. The insurer could see a dramatic short term rise in claims and then have them tail off completely. Similarly, some policyholders may think that being stuck inside is the perfect time to tackle that DIY project that they have been putting off. The insurer could see increased claims on their home property policies!

A hurried approach to implementing remote working may also lead to reduced information security during the time of transition. This would increase the probability of data breaches under GDPR and also data loss through malicious action. Employees not used to remote working may not follow best practice security, leading to intrusions or ransomware attacks being more successful than they would have been otherwise.

Due to the global nature of pandemics, if any functions are outsourced to providers in other countries, it is quite possible that such operational diversification will not add any extra value. Worse, the insurer may have limited ability to mitigate service disruptions from their outsourced providers through having no control over the provider's reaction, coupled with limited in-house experience to bring the function back in-house. Claims handling, audit and actuarial support could disappear with limited notice.

As the pandemic worsens, it is possble that key people within the insurer are taken ill, leading to temporary or permanent loss of operational knowledge.

While what we have discussed so far has been negative for the insurer, the pandemic could also affect certain areas in a more positive way. The insurer could potentially experience reduced claims under their motor policies as people reduce their travel. Depending on the order of events, the insurer may be able to apply pandemic-exclusions to some of their travel business. However, denying claims when policyholders are trying to escape affected countries comes with reputational risk.

A major disaster is likely to touch every part of the insurer's business, and the ORSA is the perfect place to test out the insurer's response plan.

Conclusion

The ORSA process is most effective when insurers start with a story. From the prompt of a global pandemic, we have covered impacts on market risk, expenses, underwriting risk, implications on new business and reputation. Building the narrative from a simple first idea helps the insurer explore possible scenarios with realistic management reactions.

Once the story has been constructed, detailed calculations can be carried out, including counterfactual investigations: "What if staff were already used to remote work?", "What if we had diversified our investments into less affected categories?" and so on. Indeed, it is exactly this type of detailed scenario testing that regulators have been requesting from insurers.

A global pandemic such as COVID-19 affects all aspects of life, and therefore, impacts all parts of an insurer's business. It is not as neatly specified as the standard formula may imply, and so a more holistic view of the full impact on an insurer may be assessed through the ORSA. Scenario testing is a powerful tool to simulate the stress event in a controlled manner so you prepare your company in case you experience it in reality.

The lessons we learn from COVID-19 need not be limited to the impact of pandemics. What we are experiencing can inform risk plans for any catastrophic event, from localised war, to global supply chain disruption. The insights on market reaction we gain from COVID-19 should help us to refine our models for market crashes or catastrophic climate disruption. The latter especially is ripe for exploration in a narrative-based ORSA scenario. BWCI would be happy to help insurers get the most out of their ORSA using this narrative framework.