InsuranceERM

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Covid-19

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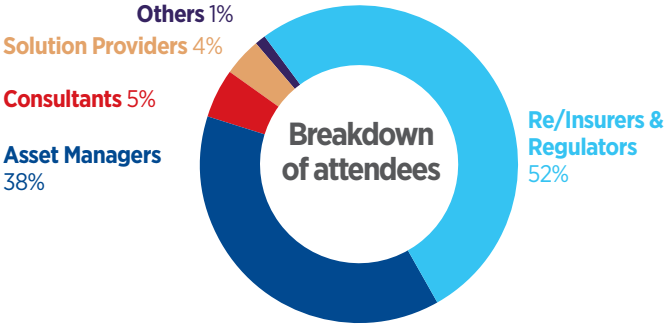

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Quotes of the quarter

"In the race towards an ICS we can all be winners. But one thing is for sure, the ones that don't participate in the race can't win it"

Gabriel Bernardino, Eiopa

"The idea of just taking rules [from Brussels] where you no longer have any voice feels uncomfortable and an odd place to be. It'd be sensible for us to have the ability to diverge and to do so consciously"

Anna Sweeney, Bank of England

"Although it was a lot of work, we love the Orsa [own risk and solvency assessment]. It brought our ERM to life and we can find all of our risk management efforts in one document"

Lorie Graham, AAIC

"Our position is that we should try to use the same [Solvency II] discount curve for IFRS 17 in order to not confuse stakeholders and management"

Pusinne Leung, Ageas

"Enterprise risk management is central to any conversation you want to have, whether you are setting a strategy, acquiring a company or putting yourself into run-off"

Vivek Syal, Tokio Marine Kiln

"Regulation is getting denser and often without a clear objective … The worst example is the discussion we've seen around systemic risk in the insurance industry, where regulation was introduced just because we needed to do something"

Peter Giger, Zurich

"Insurers are under water because of the negative spreads on their investments. I'm sure the problem would not have been so severe if there had been proper accounting from the beginning, if they had always adjusted interest rates to present times rather than historical times which are no longer very relevant"

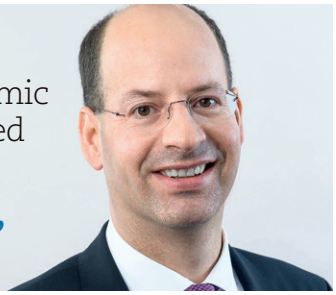
Hans Hoogervorst, IASB

"What Solvency II needs today is a targeted and focused review, in three areas: reducing barriers to long-term business and investment, making proportionality work in practice and reducing the burden of reporting."

Andreas Brandstetter, Uniqa

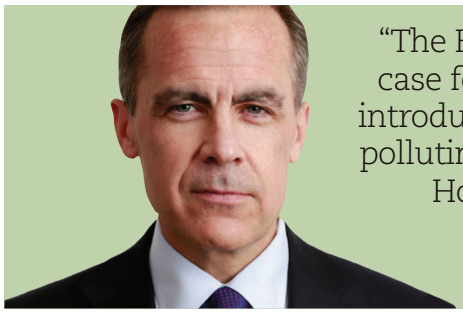
"We expect a global recession with economic risks having intensified abruptly"

Jerome Jean Haegeli, Swiss Re



"IFRS 17 is a real once-in-a-lifetime fundamental change to insurance accounting. The granularity, the disclosures, the analysis of change, the systems and work behind the scenes to deliver this cannot be underestimated"

Jo Clube, Aviva



"The Bank of England is examining the case for a brown-penalising factor that introduces additional capital charges on polluting and potentially risky activities. However, there are impediments to implementing such a measure"

Mark Carney, Bank of England

"We were hit by Sars hard in 2003, but that painful experience also helped keep us on our toes, and people in Hong Kong generally pay more attention to risk management"

Selina Lau, Hong Kong Federation of Insurers

Insurers weather the coronavirus storm – but for how long?

The Covid-19 pandemic has provided an uncompromising test of insurers' operational and balance sheet resilience. Initial reports suggest they are handling the situation, but what are the risks in the longer term? Paul Walsh investigates

Insurers are rapidly facing up to the cost of the Covid-19 crisis and its impact on operational resiliency and solvency.

In the short term, the biggest operational impact has been on staffing. In line with government recommendations, firms have been making significant efforts to allow employees to work from home. But this is an eventuality many had planned for.

John Berry, acting chief risk officer (CRO) at Allianz UK, says the firm has invoked its business continuity plan for pandemics, meaning many of its customer-facing teams will be working remotely in the immediate future.

Berry adds the firm had contingency plans in place for a number of eventualities.

Matthias Schneider, CRO for Life Germany at Zurich, says its existing business continuity plan had been adapted to fit the situation caused by the pandemic.

"The training given to people helped a lot as it meant they could be quick and not act in panic," Schneider adds.

Travel insurers have also had to deal with a surge in claims, with the Association of British Insurers estimating the UK industry will address around 400,000 claims and pay out £275m ($322m) this year – two to three times more than usual.

Inevitably, not everyone was perfectly prepared. On 19 March, Lloyd's shut down its underwriting room and initiated "emergency trading protocols" to allow business to continue. But this was only after a successful "stress test" was performed just six days prior.

Tom Wilson, Allianz: impact on equities, rates and credit is a near perfect 'trifecta'

Vivek Syal, CRO for Tokio Marine Kiln, says the disruption so far, including the Lloyd's shutdown, has been manageable, but there are questions over the long-term sustainability of the arrangements.

"Lloyd's does have the infrastructure in place, electronic trading is in place and messages are also sent electronically."

"In terms of impact, closing it for one day is less of a problem. Closing it for a long time becomes a more prolonged problem which presents different types of challenges," says Syal.

He adds specific long-term challenges are harder to predict as "nothing like this has happened before" but some firms may face greater challenges as the level of maturity with digital infrastructure can vary. Others have suggested the increasing prevalence of remote working will increase exposure to cyber security risks.

Syal also warns about the personal impact of the crisis.

"Social interaction is an important thing and if that starts to reduce wellbeing, we have to ask, do we have all the facilities lined up for people to use?

"If this carries on for months and months, that's difficult as everyone's got personal circumstances to go through, so it's about catering as best we can."

ASSET MANAGEMENT

The other major short-term impact has been from the disruption in the financial markets, which has drastically impacted the valuation of assets. Insurers typically allocate a small proportion of their investment portfolio to equities, so the fall in that market has been a relatively minor concern.

But they are a lot more exposed to the spread widening in corporate and government bonds, and the risk of bonds being downgraded, while the slump in interest rates makes it harder for everyone

to make low-risk returns on investment.

Syal stresses the pandemic has not led to changes in Tokio Marine's investment portfolio, which he says contains "near-zero equities".

"Our risk strategy is to take underwriting risk but not seek investment risk, so we haven't had to make changes from an asset risk perspective."

Tom Wilson, group CRO at Allianz, describes the situation as being a "near perfect trifecta" given the impact on equities, rates and credit.

"On the asset side, we've seen around a 35% drop in equity markets, 20-year swap rates at around zero and spreads in Italy are more generally increasing," he says.

"We are preparing in the sense we're evaluating and have taken action. For example, in equities for unprotected positions as well as for positions where the protection may be too expensive to rollover in the future.

"So naked equity positions and protected equity positions are being managed down, not in a fire sale but prudently. We're also focusing on interest rates and have increased duration on some of the balance sheets in spite of the cost."

Wilson adds Allianz's goal is to keep its own funds broadly neutral even if this causes exposure in solvency capital ratio movement due to negative convexity.

"We're tending to rotate more towards a lower risk profile during this period of higher uncertainty," he says.

SOLVENCY BLOW OUT

The market moves have taken a toll on some firms' solvency ratios. Aviva estimated its coverage ratio at 175%, based on the closing market position on 13 March – down from 206% at the 2019 year-end and the lowest the ratio has been since 2016, but within its 160%-180% working range.

Dean Buckner, former technical expert at the Bank of England, fears the balance sheets of some annuity underwriters will be dangerously exposed if the crisis persists.

"Investment grade spreads have exploded as a result of the crisis, from 100 basis points at the end of last year, to nearly 250bps. At the same time, safe asset yields (such as gilts) have declined," says Buckner.

If the pandemic continues until the end of 2020, he says some firms will be declaring "absolutely massive" losses and in some cases see their entire capital wiped out.

> "Investment grade spreads have exploded as a result of the crisis, from 100 basis points at the end of last year, to nearly 250bps"
> Dean Buckner

"It all depends on how quickly the government can give the notion they're going to knock this crisis on the head. If they short-change on the measures, it's going to last a very long time and spreads are going to be widening more and more and the markets are going to fall further and further."

Tokio Marine's Syal says the industry should come away with some positives from this experience.

"The overall resilience of the sector will be improved, as right now we're all in almost semi-lockdown mode, but there will come a time when the industry has to respond again because ultimately that's what we're here for."

Uncertainty is inevitable in the current pandemic and while the insurance sector seems to have rallied in the short-term, the longer it continues, the more time and resources will be required to ensure resiliency.

Capital actions

The hit to solvency ratios from the market crash, and the potential for severe economic disruption, has prompted some insurers to take capital management actions.

UK motor and home insurer Direct Line suspended its programme to buy back £150m-worth of its shares, with just £29m of purchases made.

Chief financial officer Tim Harris said: "Given the uncertainty as a result of Covid-19 we've taken the prudent decision to pause our share buybacks until the situation becomes clearer."

The group said its Solvency II capital ratio remained strong, at 163% on 18 March, down just 2 percentage points from the figure at the end of 2019.

Direct Line said it expects fewer motor claims following the government's advice against non-essential travel.

However, travel claims related to Covid-19 have increased to £5m on 15 March from around £1m on 3 March, and these are set to increase following further government-imposed travel restrictions.

Swiss Re said its board would be seeking authorisation to progress its plan to buy back CHF 1bn-worth ($1bn) of shares.

But the Swiss reinsurer warned: "In light of the recent volatility in the financial markets, the board will evaluate the appropriateness of launching the share buyback programme in the second half of 2020," the company said.

Swiss Re's solvency position, measured under the Swiss Solvency Test, was 232% at the start of this year. The reinsurer did not provide a more recent figure.

Norwegian insurer Gjensidige withdrew its plan to reward shareholders with a special dividend as "a precautionary measure".

Board chair Gisele Marchand said: "Based on the current extraordinary situation, we believe it is in the best interest of the company to have a cautious stance until we have more visibility of the full implications of the economic development."

Gjensidige said the impact from Covid-19 to date on its employees and on claims has been limited. However, its investment portfolios have been negatively impacted.

Without paying the special dividend, the group estimated its Solvency II ratio at 211% on 19 March, 20 percentage points down from the 231% ratio at 31 December 2019.

With the special dividend, the ratio at 19 March would have been 188%.

Modelling the virus

The spread of Covid-19 has not come as a surprise to everyone. Analytics firms are looking at the thousands of situations to model pandemics every day. However, it seems insurers are not quite up to scratch. Sarfraz Thind reports

"The phone has been ringing off the hook," says Nita Madhav, chief executive of epidemic risk analytics company Metabiota.

The San Francisco firm, which develops infectious disease models, is one of the few that might benefit from the spread of the Covid-19 coronavirus, which has now achieved pandemic status.

Insurers will have been among those on the end of the line because, given the evidence from the recent round of Q4 earnings calls, they have struggled to say anything specific about potential impacts from the outbreak.

This raises questions about insurers' ability to model such events and some believe there is huge work to be done.

"From the insurance sector perspective, they are not well prepared to handle epidemics," says Madhav. "A lot of times companies are applying very crude shock scenarios to the portfolio. For example, they are not taking into account the difference in countries' preparedness. It is an area where insurers are not embracing the full power cat [catastrophe] modelling can bring."

The slow development of pandemic modelling is partly as a result of the in-and-out experience of the market with such events. Episodes like the 2003 Severe Acute Respiratory Syndrome (Sars) and Middle East respiratory syndrome (Mers) have not remained top of the agenda for long.

"Epidemic risk suffers from the problem of panic and neglect. When it happens, it is at the forefront of people's minds, but that tends to fade away," says Madhav.

MORTALITY RISK

In Europe, most insurers have quantified their catastrophic life risk capital using the Solvency II standard formula which simply sets this as 0.15% of the sum at risk (the total sums assured less technical provisions). This seems an inexact methodology, say participants.

"It is widely agreed on the market that the Solvency II shock of 1.5 per million seems very conservative and the majority of internal models give a lower 1-in-200 event," says Michael Thomas, divisional director, catastrophe analytics at Willis Re.

Insurers may also run a more sophisticated process by modelling several pandemics as "a more strenuous test," says George Hansen, senior industry research analyst at AM Best.

However, estimating the impact from new pandemics is more challenging than the mortality modelling expertise might suggest. At a fundamental level, complex models do not always help quantify the risk of an extreme event, because the uncertainty in the parameters destroys confidence in the result.

According to Thomas, the limited number of pandemic events that have occurred and the difficulty in collating credible information about their characteristics – as seen with the current coronavirus – has complicated the task. "Differences between successive pandemics show the risk of trusting any particular model too much," he says.

"It is important to allow in the modelling for a large degree of 'parameter error', i.e. allowing for our ignorance of what the future will hold."

NON-MORTALITY HIT

In any case, for epidemics like Covid-19, mortality actually remains low on the scale of insurer impacts.

"You do see an impact on claims but generally mortality risk is not that significant," says Hansen. "It's one of the lower risks compared to asset and interest rate risk. It won't have a lot of impact on earnings."

Of at least equal weight to mortality exposure is the impact of GDP loss, business interruption and asset risk all coming together to hit an insurer portfolio. The Sars crisis caused some $40bn to $50bn of global losses, mostly due to decreased travel and consumer spending, and many believe Covid-19 has the potential to be a more significant pandemic.

The cancellations of major events like the Mobile World Congress in Barcelona, postponement of the Tokyo Olympics, as well as supply chain disruptions – which led to companies like Apple cutting sales forecasts – are likely to have some hit on insurance.

Insurers have tended to steer clear of insuring pandemic-related business interruption directly "because they are not comfortable writing it," says Madhav, and the amount of business interruption risk remains tricky to measure.

"Insurers typically have a crude estimation of this risk which makes it more difficult to write coverage on this," she adds

Still, participants agree the impact of non-mortality risks from pandemics is likely to be palpable.

French reinsurer Scor was one of the few to point towards possible non-mortality risks from the coronavirus in its February earnings call, citing property reinsurance contracts covering commercial risks, such as hospitals and commercial buildings – though it reported no claims at the time.

Munich Re, meanwhile, said the virus is not a trigger for health and life insurers to readjust their pandemic models (see box).

The German reinsurer is one of the few to have written pandemic insurance to date: an event-specific travel insurance with the South Korean government on Mers in 2015, offering cover in case of Mers exposure or death.

PANDEMICS VS. NAT CAT MODELLING

Munich Re's pandemic models draw on its experience in handling natural catastrophes.

The insurer has worked with companies like Metabiota to supplement its internal data for the pandemic and epidemic models.

There are similarities between nat cat and pandemic modelling. Madhav says the underlying principles are the same, but obviously the estimates of severity and frequency are different.

"An epidemic has the capacity for human intervention to change course so it's different," she says. "You can create a vaccine; that piece of modelling is different. It is more like cyber or political risk."

According to Narges Dorratoltaj, senior scientist at catastrophe modelling firm AIR Worldwide, another difference between pandemics and hurricanes or other natural disasters is that pandemics progress relatively slowly over a period of months, compared to other natural disasters that usually happen over a short period of time.

The increased timespan is also one of the challenges of monitoring pandemics compared to nat cats, says Willis Re's Thomas.

"More transparent, credible and timely information on out breaks will be required in order for companies to assess the impact on their business," he says. "This particular outbreak shows the sensitivity to the incubation period, and also how the spread in countries is highly sensitive to those countries' precautionary measures.

INPUTS

AIR is another leader in the field of pandemic modelling and has been working with insurers and governments to provide stochastic modelling services for some years.

According to Dorratoltaj, one of the most important inputs for the model is where it starts: it can be as specific as a city or a geographical radius.

"The difference with this and hurricane modelling is that with pandemics you do it at the municipal level and then do an aggregation approach," she says.

This is important because it allows further layers incorporating the travel pattern of the virus and population density. On top of this is the pathogen focus — whether the disease is airborne, water and food or vector borne — and the transmissibility levels. In other words, if people are infected, how many will be infected and for how long?

AIR has modelled previous coronaviruses and, in this instance, used the Sars and Mers outbreaks to build 60,000 potential events at different locations and different transmissibility levels.

Dorratoltaj says the company has also been able to leverage off technological and data advances to improve its pandemic modelling, and the model is now able to update virus predictions based on real-time data, hence is continually evolving itself.

"Comparing Sars in 2002 to now, the availability of data and ability to use the data to train the model and provide faster results is amazing," she says. "We have been able to use machine learning techniques to improve on real-time modelling."

How well insurers have modelled the coronavirus may become clearer in later rounds of earnings.

But the fact that analytics companies are currently seeing huge interest in their models from industry participants suggests they are playing catch-up.

Perhaps this time, when the outbreak fizzles out, re/insurers will not turn off the spotlight but will seek to understand better the full range of risks from pandemics, whether it be mortality or the ramifications for operations, markets and economies.

Models still valid?

According to Frank Schiller, board member of the German actuarial association Deutsche Aktuarvereinigung (DAV), the Spanish influenza pandemic of 1918-1920 remains what insurers consider as a "benchmark for a one-in-200 year event".

Schiller is also chief actuary for life and health at Munich Re, though he spoke to *InsuranceERM* in early February in his capacity at the DAV.

He said: "The casualties in China so far [from coronavirus] are only a small fraction of the [Spanish] flu epidemic. The Spanish flu was clearly a different quantum with millions of casualties spread worldwide. When we think of risk scenarios for mortality and health, that is still what we think of as a benchmark for a one-in-200-year event.

"What we have observed with the coronavirus, or Ebola, or Sars or the avian flu was not to the same extent," he continued. "So far, the coronavirus has not developed and been transmitted in a way that we, as life insurance companies, should be concerned of. As of now, we still see no need to adapt the models that we have." *David Walker*

"Covid-19 is a golden opportunity to educate the public"

Selina Lau was appointed chief executive of the Hong Kong Federation of Insurers on 1 February and her first month has been nothing if not busy. From the coronavirus to the opportunities of the Greater Bay Area initiative, while handling IFRS 17 and forthcoming risk-based capital rules, there is never a dull moment, she tells David Walker

How is Hong Kong's insurance industry responding to the coronavirus pandemic?

Insurers in Hong Kong are taking a very proactive approach as far as Covid-19 is concerned. According to a quick survey we did among our members, 53 have offered some sort of alleviation measures in the context of medical, life, critical illness insurance, etc., ranging from extended premium grace periods, waiving waiting periods, express or simplified claims procedures and other special coverage and benefits. All these are more to facilitate the existing policyholders than attracting new clients.

Despite the proactive moves from our insurers, there is a certain degree of confusion in the market, in particular concerning travel insurance coverage under Covid-19. Noting this, and in the view of the rapid development of Covid-19, we saw the need to provide a one-stop platform with the most reliable information.

We have therefore built the Insurance Dashboard on Covid-19 (www.hkfi.org.hk/covid19). It provides clarity on insurance coverage in various lines of business concerning Covid-19, and summarises the alleviation measures from our members.

Was the Hong Kong industry able to draw on experiences from previous pandemics, such as Sars?

I believe every cloud has a silver lining. We were hit by Sars hard in 2003, but that painful experience also helped keep us on our toes, and people in Hong Kong generally pay more attention to risk management.

Business continuity planning might not have been very popular before Sars, but insurers have certainly put in efforts building a resilient framework for contingency. And thanks to the development of technology and the astronomical rental costs in Hong Kong, many businesses have already allowed their staff to work remotely. This helps our insurers maintaining 'business as usual'.

We were asked by lots of media about standardising terms and conditions of certain insurance products, such as travel insurance, but diversity is the beauty of our insurance market. Through benign competition we are able to achieve more innovation and tap into niche markets. As long as we remain transparent and fair to our customers, we should not let rules and regulations suffocate market progress.

What are the main opportunities and challenges for Hong Kong insurers in the coming three to five years?

They must be the Greater Bay Area (GBA) initiative, and insurtech.

In February 2019, the State Council announced the initiatives for the industry under the Outline Development Plan for the Guangdong-Hong Kong-Macao GBA.

These include promoting cross-boundary renminbi reinsurance business, cross-border motor and medical insurance products, and developing a trading platform for innovative insurance elements such as international marine insurance.

By incorporating the other jurisdictions in the GBA, we're going to drastically increase the market size, and there is great potential in both the types and nature of products we offer. Essentially there will be a common market for players in Hong Kong and across the GBA.

But opportunities and challenges are just two sides of the same coin. In the GBA, you have a group of consumers which may have vastly different buying habits and preference. For insurers planning to enter the market, the laws and regulations in China, [and] their lack of local networks would put even more complexity into the challenge.

No-one will doubt insurtech's impact on our business. We have front-line applications which help staff handle customer enquiries; we have logistics solutions; and we have financial systems for back-end staff. It enables insurers to generate insights by leveraging existing data and to develop new approaches to underwrite risks and predict losses.

But tech is also making insurers' business more challenging, as they are required to meet changing customer needs with new offerings to match expectations.

The HKFI has launched industry-wide insurtech projects. Midas, for Motor Insurance DLT-based Authentication System, is Asia's first industry-wide blockchain solution in production for motor insurance.

It revolutionises the way we detect fraud and embraces the privacy-by-design principle. It is also a platform of trust built among stakeholders – insurers, intermediaries, the regulator, government agency, law enforcement and the insuring public. We are looking to expand it into other lines of business.

What do you find the most interesting or challenging part of your job at the HKFI?

The fun part is, that I have worked at the HKFI for more than 20 years and I am still amazed by the agility and diversity of the

industry and our business. Every day there is something new.

Insurance is the backbone of all socio-economic activities. Whenever there is new development, insurance is always involved. Take Covid-19 as an example: insurance has attracted a lot of attention [and] all of a sudden, people realise insurance is an integral part of their lives, and start asking questions.

It is a golden opportunity for us to educate the public, raise our profile and demonstrate what an unsung hero insurance is, and what it does for people. It is, however, sad to see that it takes an epidemic for people to realise the important role we play.

And the tough part?

Policy advocacy is one of our key missions. The HKFI represents all insurers, big and small, international and local, general and life. We not only represent their interests, but must maintain a fine balance as interests are not always aligned. Some positions and recommendations may not cater for every one of our members, but I believe in the greatest common denominator and so far we are doing a fine job in striking a balance.

Ever since taking up my current role a month ago, I have been talking to CEOs of member companies to gain more insights from the C-suite, and better understand their 'wish list', so to speak.

Answers varied when I asked what they want to change most, but one said he would like to see a world in which people could see the true value of insurance, and we are not misunderstood and undervalued. Trying to change the entrenched ideas the public have about our industry is one of the toughest challenges I took on.

The HKFI has called for considering postponing mandatory adoption of IFRS 17 for Hong Kong's industry to 1 January 2023. What is the latest on this?

(Editor's note: Ms Lau was interviewed before the IASB decision to postpone IFRS 17 implementation to 1 January 2023)

Further to our lobbying with the Hong Kong Institute of Certified Public Accountants, we wrote to James Lau, Secretary for Financial Services and the Treasury, to seek the government's support for a mandatory

adoption of IFRS 17 on 1 January 2023. Our pledge is substantiated by an impact analysis of early adoption of HKFRS 17 on Hong Kong's insurance industry and economy.

Hong Kong is blessed with a raft of insurance companies, big and small, which have found the current implementation timeline equally challenging. SME insurers in particular do not have sufficient actuarial support and resources. Compared to other markets, Hong Kong has a large number of SME insurers, especially in the P&C field. Hence, Hong Kong will be impacted more than other markets by an early adoption of IFRS 17.

We expect a progressive alignment of practices globally as various players develop a deeper understanding of the new accounting. This will take time and in this context, it would be problematic for Hong Kong's insurance market to be one of the 'front runners' to be exposed to these new standards.

Are there specific challenges to come before the introduction of the risk-based capital (RBC) regime in Hong Kong?

The challenges arising from QIS3 [the third quantitative impact study] are subject to the results, which are currently under data analyses by the Insurance Authority (IA). The HKFI will continue to proactively engage the IA on the formulation of detailed rules.

Practitioners tell us they expect greater investment in longer-term fixed income assets as a result of forthcoming RBC rules, adding to interest rate and credit spread risk.

What challenges will this bring?

The industry is keen on ensuring that customers would not have to pay more for insurance and that Hong Kong would maintain its competitiveness.

For life insurers, a significant portion of new business and in-force insurance portfolios in Hong Kong are incorporated with discretionary and/or non-guaranteed benefits to customers, for instance participating contracts, universal life, Class C ILAS [investment-linked assurance schemes]. This enables the industry to effectively share with customers upside during bull markets, and downside during market turmoil. This enables the industry to have resilient balance sheets, to weather time of uncertainty and market volatility.

One of the challenges, however, is that there are no longer-term fixed income assets available in the local market to match our HK-dollar liabilities. We have proposed time and again to the HKSAR government the possibility of introducing longer-term bonds. We are still pursuing this goal.

Following the promotion of corporate governance and risk-based assessment under the upcoming RBC regime, general insurers are much more vigilant in maintaining a healthy underwriting book, with less reliance on investment gains.

Flood, climate, capital: NAIC president Ray Farmer's agenda for 2020

Ray Farmer is the new president of the National Association of Insurance Commissioners. In this Q&A with Sarfraz Thind, he talks about flood coverage, international regulation and how he intends to raise climate awareness

Ray Farmer has been director of the South Carolina Department of Insurance since November 2012, having been appointed by former Republican Governor Nikki Haley. He took up the additional role of president of the NAIC this year, having served the previous 12 months as president-elect under Eric Cioppa. Before becoming South Carolina's insurance chief, he was vice president for the American Insurance Association, a group representing US property and casualty underwriters.

What are the main risks in the market you see for 2020 and how is the NAIC helping tackle these?

One of my main goals for 2020 is to help consumers find ways to be more resilient in the face of natural disasters, primarily focusing on flood. Across the nation, consumers are facing rising waters – even if they aren't on the coast — and flood insurance remains one of the more complicated and expensive policies to purchase.

The NAIC supports increasing the private flood insurance market so that homeowners will have better and more affordable options to protect their homes.

In my home state of South Carolina, we will be introducing a new piece of legislation aimed at strengthening the private insurance market. If it passes, we will be one of the first states in the country to make this sort of headway on private flood insurance.

> "The NFIP should be a last resort .. but that only works if there is a robust private flood insurance market for consumers to shop on first"

It's important that consumers don't depend solely on the federal government – through FEMA [Federal Emergency Management Agency] or the National Flood Insurance Program (NFIP) – to provide protection from flood.

The NFIP should be a last resort for consumers if they are unable to find suitable coverage in the private market, but that only works if there is a robust private flood insurance market for consumers to shop on first. So that is our goal: enhance the private flood insurance market so that more homeowners can have the coverage they need to be protected.

Another big risk that continues to impact the market is certain long-term care insurance products.

These products that were sold up to 30 years ago are now having claims made and are proving to be too expensive for companies to pay out.

The result has been a sharp and steady rise in rates. Some consumers are forced to cut back on their benefits received, while still paying a high premium, while others are forced to drop the policy altogether.

This is a very important issue at the NAIC and a commissioner-level taskforce has been created with several other supporting taskforces working to find viable solutions.

Currently that includes keeping a close watch on companies that sold these long-term care products and making sure they remain solvent, intervening and supporting as necessary.

The NAIC will continue to offer education to consumers, so they can make the most informed choices on their policies. And the NAIC will continue to advocate in Washington so that states can retain their rights to monitor and regulate the situations instead of handing it over to the federal government to do so.

How do you see your approach differing from your predecessor Eric Cioppa?

Over the last year, I have watched superintendent Eric Cioppa handle each issue that came his way with wisdom and understanding. I couldn't have asked for a better president to be president-elect under than Eric Cioppa.

At the beginning of last year, the NAIC had a pretty long list of goals and issues to address, and as Eric guided the organisation through each one, I began to wonder what would be left for me to handle during my presidency because he was so efficient.

Well, he left me two big ones, but he left me some even bigger shoes to fill as president of the NAIC, that's for sure.

How important is climate risk for the industry and are you developing any cohesive climate initiatives for insurers this year?

My top priority is to bring awareness to the issue of climate risk and resiliency. While my main focus is on flood, we can't leave out the other natural disasters that are popping up all over the country.

Just recently, an article came out about how the cost of wildfire insurance is negatively impacting the housing market in California. These naturally occurring disasters are now costing us in more ways than just insurance claims.

Being resilient in the face of a catastrophe such as fire, flood or wind damage is essential for people living robust lives. Resiliency is not simply surviving and making do after an incident, it is returning to your normal, anticipated way of life, and doing so quickly.

As insurance regulators, it is our job to help people understand their risks before disaster strikes when a difference can be made.

After the 2015 flood – the thousand-year flood, so it's called – hit South Carolina, I cannot tell you how many people would come up to me as we were out in the community doing what we could to help consumers recover, and say to me they lost everything, or dropped their flood insurance after they paid off their mortgage because most people do not realise flood damage is not covered in standard homeowner's policies.

We need to educate people and to help them see their risks so that type of conversation never has to happen again after a disaster.

International regulation was a big theme last year. Has the Insurance Capital Standard (ICS) been resolved to your satisfaction after the

International Association of Insurance Supervisors (IAIS) meeting in Abu Dhabi?

Yes, I am satisfied. The US system is now recognised worldwide. For a number of years there has been significant attention, time and resources focused on the ICS. Through hard work and dedication, we were able to secure an agreement in Abu Dhabi advancing the critical US objectives as part of the IAIS debate on the next phase of the ICS project.

US state insurance regulator support came about after the IAIS agreed to an achievable definition and approach to assessment of comparable outcomes, providing a clear path forward for the aggregation method.

Other objectives that were met include having timelines and governance for operationalising the monitoring period, a commitment to consider modifications to the ICS itself, and conducting an economic impact assessment.

Going into 2020, work will focus on taking what was agreed in Abu Dhabi and developing high-level principles to inform the criteria that will be used to assess whether an aggregation method provides comparable outcomes to the ICS.

Data collected on the ICS and the aggregation method during the monitoring period will also help inform both approaches. Over the course of this year and beyond, we remain committed to an approach to group capital analysis which can and should be viewed as comparable to the outcomes achieved by the ICS.

Will the NAIC continue to work with the Federal Reserve this year and are there any particular themes or projects to advance?

The Federal Reserve and the states have shared jurisdiction over depository institution holding companies that are predominantly engaged in insurance operations.

The Fed recently proposed a rule implementing capital requirements for depository holding companies predominantly engaged in insurance operations and at the same time, we continue to work on developing a Group Capital Calculation (GCC) for the entire insurance sector.

Consistent with our respective regulatory authorities and objectives, we will continue to coordinate with the Federal Reserve, as appropriate, to ensure that the proposals are aligned.

We also continue to coordinate with the Federal Reserve and the Treasury department's Federal Insurance Office on international standard setting initiatives such as the ICS and the holistic framework for systemic risk.

> "My top priority is to bring awareness to the issue of climate risk and resiliency"

Are you pleased with how the GCC is progressing and how could it help the industry and NAIC in the long run?

Yes, I think we are all pleased with the progress made in getting the GCC to where we are today.

NAIC president-elect and Florida insurance department commissioner David Altmaier has done an excellent job of spearheading this project that I think all of the financial regulators believe will assist them in performing holding company analysis.

Our hope is to get it adopted by year-end, so states can begin adoption in 2021.

Group supervision was an area the financial regulators believed improvements needed to be made in following the financial crisis.

So the NAIC has adopted a number of things that collectively really improve that group supervision: be it the Form F from the holding company act, the Own Risk and Solvency Assessment, the new corporate governance disclosure, and now with the group capital.

In terms of helping the industry, I'm sure some will question the new filing. But let's remember that we did what we thought made sense with the GCC, not what others thought we should do.

We didn't require a complete new valuation method, we didn't require a complete consolidation, rather we are basically asking the company to pull together information it already has so that we can better understand the group as a whole. So, from that standpoint, yes it's a plus for the industry.

How is the NAIC helping deal with cyber risks?

Personal information is woven throughout everything related to the insurance industry and we must make sure, amidst all the excitement of technological advancement, that we are taking the proper precautions and staying one step ahead of any bad actors out there that wish to prey on consumers and companies through hacking.

Cybersecurity has been a top priority of mine during my time as director at the South Carolina Department of Insurance.

Several years ago, I led a NAIC taskforce to create a model law directed at protecting companies from cyber hacks. This model law passed and South Carolina was the first in the nation to formally adopt the model into law in 2018.

Since then, other states have followed, with more expected to as this year progresses. I would imagine similar steps should and will be taken as new technology comes down the line in the future.

Are you anticipating any possible impacts from the US Presidential election this year?

We are always monitoring changes in the elections and potential changes in the federal government.

However, it is important to keep in mind that the states have been regulating insurance for 150 years and even if there was a change in administration, we would not expect it to be antagonistic to the state insurance regulation.

That said, there are some areas where there is jurisdictional overlap with the federal government and a change in administration could lead to policy shifts that could impact the sector and its regulation, for example: a new administration's approach to health insurance; or in the financial regulatory space, systemic risk and SIFIs [systemically important financial institutions].

IFRS 17 delay: a tough decision

The International Accounting Standards Board (IASB) took its final, crucial decision on the amendments to IFRS 17 in March, voting to postpone implementation until 1 January 2023. Cintia Cheong reports

IASB chairman Hans Hoogervorst has often stated his desire for the insurance contracts accounting standard (IFRS 17) to be introduced before another crisis hits the sector.

So it was with great frustration that he and the majority of the IASB voted for another year's delay to the implementation date, while the financial markets were crashing their hardest since 2007-08.

Highlighting the slump in insurers' share prices as the Covid-19 pandemic took hold, Hoogervorst said on 17 March at the IASB's monthly meeting: "The markets already perceive where the weaknesses are. They don't have a clear picture, they don't have a proper comparability."

As well as postponing IFRS 17, the board allowed insurers to delay IFRS 9. Banks introduced this standard for financial instruments in 2018, but insurers will be given an extra five years before they have to take a forward-looking approach to recognising credit losses.

This drew more ire from Hoogervorst. "We need to take a closer look at how that is going in practice right now. [The insurance sector] is not only working on outdated insurance standards but also outdated financial instrument standards," he said.

TWO FACTORS

There were two main factors behind the IASB's decision to give insurers another year to prepare.

First, the European endorsement process has been slow and threatened to leave the bloc's insurers introducing IFRS 17 behind the rest of the world – a situation the IASB desperately wanted to avoid.

Second, the IASB was concerned about how unprepared smaller insurers are to implement the standard, given that some important amendments have been made with less than two years to go.

The board had considered an earlier deadline for larger groups and a later one for smaller firms. But in the end, the concern about providing a level playing field won out.

"I find it incredibly annoying, the lateness in all these processes. People should bear the responsibility of that"
Hans Hoogervorst, IASB

Hoogervorst criticised the slack progress: "I find it incredibly annoying, the lateness in all these processes. People should bear the responsibility of that."

POSITIVE REACTION

The industry generally welcomed the delay.

Jo Clube, accounting policy development lead at Aviva, said the extra year would provide smoother transition, allow insurers more time for testing new systems and processes, remove the uncertainty that endorsement in the EU will not complete in time, and facilitate global implementation.

Speaking at a webinar on 25 March organised by the Institute of Chartered Accountants in England and Wales, she said: "We must not underestimate the degree of change that IFRS 17 brings, particularly around the systems and processes and the time taken to implement. Combining this with the increasing granularity of data, the implementation process does take time."

She said she was aware some insurers are concerned the extra time would lead to greater costs, but said transitioning to business-as-usual earlier could mitigate the risk.

The International Actuarial Association said it is optimistic insurers will not pause implementation and will use the time to better prepare their stakeholders.

GRIPES REMAIN

That's not to say insurers are entirely happy.

Insurance Europe's deputy director general Olav Jones says the industry is disappointed the IASB did not address a number of issues, notably on annual cohorts.

The standard does not allow groups of insurance contracts issued more than a year apart to be managed together, creating costs and complexity, especially for mutualised contracts.

The European Financial Reporting Advisory Group has also pushed the IASB to reconsider annual cohorts. But the group said it would not block EU endorsement if it's not rectified.

Hugh Savill, director of regulation of the Association of British Insurers (ABI), adds the standard "remains defective in some key respects in obscuring insurers performing reporting and in being unnecessarily complex to apply".

Another concern relates to the requirement to use a locked-in discount rate for the contractual service margin for contracts under the general model. The ABI says this is "operationally onerous" and distorts reporting of performance.

However, after such a tortuous development, the IASB will be unwilling to open up the standard again.

Gallery

IFRS 17 Conference

Highlights from *InsuranceERM*'s IFRS 17 Conference, held in London on 13 February

Jo Clube, Aviva

Florian Gallasch, Munich Re

Andrew Beattie, Zurich

KEY PERFORMANCE INDICATORS

As insurers become more familiar with IFRS 17, one subject of huge importance is the key performance indicators (KPIs) firms will use to communicate the ups and downs of their business to stakeholders.

"IFRS 17 is a huge opportunity to create performance measurements for long-term business based, for example, on CSM [contractual service margin] movements - especially the CSM release, but also on the basis of the risk adjustment. It's important to look at both of them because the risk adjustment is going to be future earnings," said Florian Gallasch, head of group portfolio IFRS 17 implementation at Munich Re.

Gallasch said new KPIs will be required because of comparisons introduced in IFRS 17 between actual and expected results.

Patrick Klijnsmit, ASR

Another shift will involve the combined ratio being replaced by discounted cash flows.

Jo Clube, group technical accounting director at Aviva, said measuring operating profit is going to be a challenge under IFRS 17, "because the performance is partly the underwriting performance, partly is the spread on the assets. That asset bit will be at different places according to the accounting policy choice. The industry will look to see if we can bring some harmony there."

Patrick Klijnsmit, director of finance, risk & performance management and control at ASR, agreed, adding: "Because of the choices that there are, there will be a demand from analysts to give some type of recipe for how we calculate the IFRS 17 figures. There is a lot of work to be done. It will probably take a couple of years for market practice to emerge."

Clube said in preliminary discussions with analysts, "the overriding thing I hear is they are hoping IFRS 17 can deliver more information about Solvency II, to able to predict better solvency, to be able to understand better operating capital generation."

Klijnsmit said he would not be surprised if there was a negative impact initially from the transition. "You'll probably start out in the first couple of years with information confusion. You will need to do a lot of explaining about what you are looking at."

START SMALL TO ASSESS IFRS 17 IMPACT

Starting an impact assessment for IFRS 17 with a small number of portfolios could provide an indication of broader impact of the standard, according to Andrew Beattie, organisational change management lead for the IFRS 17 programme at Zurich.

"We started quite small on the life side of a large business unit, picked a couple of important portfolios, which gave us quite a good spread of products … eventually you look for the spectrum."

He said the company had assumed the assessment of its life business would be complicated and the assessment of its property and casualty (P&C) insurance business would be simple, given Zurich could use the premium allocation approach for its short-term contracts.

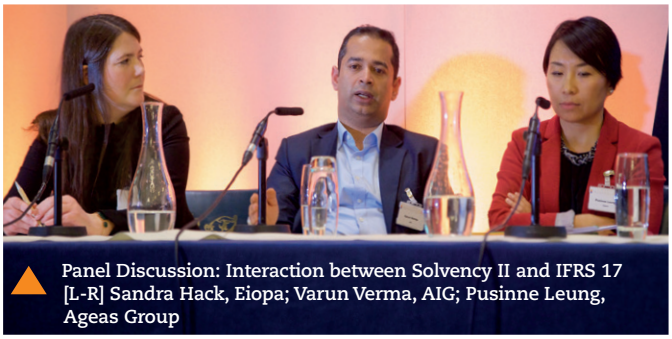
But when looking at its P&C business, it had found "surprising results" on the impact of discounting on some long-tail business, Beattie said. He also emphasised the need for collaboration between the various business functions to ensure a useful result.

BOTHER THE STAKEHOLDERS UNTIL THEY DON'T WANT TO LISTEN!

Involving relevant parties early in IFRS 17 implementation projects is a key piece of advice commonly given to insurers, but Allianz takes this concept to a whole new level.


Remo Cavegn, Allianz


Darren Clay, Phoenix Group


Panel Discussion: Interaction between Solvency II and IFRS 17 [L-R] Sandra Hack, Eiopa; Varun Verma, AIG; Pusinne Leung, Ageas Group

Remo Cavegn, Allianz One.Finance programme director, said: "Communication, communication, communication. Talk [to relevant stakeholders] and bother them until they don't want to listen to you."

Presenting his tips on good governance and managing change process, Cavegn outlined three steps: preparation, implementation and optimisation/testing.

"[Preparation] is the most important phase. You need to get a big picture, an idea where you want to go. You need to come up with assumptions and decisions on what you want to do," he said.

Implementation involves training and education, and Cavegn stressed the importance of having top management involved in the process early.

During the testing phase, the company performs parallel runs to test certain assumptions and bring auditors on board. "It's important to get their opinion early on… put the real figures in from of them."

Cavegn added insurers should also explain the figures "again and again" to relevant stakeholders. "That's a painful business because we need to bother them all the time, but it's a learning curve they need to go on."

EXPERTS RULE OUT EARLY ADOPTION

Industry experts have dismissed suggestions they would implement IFRS 17 earlier than the deadline, if this was presented as an option.

"Our focus has always been to get the standard right and given it has taken this long, I think it is worth taking the time needed to get to a sensible outcome," said Aviva's Jo Clube.

Darren Clay, IFRS 17 technical actuary at Phoenix Group, ruled out early adoption. He said: "It has taken 17 years to get here from IFRS 4 and I appreciate the industry frustration with how long it has taken.

"But equally, for the sake of one more year, is it really worth taking the risk of implementing something that people don't understand when it comes out - because that is what would happen in reality."

Asked the question: "Would you adopt IFRS 17 early if this option was available?" an audience poll of 49 of the more than 100 delegates at the conference revealed 71% said no, but 29% said yes.

IFRS 17 AND SOLVENCY II: CLASHES ON DISCOUNT CURVE AND RISK MARGIN

Attendees admitted to scratching their heads over aspects of the accounting standard that potentially clashed with Solvency II.

Insurers were keen to leverage data, methodologies and reporting processes introduced through Solvency II implementation, and acknowledged European insurers were in a better position to comply with IFRS 17 because of their Solvency II experience.

However, they were finding it challenging to deal with other elements the EU directive imposes on them: specifically, the discount curve and risk margin.

Solvency II mandates a discount curve and risk margin, both of which have been criticised for the uneconomic assumptions that underpin them.

Under IFRS 17, insurers can choose how to calculate their discount curve and risk adjustment. So the choice remains as to whether to remain consistent with Solvency II, or design a different approach and face explaining it to auditors and investors.

For Belgian insurer Ageas, the choice is made simpler as it already publishes Solvency II capital figures based on its own assessment of risk (pillar 2), as well as the prescribed approach (pillar 1).

"We publish Solvency II figures on a quarterly basis for pillar 2 and that is done with a certain discount curve, leveraging on the idea of pillar 1 but with some adjustments on the risk-free [curve]," said Pusinne Leung, director for valuation and IFRS 17 technical lead at Ageas Group.

"Our position is that we should try to use the same discount curve for IFRS 17 in order to not confuse stakeholders and management."

Varun Verma, actuarial controller for general insurance and international actuarial modernisation at AIG, believed the industry "doesn't have the option" to use the purely risk-free rate so should focus on obtaining the best alternative.

"Where you've got dependency on Solvency II, ideally you'd want to go from bottom up, because at the end of the day you're going to have to communicate the numbers to external stakeholders," said Verma.

Sandra Hack, principal financial stability expert, European Insurance and Occupational Pensions Authority, stressed it's not the authority's position to say which curve should be introduced for IFRS 17, but called for "consistent, comparable numbers".

"The key areas where we feel there are most efficiency gains to be reaped [cash-flows, risk margin, discount rate] can also be the ones where insurers will come to different results, because it is an entity-specific view and it's not necessary to follow Solvency II."

On the question of the risk margin/adjustment, AIG's Verma said it was "pretty clear" insurers could not substantiate the 6% cost-of-capital assumption in Solvency II's risk margin. "It doesn't meet the definition of the entity's own view of cost of capital. We can't say 'that's what Solvency II prescribes'," he said.

Winners crowned at *InsuranceERM* Awards

Insurance risk management's leading lights from the UK and Europe were crowned on 12 March at *InsuranceERM*'s Awards 2020.

Held at the iconic Tower of London, winners and guests were given a private viewing of the Crown Jewels and enjoyed sumptuous food, medieval music and magic tricks.

InsuranceERM's annual awards have become the 'jewel in the crown' event for risk and capital management professionals to meet and celebrate in a great evening characterised by good humour, sparkling outfits and conversation.

Congratulations to all the winners and highly commended. We also sincerely thank our judges for their time and expertise in deciding the winners – and for all our guests for attending and making it a great evening.

How the awards were judged

Judges reviewed the submitted entry material and then voted in a secret ballot. Votes were counted and verified by *InsuranceERM's* team.

All judges are senior industry experts from re/insurers across Europe and the UK, each chosen for their knowledge and objectivity.

The judges' decision is final and neither *InsuranceERM* nor the judging panel will enter into any correspondence regarding individual entries and/or the award winners.

The winners

Risk innovation of the year by a re/insurer: Argo Group

Risk innovation of the year by a re/insurer: Argo Group

TECHNOLOGICAL change has the potential to revolutionise the insurance industry, so how should incumbent insurers respond?

Argo Group has tackled this question head-on. Argo looked to redesign its emerging risk strategy, linked to its underwriting strategy, to evaluate risks arising from product disruption.

The firm's chief risk officer (CRO) Americas and head of underwriting strategy delivered a "Product Portfolio Disruption"


A magical evening


Climate risk initiative of the year: Aviva

review to identify, evaluate and manage risks to Argo's product offering. The exercise considered disruptive factors, materiality to Argo's portfolio, likelihood and many other factors.

The analysis identified a high potential for disruption to a number of insurance products over the longer term, to be addressed through the forthcoming strategic planning cycle, and to determine investment in sustainable mitigation strategies.

The product disruption review and planning process also identified areas where Argo had opportunities to build on its existing product offering to incorporate emerging technology driven coverage demands, reducing the future threats to the Argo business model.

For 2020, a third cycle of Argo's product portfolio risk analysis will be performed, using underwriting performance data by sector to develop a five-year disruption timeline for all industry sectors Argo insures. The outcome will inform product strategy, capital allocation and underwriting appetite.

Alex Hindson, chief risk officer at Argo Group, says one impact from the risk innovation process has involved its public sector business in the US. This business was increasing its use of drones and wanted liability cover, so a solution was developed, says Hindson.

On the topic of emerging risks facing re/insurers, Hindson says: "Rather than having a list of emerging risks, we are trying to focus on what we need to do about them and think about upside to them."

Climate risk initiative of the year: Aviva

CLIMATE CHANGE poses undeniable financial risks for re/insurers' business models and customers around the world. There has been plenty of talk, but often little real action beyond the 'warm words'.

Aviva wins *InsuranceERM*'s award because its climate value-at-risk (VaR) initiative shows the practical benefits achieved when insurers focus resources, time and expertise on climate risk management, as well as collaborating with other knowledge partners.

The insurer's climate VaR considers four potential future climate change scenarios, developed by the Inter-governmental Panel for Climate Change (IPCC).

The four scenarios all assume a gradual path in which temperatures rise slowly, but climate policy is ramped up at varying speeds with a fairly high degree of global coordination. They do not consider the transition risk in a more chaotic policy environment.

Aviva included the results of the scenario analysis in its 2018 climate-related financial disclosure for the first time, as part of the Task force on Climate-related Financial Disclosures (TCFD) reporting recommendations.

Aviva's climate VaR analysis shows exposure is greatest in relation to the business-as-usual 4°C scenario where physical risk dominates, negatively impacting long-term investment returns on assets such as equities, corporate bonds and real estate.

Aviva's approach was marked by collaboration and the tool was developed in conjunction with the UN Environment Programme Finance Initiative and Carbon Delta, an environmental data analytics firm.

Loubna Benkirane, head of actuarial function innovation at Aviva, says the insurance industry is increasingly concerned about the impact climate change could have as asset owners, asset managers and insurers.

In terms of updates to the tool, Ben Carr, analytics and capital modelling director at Aviva, says: "We are continuing to make enhancements to the approach we used for 2018 such as covering more insurance perils and regions."

Chief risk officer of the year: Tom Wilson, Allianz Group

CHIEF RISK OFFICER of the year goes to Tom Wilson for being a highly respected thought leader in the world of risk management, with his contribution extending far beyond his organisation.

Wilson is chief risk officer for the Allianz Group, which includes global life, property and casualty (P&C) and asset management businesses. He manages 90 people in Allianz's corporate centre and oversees many more chief risk officers across the network.

He has made crucial contributions to Allianz, where he has served in the role for 12 years, including steering the insurer during the global financial crisis, the 2011-12 crisis and the implementation of Solvency II.

Asked how he has influenced Allianz's risk management strategy and the role of the risk management team, Wilson says the first objective is to clearly understand how Allianz Group's risk profile is reflected in actual economics, as well as Solvency II.

Since "there is no enterprise risk management system that is going to be suitable to meet the next crisis", Wilson says he needs to be close to the business and have a view on all aspects of its development, particularly when the existing risk management frameworks are not relevant.

He cites the introduction of affirmative cyber insurance to deal with the issues around "silent cyber" as an example.

From a P&C perspective, Wilson says: "We are seeing an adverse development globally of commercial lines, so an area of focus is how do we maintain and reinforce our underwriting excellence and technical excellence."

Wilson has also influenced practices across the insurance sector. For example, he found time to write a landmark book about the role of finance and risk in financial institutions, Value and Capital Management, published in August 2018.

Chief Risk Officer of the year – Highly Commended: Giselle Lim, Generali Switzerland

CULTURE is key to risk management and Generali Switzerland's chief risk officer, Giselle Lim, has not only reshaped her team's working culture, but helped develop the risk culture across the insurer.

This includes both the way the risk team members interact among themselves, and also moving to a business-partner relationship with the rest of the organisation.

The way Lim drove the development and implementation of an automated internal control system, which allows real-time monitoring of Generali Switzerland's business processes, as well as the risks and controls associated with the processes, further impressed *InsuranceERM*'s judges.

Speaking to Lim, her enthusiasm for risk management, passion for excellence and desire to get the best out of people shines through.

She says: "I have 22 in my team. We are 10 nationalities and 30% are women. So, we have very healthy diversity inclusion statistics, and this was accomplished without setting any KPIs."

Lim says one of the things that was a priority for her when she joined Generali in October 2017 was to really transform risk management into a business partner.

"While there was a large focus on modelling and quantitative risk management, we also tackled the risk culture to complement the quantitative side. In the past, we never had one version of the truth, but now we do and that's the internal control system."

Lim explains she has also created a culture where every big-ticket project in terms of decision making and risk management "would have a seat" at the table.

It's clear Lim will not allow complacency to set in. She says: "The regulator tells us we have built a Ferrari in terms of the internal control system, with real-time monitoring of all the business processes."

Young risk/actuarial professional of the year: Lloyd Richards, Crowe

Young risk/actuarial professional of the year: Lloyd Richards, Crowe

WINNING this award involves demonstrating a determination to go above and beyond the usual. Lloyd Richards has certainly done that in his professional and personal life.

Richards joined consultancy Crowe in 2016 and was promoted to actuarial manager after six months. At 30, he is one of the youngest managers in the company, responsible for managing a team of risk consultants. Among his recent projects has been developing and embedding a full risk management policy suite at an insurer.

For the last eight years, outside of work, he has volunteered as a mathematics tutor to GCSE and A-Level students. One of his most recent volunteering activities was with the Access Project, a charity that helps young people from disadvantaged backgrounds gain access to top universities.

Richards has also contributed to positive change within the actuarial profession. For example, he has been selected to join the Diversity Advisory Group of the Institute and Faculty of Actuaries.

His dedication to lifelong learning is obvious when he is asked how the risk and actuarial functions will evolve. "Technology is going be a huge change. Actuarial students at the moment have to learn [programming language] R for their exams. I didn't have to do when I was studying. Qualified actuaries will be doing the same thing, we should be learning R as well."

Richards is also thinking about how to attract the right talent to risk and actuarial functions.

"There needs to be a clearer pathway for graduates to get into risks rather than getting into pricing, reserving and other areas."

InsuranceERM Awards 2020 Winner
Risk consultancy of the year

Crowe

The only constant is change

Justin Elks, managing director and UK enterprise risk management and insurance lead at Crowe, explains how the risk consultancy is helping insurers to prepare for digital transformation, assess their operational resilience and embrace change

How have Crowe's services to insurers improved over the past year?
The insurance industry is facing an unprecedented period of change, and is harnessing innovation and technology to transform businesses, meet the needs of its customers and address the requirements of wider stakeholders. We offer bespoke services, so our offering and services continuously evolve and adapt to support our clients navigate these developments.

Clients typically come to us for help and support in four key areas: 1. Mastering data – helping them use governance, technology and analytics to effectively manage and get value from their data assets; 2. Delivering transformation – including embedding change in their culture and business structures; 3. Building resilience – helping them to withstand, absorb and respond to uncertainty; and 4. Enhancing strategy – helping them to use effective and efficient risk management and governance to enhance decision making.

How does Crowe plan to innovate its range of services?
We'll keep listening to insurers to understand their concerns and requirements, and will combine our deep knowledge of the insurance industry with our strong capabilities – in risk and governance, technology and analytics, actuarial and business, and culture and change – to deliver value.

Our desire to be innovative comes from a desire to work as genuine business partners delivering practical solutions, working shoulder to shoulder with our clients.

What makes Crowe's services stand out compared with other insurance consultancies?

Justin Elks

We are specialist risk and governance consultants concentrated on doing a select number of things extremely well and the majority of our work is within the insurance industry.

Our consultants have typically worked as practitioners, as well as consultants and regulators, and so are well placed to deliver tailored, relevant and practical solutions that align with a client's strategic objectives.

What were major priorities for Crowe's insurance clients in 2019 and is this likely to change?
In 2019, we saw an increasing focus on making risk and governance work more efficiently and effectively, more emphasis on using data and analytics to drive business value and organisations starting to grapple with operational resilience.

So far in 2020, we are seeing data and analytics take centre stage. Data is an enormously valuable asset, but extracting its value effectively is a difficult undertaking and requires a well-mapped journey from the outset.

More companies are embedding AI and machine learning into their organisation, but have yet to fully understand the impact it's having. As AI and machine learning become more mainstream, it will be essential to update risk management frameworks that reflect specific factors in this new environment to preserve customer trust, manage business performance, help ensure business continuity and to deliver regulatory compliance.

We are also helping companies understand the effectiveness of their operational resilience approach to reflect recent changes to regulatory expectations, and consider those capabilities as part of more established operational risk and enterprise risk management methodologies.

This will evolve over the year and we'll see the development of practical approaches to the regulatory requirements and, I suspect, a particular focus on enhancing the management of third-party risk.

How is Crowe helping insurers digitally transform, while also addressing cyber risk?
In today's interconnected, technology-enabled business world, firms need to balance the use of technology and data to transform their businesses, and deliver strategic outcomes against their need to effectively manage risk and build resilience against increasingly complex information security threats.

Cyber risk is continually changing and we are helping firms adapt to the changing nature of this risk and associated emerging threats, which come not only from external agents, but increasingly from company insiders and third parties.

www.crowe.com

Actuarial team of the year: Hymans Robertson

Actuarial team of the year: Hymans Robertson

AN EXPANDING risk universe and new risk models mean actuaries are playing a more active role in all aspects of the re/insurance value chain, and getting involved in crucial issues such as climate change.

UK-based consultancy Hymans Robertson has been recognised by our judges for doing the most to keep on top of those trends. In 2019, it worked with 47 re/insurer and financial service clients, notably in the area of longevity, where its business has expanded significantly over the past six years to the point where it employs a 40-strong team of life consultants.

The firm has also helped clients to understand the implications of environmental, social and governance risks, as well as helping insurers consider new areas of market growth.

Among its notable appointments was the independent expert reporting to the court on the successful £20bn ($26bn) transfer of Zurich's workplace and pensions business to Scottish Widows, which was completed last July.

During 2019, the consultancy has published several research and thought leadership papers, including its Protecting Generation Rent research paper that discussed the implications for the protection industry of the shift from home ownership to renting; and the Matching Adjustment benchmarking survey that studied how UK life insurers are applying the Solvency II measure.

Hymans Robertson also published a mortality benchmarking survey and the second edition of the Longevity Risk book in 2019.

Emma McWilliam, head of life and financial services at Hymans Robertson, says the firm expects that 2020 will see climate change and responsible investment continue to move up insurers' agenda.

She says: "We've laid the foundations, for example with our inaugural 2019 climate change survey, to support our clients as they face both the asset and liability-side challenges presented by climate change."

Risk consultancy of the year: Crowe

Risk consultancy of the year: Crowe

WITH MORE than 450 insurance industry clients – ranging from commercial, mutual and captive insurers - Crowe provides a number of risk consulting services including enterprise risk management, third-party risk, regulatory compliance and governance, risk and compliance.

And it is the consultancy's achievements that made it stand out for *InsuranceERM*'s judging panel.

Among its initiatives to encourage knowledge sharing and best practice on risk management in the industry, Crowe has established a non-executive directors (NEDs) Club, which brings NEDs together to debate topical issues in the industry.

Crowe's managing director Justin Elks believes one key differentiator is the fact the company has a diverse team of people.

The team is also committed to giving back to communities. Daniel Bruce, partner, is a member of the Institute and Faculty of Actuaries' Risk Management Board and chairs its Research and Thought Leadership subcommittee.

Lloyd Richards, an actuarial manager who has also won *InsuranceERM*'s 2020 young risk/actuarial professional of the year, is a guest lecturer at Queen Mary University on the Actuarial Professional Development module.

InsuranceERM's judges were impressed by Crowe's engagement of the team in wider areas outside those directly related to the commercial practices of the business.

Elks says: "We have a very good insight of the industry, its concerns, challenges and particular characteristics."

Alternative capital deal-maker of the year: Securis

THE TRANSFER of longevity and mortality risks to the capital markets remains a relatively small activity compared with billions of

InsuranceERM Awards 2020 Winner
Data solution of the year

InsuranceERM Awards 2020 Winner
Modelling team of the year

FIS

Smart, multi-purpose solutions for insurers

Martin Sarjeant, head of insurance risk solutions management and strategy at FIS, explains how the financial technology provider's agile strategy enables it to stay ahead of regulatory regimes such as IFRS 17 and LDTI and help insurers achieve their goals

How has FIS been helping insurers implement IFRS 17 and LDTI?
Both IFRS 17 and the US GAAP Long Duration Targeted Improvements (LDTI) involve significant accounting and financial transformations for our customers. In both cases, FIS was very quick to respond and amend our libraries of code and template models to reflect the calculations required. This was to ensure we were ahead of insurers and could help them to embed the new standard.

We recognised early on that data and process would be important. The IFRS 17 standard in particular requires not only more granular results but also more process automation, to ensure the results produced are correct and can be relied on.

Therefore, we enhanced our award-winning Prophet Data Management Platform to provide a full end-to-end automated offering spanning all re/insurers' actuarial and accounting needs. With the extension of our Enterprise Accounting Solution (EAS), we remain one of the only vendors that offers a full end-to-end solution for IFRS 17, from the sourcing of data to the posting of results and production of the financial statement.

However, we have also designed both our IFRS 17 and LDTI solutions in such a way that insurers can layer them on top of any existing solution.

How are insurers using cloud technology?
Nearly all of our new customers in North America are opting for FIS to manage the Prophet application in the public cloud. We also see a significant number of new and existing clients moving to the FIS managed public cloud.


Martin Sarjeant

For an IFRS 17 or LDTI end-to-end solution, implementation times and costs are both reduced in the cloud, as the solutions can be set up quickly and matched to the right infrastructure. So, rather than several months to procure hardware and install applications, the whole implementation process will only take a matter of weeks or even days.

To meet the growing demand to run applications in the public cloud, we've also seen public cloud vendors cover an increasing number of regions year on year. So, now we are seeing use of the public cloud in most developed insurance markets.

What have been FIS's key achievements in insurance over the past year?
FIS introduced support for Advanced Vector Extensions (AVX) in Q2 2019. AVX essentially provides a new way of running distributed calculations, that can significantly reduce runtimes and help models run up to five times faster. We are also working on example models that run on Graphics Processing Units (GPUs).

These alternatives to Central Processing Units (CPUs) have become more prevalent in recent years in evolving fields of advanced computing, such as artificial intelligence and encryption. Like AVX, GPUs offer clients the potential to dramatically reduce Prophet runtimes and get greater insights.

FIS recognises that data is a valuable asset for our clients and that greater granularity of data will be needed for IFRS 17 and LDTI, and so has developed a new underlying data storage technology.

In Q2 2019, we introduced the Flexible Results module, where clients can write results directly to a NoSQL distributed database – which enables clients to write much greater volumes of data and at much faster speeds.

Alongside these significant technology enhancements, we have actively been helping insurers meet IFRS 17 requirements by supporting full calculations, comprehensive data management, the grouping of data and integration with the sub-ledger or general ledger – and holistic process control.

We also regularly updated our libraries throughout the last year to incorporate emerging regulatory calculation requirements. And we're delighted to say that Prophet's IFRS 17 Group Calculations library has been widely adopted, across over 100 sites globally, since its 2017 launch.

www.fisglobal.com


Catching up with peers

property catastrophe risk transferred annually through collateralised re/insurance structures and insurance-linked securities (ILS).

But within the life ILS space, there are experts with rare skills that are working hard to pioneer transactions – and none more than Securis.

Since its inception in 2005, Securis has firmly established itself as an ILS fund manager. Its life funds under management have trebled in the last three years by sticking to its core principles of investing in risks in the life and heath sectors from an "insurance risk perspective with a capital market mindset".

This approach is particularly timely especially in light of the current fixed income markets, as well as a diversifier from the better known natural catastrophe market.

Securis differentiates itself by focusing on complex, privately sourced financing, risk management and regulatory capital solutions.

Among the solutions the firm has devised are commission financing, designed to assist an insurer suffering from capital strain whenever a new policy is sold, by providing loans that are repayable out of profits from the insurer's closed life book.

Other offerings include de-risking of longevity and lapse de-risking in light of Solvency II requirements, designed to help insurance counterparties optimise their capital. Offerings are also designed to accommodate current IFRS requirements as well as IFRS 17.

Luca Tres, partner of the Life Team, commented: "We are very honoured to receive this award for the fourth year in a row. It is a testament to our efforts and track record in bringing highly customised and innovative solutions to the insurance capital management, financing and de-risking space."

Diversity initiative of the year: LCP

THERE HAS been plenty of talk of diversity and inclusion initiatives in the insurance sector in the past 12 months. While that is welcome, the more important step is producing tangible actions.

Consulting firm LCP collected the *InsuranceERM* award for diversity initiative of the year for doing precisely that.

Flexible working policies and programmes to help staff return from parental leave are at the core of LCP's efforts, and the firm says it has commenced a "broad remit" for diversity training. These include mandatory sessions on training for recruiters and team leaders on the issues of diversity and bias.

Catherine Drummond, partner at LCP, explains the key to its success in this area is simply continuing the firm's long-established culture.

"It's very easy see diversity initiatives out there and while they look good on paper, translating them properly into a firm's culture can be difficult.

"We found these were things we were already doing because of the culture LCP already had, so it was very much cementing and publicising what we're already doing to support all areas of diversity and inclusion," says Drummond.

LCP also say 10% of its employees are trained as mental health "first aiders", having ran several two-day certification programmes training employees in such matters and providing mental health awareness sessions.

Externally, the firm participates in the Institute and Faculty of Actuaries' mentoring scheme for members, specifically designed to increase diversity at its senior levels. Retaining female actuaries for longer periods of time is a key focus of the scheme.

Other events the firm has been involved in include Lesbian Gay Bisexual Transsexual (LGBT+) networking events, its first representation at London Pride and a multicultural networking event to harness black talent.

Insurance asset manager of the year: Aviva Investors

AVIVA INVESTORS stood out for *InsuranceERM*'s judging panel because of its deep understanding of the technical investment challenges and regulatory constraints faced by insurers, plus its strong position on environmental, social and governance (ESG) aspects.

The judges also commended Aviva Investors for its credit capabilities, which include strategies that take a distinctive view of risk and optimise on volatility.

Aviva Investors also deserves credit for its long heritage as responsible investors and for integrating ESG risks into investment decisions. It uses its influence to promote good practice among the companies in which it invests, and to reduce ESG risks for clients.

With the regulatory environment shifting to explicitly encompass ESG concerns, the portfolio manager has been looking to add value to the ESG scores compiled by data supplier MSCI, to recognise companies with superior sustainability credentials, and by combining MSCI data with knowledge created by its own ESG team.

Maintaining and improving client standards is vital for any insurance asset manager and in this regard, Aviva Investors has been developing a new portal to allow clients to access personalised portfolio information.

The dashboard provides daily visibility of public fixed income portfolios, including a variety of financial, risk and Solvency II based metrics, delivered via an interactive Qlik Sense dashboard.

Finally, with insurers intensifying the search for alternative income, the provider's real assets platform is helping deliver innovative financing transactions structured to meet matching adjustment requirements.

Recent infrastructure debt transactions have included financing UK railway rolling stock, investments in Spanish telecoms, German energy services and Estonian district heating.

This was a competitive field and Conning was highly commended by the judges in the Insurance Asset Manager of the year category.

Insurtech initiative of the year: Kovrr

While insurers are often warned they must join the technology revolution or get left behind, the reality often falls short of the hype.

But one area insurtechs are making definite headway is in helping insurers understand fast-growing and emerging risks. One young enterprise that is gaining a positive reputation is Kovrr, a Tel Aviv-based company specialising in predictive cyber risk modelling.

Kovrr's platform provides insurers with transparent and real-time data-driven insights into their affirmative and non-affirmative single, accumulated and catastrophic cyber risk exposures.

The platform is designed to help underwriters, exposure managers and catastrophe modellers understand, quantify and manage cyber risk.

In a competitive category, Kovrr shone because it is reshaping the way insurers can assess silent cyber risk exposure. By building its own probabilistic model and claiming to create the largest event catalogue in the industry, Kovrr is providing insurers with the capability to quantify their silent cyber exposure for the first time.

InsuranceERM's judging panel was impressed with how Kovrr's platform analyses companies' technology stacks, their third-party service providers and the cyber threat landscape.

The firm has also developed proprietary data sources and partnered with third-party data providers to compile a diverse industry exposure database. This data is used alongside cyber-attack monitoring systems to create tens of thousands of realistic – and constantly updated – cyber catastrophe events used in simulations.

Insurtech innovator of the year: CyberCube (received by *InsuranceERM* Managing Editor, Christopher Cundy)

Yakir Golan, Kovrr's chief executive officer and co-founder says artificial intelligence (AI) is crucial for its solution to cope with an ever-evolving risk landscape which is very dynamic.

Golan says: "You need the right AI technology to process that automatically and bring the right data insight to the exposure managers and the underwriters, which is a fundamental part of what we do."

Insurtech innovator of the year: CyberCube

CYBERCUBE came out on top in this highly competitive category because the scope of its offering – spanning underwriting, pricing and aggregation modelling – set it above the rest of the field.

As interconnected technologies change the nature of risk in the 21st century, CyberCube says its mission is to enable society to make better decisions about risks to avoid, mitigate or insure.

CyberCube, which only launched in 2018, delivers software-as-a-service for cyber aggregation modelling and individual risk underwriting. The business was incubated at Symantec, a provider of cybersecurity software and services best known for its Norton antivirus products.

The provider claims to give insurers the ability to take insight-driven risk decisions, see trends before they become claims, and tackle complex and important challenges. CyberCube says its platform supports multiple applications to enable re/insurance placement, underwriting decisions and portfolio management optimisation, all powered by cloud-based technology.

The firm's drive to encourage the re/insurance industry to operate in a less siloed way received the judges' praise.

They also liked the holistic nature of CyberCube's offering. For example, the firm claims to have active engagements with a broad range of stakeholders including regulators, ratings agencies, capital markets, security experts and the threat intelligence community.

The judges noted the firm's impressive list of clients. Among the

recent sign-ups is re/insurer Hiscox, which has adopted CyberCube's risk analytics software to gather more insight into potential systemic cyber risk.

The judges also felt CyberCube's insurtech innovation credentials were further supported by the fact that in July 2009 it was recognised as one of the World Economic Forum's "Technology Pioneers" for having a significant impact on business and society. Past recipients include Airbnb, Google, Mozilla and Spotify.

Longevity risk transfer deal of the year: LV=

LV= is a worthy winner of this category for its role in addressing the challenges and risks in its acquisition of Teachers Assurance, a member-owned mutual friendly society.

Among the businesses transferred to Liverpool Victoria Financial Services (LVFS) was the ring-fenced Teachers Assurance Fund (TA fund), which was responsible for making payments to cover all liabilities of the Teachers Assurance Group Pension Scheme (TAGPS).

However, TAGPS exposed the TA fund to significant risks, notably long-tail longevity and inflation risks and considerable market risk.

These exposures resulted in volatility in the surplus position of the TA fund and a material risk that increased contributions would be required in future to support the scheme.

LVFS engaged with actuarial consultancy Lane Clark & Peacock to find a solution.

Thorough preparation of the tender pack made LVFS easier to do business with, and despite TAGPS being a very small scheme, it attracted a range of buy-out bidders.

This enabled all pension benefits to be fully bought out while also improving the capital position of the TA fund and speeding up the distribution of surplus to policyholders.

A full buy-in contract with Rothesay Life was completed on 7 February 2019 and following the triggering of the wind-up on 11 September 2019, this is progressing to a buy-out.

The buy-out will result in the responsibility for meeting scheme members' benefits being transferred to Rothesay Life.

James Pratt, lead actuarial manager: capital efficiency at LV=, notes there were three key stakeholders with slightly different aims that needed to be managed.

For example, LV= members wanted the risks from TAGPS transferred externally at a price that could afford to be fully paid by the ring-fenced with-profits fund, without recourse to the rest of LV=.

Risk team of the year: Argo Group

ARGO GROUP'S team demonstrated the value-adding potential of capital modelling, as well as clearly explaining how the process delivered for the business, commented the judges.

Capital modelling became an issue as it was felt the team's resources had been focused too strongly on meeting UK regulatory requirements. There was also a desire for the global business to get more insights from the model to inform business decisions.

Risk team of the year: Argo Group

The process of change kicked off with the capital modelling team being realigned from reporting to the chief actuary, and instead to the chief risk officer, Alex Hindson.

Hindson began by organising a strategy day and encouraged everyone to reconfirm the team's purpose, as well as creating a mission statement and vision as to how the capital model would be used. A functional charter was also produced.

Hindson explains: "We felt [the capital model] had been too focused on the liabilities side of the balance sheet, and we really needed to strengthen the assets side. That is quite unusual for P&C businesses and that stretched the team."

The results of the assessment identified a number of opportunities to improve capital modelling procedures.

For example, the process for capital allocation has been formally incorporated into the business planning cycle.

Capital model outcomes have also been integrated into underwriting performance management information.

In order to enable asset-based capital allocation, market risk modelling has also been revisited, economic scenario generators evaluated and a new approach adopted.

Hindson says: "Now we are building out the strategic asset allocation capability that we did not have before, so we will be able to do portfolio optimisation of the assets, working with the investment team, which we have never been able to do before in-house."

Longevity/mortality team of the year: Hymans Robertson

HYMANS ROBERTSON had a strong year in 2019, with the launch of the Club Vita US business, as well as keeping clients and the industry up to speed with thought leadership. Examples of this include the publication of the second edition of its Longevity Risk book and the consultancy's mortality benchmarking survey.

The judges felt taking the Club Vita model, which underpins much

InsuranceERM Awards 2020 Winner
Actuarial modelling solution of the year

RPC

Real intelligence in near real-time

RPC Consulting's financial modelling platform, Tyche, delivers the speed, functionality and open integration that insurers need, according to the software solution provider's managing partner, Alun Marriott

How is technology changing the actuarial modelling sector?
Technology is empowering change, but this change can introduce hidden costs unless managed carefully, particularly when maintaining a disparate suite of tools or freeware from multiple vendors that poorly integrate. This has led insurers to seek solutions that more seamlessly integrate.

Our Tyche platform addresses this head on – underpinning several components of an insurer's work flow – from data cleansing, pricing, reserving and valuation, capital modelling and accumulation roll-up to an insurer's downstream reporting needs. Tyche's singular architecture has been designed to ensure such data flows and analytics are easily shared via common syntax, paradigm and API. This integration is particularly important for composites where a firm-wide view is essential.

Technology is also at work in the life sector. Policy valuation systems have been subject to systematic and incremental development in response to commercial pressures, leading to disjointed and unwieldy architecture. This has led to a resurgence in spreadsheet-based modelling, with the associated operational risks this entails. We've released a new tool, the Tyche Model Generator, to allow clients to continue to work with their policy valuation spreadsheets, yet automatically synchronising to a production-ready Tyche representation, thereby greatly improving transparency and performance.

What benefits does cloud technology bring insurers?
Insurance analytics presents unique challenges for the modeller – not least the need to maintain an understanding of the dependency between elements of risk across


Alun Marriott

a large number of simulations or policies. This dependency can lead to processing "pinch points" that make cloud analysis of these very large datasets extremely difficult.

To solve this problem, we have developed a new and unique technology, Tyche Hive™ that invisibly and cost effectively removes these pinch points and helps insurers work with previously unparalleled granularity. Tyche Hive™ treats the cloud as a single machine – enabling models to grow in complexity whilst maintaining near linear resource scalability.

It is worth stressing that Tyche's innate power already reduces the amount of cloud resources that any particular solution may need. For example, clients can now take their capital model and life projection and valuation models and project them forward to allow real-time intelligent business planning.

What is RPC Consulting's business strategy for 2020?
We're delighted to have recently opened our first US office in Chicago under the leadership of Dustin Duncan and will continue to expand where clients most need our services. We're also delighted to work alongside our network of industry-leading consultants and technology partners, whose delivery capabilities are augmented by our Tyche platform.

Our strategy also remains one of technical excellence and ever-extending Tyche's raw processing power. For example, Tyche's Capital Model can sit within Tyche's numerical optimiser to simultaneously model both inwards business and outwards reinsurance for business planning. The volume of calculations is vast, yet runtimes of minutes are possible.

What new services is RPC Consulting developing?
We've recently extended Tyche's in-built auto-documentation and testing suite to really help our clients build and maintain robust and auditable models.

We're also seeing increasing demand for automated reserving processes, perhaps triggered by the looming IFRS 17 regime. Clients are opting to use Tyche as it empowers an in-house team to own the process flow with transparent and auditable calculations. Where clients use Tyche for both capital and reserving, this facilitates, for example, the setting of reserve risk within the capital team.

Over recent years, we've also invested over 70 man-years building a standalone commercial lines pricing system known as the Tyche Pricing System (TPS). TPS is a globally deployed, scalable and customisable web application that prices a wide range of commercial lines contracts through a production-grade infrastructure – and is based on an underlying Tyche architecture. TPS's ability to customise screens and actuarial methods ensures it keeps pace when new risks need pricing.

Longevity/mortality team of the year: Hymans Robertson

of Hymans Robertson's longevity expertise, to the US and rolling out in that market was a bold and significant achievement.

The launch included the opening of a New York office in June last year together with a US website. Club Vita welcomed it first US client in July and has launched a Zip + 4 code longevity model.

To support the increased market demand for transferring deferred longevity risk to insurers, Hymans Robertson also officially launched VitaExchange last year, a non-pensioner research programme to enable re/insurers to deliver solutions to this growing market.

The insurance consultancy's support to the longevity risk transfer market also continued in 2019, and it claims to have advised 80% of life reinsurers and 85% of bulk annuity writers.

In terms of what growth to expect in the UK longevity risk transfer sector, Andrew Gaches, head of longevity, life and financial services at Hymans Robertson, says 2019 was an exceptional year, with around £40bn ($48bn) of defined benefit liabilities moving to the insurance market, with around half of that from just five huge bulk purchase annuity (BPA) transactions.

He says: "2020 is unlikely to see the same volume of BPA business, but longevity swaps, of which there were relatively few in 2019, may bump up the total longevity risk transferred to a comparable magnitude."

ALM team of the year: LV=

TACKLING BIG problems with a small number of people has required a real collaborative effort, and *InsuranceERM*'s judges recognised those efforts by crowning LV= the ALM team of the year.

Among the team's achievements has been an interest rate hedging strategy, designed to stabilise the transitional measures on technical provisions (TMTP) surplus, including movements in solvency capital requirement (SCR). The strategy was enabled by the development of full modelling of interest rate exposures.

As interest rates fell in 2019, the interest rate swaps that hedge movements in SCR delivered more than £50m of surplus benefits.

Refinements to modelling to give a clearer and more detailed understanding of exposures, which in LV='s case are both gilt and swap-based, has allowed a more intelligent use of internal offsets and reduced reliance on derivatives, releasing liquidity and reducing drag on the balance sheet.

The ALM team also implemented a number of asset share short strategies in its with-profits funds, to better match smoothed claim payments and reduce market exposures to future management charges. This allowed a further liquidity release and reduction in SCR.

The ALM team was also integral to work on the matching adjustment (MA) portfolio.

For example, one was the submission of an updated matching adjustment (MA) application in 2019 to enable the use of US$ corporate bonds and a cross-currency swap. LV= believes this initiative represents an opportunity for significant yield pick-up and surplus improvements in 2020.

Edward Rayson, lead actuarial manager for ALM at LV=, says he is lucky to work with "a fantastic team" where everyone pulls together. He says his managerial style involves giving people opportunities and "letting them run with it".

Cat risk team of the year: Aon, Impact Forecasting

IMPACT FORECASTING has become a well-established name in the field of catastrophe modelling and the preceding year has brought a number of advances to solidify the reputation of the team.

Cat risk team of the year: Aon, Impact Forecasting

The firm's Catastrophe Toolkit aims to provide catastrophe modellers, risk managers and re/insurance underwriters with solutions to help with insurance strategies, reinsurance pricing, enterprise risk management and catastrophe insight.

The key part of this toolkit is its ELEMENTS modelling platform, which addresses catastrophe modellers' need to play a more strategic role in emerging markets and wider product development.

"ELEMENTS gives insurers the ability to incorporate their own view of risk into model results," says Jakub Aska, business development executive at Impact Forecasting.

"Every step of the calculation process is clearly defined and outputs are clearly presentable to stakeholders, regulators and rating agencies, while helping to quantify the uncertainty in various model components."

During 2019, improvements to Impact Forecasting's offerings have included enhanced automated event responses for European windstorm and US hurricanes in a bid to provide loss projections in advance of a storm hitting.

Hail models coverage throughout mainland Europe has increased and now covers Germany, Austria and France among others, while its US hurricane and wildfire models have also been updated.

According to Aska, the updates have been driven by both clients and regulators.

The toolkit has been put into practice on several occasions in 2019 including developing a tool specifically designed for one major insurer's terrorism exposure and risk management.

InsuranceERM's judges praised the "wide-ranging set of tools, well-adapted to help add value" that the team has developed and noted the team was "highly regarded and professional in their area".

Modelling team of the year: FIS

THE IFRS 17 accounting standard – which is due to take effect in January 2023 – challenges insurers to update their existing models to deal with the granularity of output needed.

For FIS's Prophet actuarial library development team, coping with a standard that last year was still in flux, and where interpretations continue to emerge, has been a significant challenge.

The team is responsible for the standard libraries of actuarial formulas, example models and templates that are supplied as part of the Prophet software suite, and it performs a vital role.

Oscar Weafer, FIS's director of risk solutions management and strategy, says: "Being one of, if not the only, vendor to provide end-to-end IFRS 17 reporting capabilities spanning both actuarial and accounting systems, the Prophet models have been designed to minimise the volume of data that is managed and is targeted at producing the results needed, in the format needed, by finance teams."

According to Weafer, this has meant the actuarial library development team needed to understand data transformations that take place post production, and the format and granularity of information needed to populate ledger systems using double-entry accounting – and use this information to drive the design of the enhancements being made to models.

He explains: "Using this knowledge, the team made available an IFRS 17 Toolkit that provides a template end-to-end model and process for reporting, covering the sourcing of data, performing the calculations and populating the ledger. The result is a way of insurers getting a sample IFRS 17 process running very quickly."

Among the team's achievements, in the first half of 2019, it devised a new method of allowing for scenario testing and general planning through projections of IFRS 17 accounts.

Modelling team of the year: FIS

Actuarial modelling solution of the year: RPC Consulting

RPC CONSULTING'S actuarial and financial modelling platform, Tyche, was the clear winner in this category and was highly praised by the judges.

Tyche's raison d'être has always been about empowering actuaries and risk professionals, across non-life and life insurance firms, to do modelling themselves and speed up the turnaround of processes.

Alun Marriott, managing partner of RPC Consulting, says: "The firm is delighted to have won the award and expresses thanks to the judges, our clients, and most importantly our team for helping build Tyche into a truly game-changing platform."

Marriott says: "Tyche helps our clients in several ways. From a pure performance perspective, tasks which took days or hours to run can be achieved in minutes or seconds – 'real intelligence in near-real time' is our mantra. With little or no IT support, users can solve the most complex of tasks in a transparent and intuitive way."

He adds: "Tyche lies at the heart of a wider (and integrated) suite of tools covering non-life, life and composite businesses. This interoperability provides a more holistic view of the regulatory and commercial risks that firms face."

Tyche Hive, launched last year, has been another notable development. It allows users to distribute models across a pool of machines and enjoy improved runtimes, without recourse to specialist IT expertise.

RPC Consulting has come a long way from its beginnings in a garage in Cambridge in 2012. It now supports 50+ clients including many blue chip and governmental organisations.

Looking ahead, Marriott says he is excited to see Tyche used in a wider array of solutions. The Tyche Pricing System, for example, delivers a solution for commercial and reinsurance pricing with integrated modules for portfolio accumulation and capital modelling.

Analytics solution of the year: Willis Towers Watson

ANALYTICS is one of the most exciting areas of development in insurance, as new technologies emerge that provide tools to predict risks faster, build more accurate projections and better identify opportunities.

Bearing this in mind, *InsuranceERM*'s judging panel agreed Willis Towers Watson's Radar Live was the winner because of its widespread adoption, its features and the way it has helped insurers to assess and implement pricing and underwriting decisions.

Radar Live is a rating and rules engine tailored to the needs of property, casualty and life insurance markets.

The solution allows prices, rules, adjustments, scores and other metrics developed in Radar to be deployed directly to a rating system calculated in real time.

What made Radar Live stand out is that as insurers look at how best to apply machine learning, the solution allows for deployment of complex machine learning models in minutes.

Its ability to help insurers achieve operational efficiency by cutting time and costs of rate implementation, as well as reducing overheads, deserve recognition.

The fact that insurers representing 75% of the UK protection market have licensed Radar suite software is also testament to the software's benefits.

Neil Chapman, senior director of insurance, consulting and technology at Willis Towers Watson, says: "One of the key things Radar live does is it allows you to go from an analytical environment through to portfolio analysis and then implement that in the marketplace."

He adds: "It effectively gives control to the pricing and underwriting teams to assess the analytics they want to deploy."

Best use of cloud technology: NN Group, Internal model cloud solutions

IN 2019, Dutch insurance group NN moved its internal model and its risk platform into the cloud. One key element was taking NN's Solvency II calculation engine live on Microsoft Azure. In the same year, NN launched a new reporting platform as a cloud application on Amazon Web Services.

This year the company also started to move its remaining calculation engines to Microsoft Azure.

The Dutch insurer says moving its platforms live on the cloud brings speed, cost savings and the opportunity to extend the use of its risk platform to the business. Moreover, internal teams are fully in control of calculations and reporting.

The judges were impressed by the successful and efficient delivery of a large project.

Jorg Sauren, head of risk systems, group enterprise risk management NN Group, praises the company's diverse team of talent who worked closely together to build the calculation engines in-house, which was "why we were able to do it so quickly".

NN overcame many challenges in the process, including obtaining approval from the regulator and getting familiar with the possibilities for transformation that are presented by cloud technology.

He says: "It's a learning curve we have to go through. More and more internal models are being used for business purposes. For us, we need to scale that. Being on the cloud enables scaling."

NN plans to move its economic scenario generation platforms to the cloud in the next 12 months and embed all the elements from the Solvency II review.

Over the next two years, NN also plans to link its risk systems to the platform that has been developed for IFRS accounting standards – also a cloud-based platform, called Alfred – for reporting.

Catastrophe risk modelling solution of the year: CyberCube

UNDERSTANDING the risk presented by a natural catastrophe like an earthquake or a hurricane has become a very familiar task for insurers. But in the last few years a new challenge has emerged: understanding the exposure to a large-scale cyber-attack or the failure of digital infrastructure.

There is great potential for cyber risk accumulation within insurance portfolios for property and casualty (P&C) risks, and regulators are putting pressure on firms to understand how their contracts could behave following a catastrophic cyber event.

Catastrophe risk modelling solution of the year: CyberCube (received by *InsuranceERM* Managing Editor, Christopher Cundy)

InsuranceERM Awards 2020 Winner
Analytics solution of the year

Willis Towers Watson

Keeping innovation on track

Neil Chapman, senior director of insurance, consulting and technology at Willis Towers Watson, discusses how analytics is impacting the insurance sector and how the provider is continuing to develop its machine learning and artificial intelligence tools

What expertise can Willis Towers Watson offer insurers?
Here at Willis Towers Watson's insurance consulting and technology (ICT) division, we deliver specific solutions for the insurance industry.

One of our main strengths is the combination of our consulting and technology offering. That is fairly different to many of our competitors, with most majoring on either the technology or consultancy side, whereas we place equal emphasis on both.

Indeed, our internal consultants play an important role in giving us client and their own feedback to enhance our technology offering.

Winning analytics solution of the year for Radar in the *InsuranceERM* Awards 2020 underlines how this approach supports our clients. The Radar suite offers not only advanced analytics decision support to insurers, but enables effective and quick execution of those decisions.

The private motor insurance sector is a prime example of the current focus on pricing analytics and delivery whereby many insurers want to be able to better leverage data and new machine learning applications.

We are also seeing increased interest in applying the same techniques within life insurance, commercial lines insurance and the claims space.

What features will Willis Towers Watson add to its Radar software?
We are working on a new tool called Radar AI. It is focused on the automation of building and maintaining machine learning models, to complement our existing machine learning capabilities. That is currently in development and we are looking to launch it later this year.


Neil Chapman

Radar has already enabled our clients to increase their adoption of machine learning and embed this within their businesses by making it easier and more accessible to apply these techniques. Whilst these approaches get a lot of focus, leveraging this pricing sophistication within a business context relies on having appropriate structures for decision making, governance and implementation - all of which Radar enables and which will continue to be central to future product development.

How is Willis Towers Watson harnessing artificial intelligence and machine learning to help insurers?
The understanding of what AI is and does is changing. To date, a lot of the focus has been on the application of machine learning models. We have looked at enabling access for insurers to those types of techniques. Going forward, there will be an increased focus on automation, making processes efficient and ensuring insurers provide value for their customers.

Our Radar Live product within the software suite embodies those principles. Pricing changes that previously could take insurers weeks, if not months, to implement can now be made in minutes.

Whilst machine learning and AI get a lot of focus, let's not forget the application of wider analytical methods still offers real benefits to the insurance industry, particular in areas which historically have not embraced an analytical approach, such as commercial insurance or claims.

AI is just one aspect of a wealth of growing analytics possibilities for insurers, and if AI is to revolutionise the insurance industry, it may be on a much longer timescale than people have anticipated.

How do the consulting services from Willis Towers Watson help insurers?
Our consultants only work in the insurance sector, so they know the industry, the trends and are an important conduit between us and our clients on how they can use technology to respond or seek a competitive edge.

As an example, our consultants have been involved in a lot of discussion across the industry in the last year about digital transformation, including increasingly with commercial lines insurers who see the potential benefits of taking a less incremental approach to how they want to manage their business.

With a number of insurers engaging in large-scale IT transformation projects, our consultants are at the forefront of supporting them to achieve their strategic goals. Automation is one topic that is coming up.

For some, it is about creating efficiencies, while for others it is not about a cost-cutting exercise, but about being able to do things better and provide a better client experience.

www.willistowerswatson.com

CyberCube is a risk analytics firm that delivers software-as-a-service for cyber aggregation modelling and individual risk underwriting. The firm developed its Portfolio Manager, a scenario-based model, to run "what-if" analyses to assess risk exposure across classes and determine appropriate action.

The company's multi-line approach enables a broader view across the spectrum of P&C risks, including aviation, marine, product liability, offshore energy, and kidnap and ransom.

A key area of focus is multi-line accumulation, as a systemic cyber event might result in losses, for example, under both directors and officers and product liability covers.

InsuranceERM's judges understood the importance of the challenge, and acknowledged how CyberCube would be a great help to insurers in understanding accumulation and potential clash.

Since its launch in January 2018, some of the world's largest re/insurers have agreed to work with CyberCube including Chubb, CNA, Munich Re and Hiscox.

The success of its offering has been reflected in the support from investors. In November 2019, CyberCube raised $35m in a series B funding round led by re/insurance sector investor Hudson Structured Capital Management Bermuda and ForgePoint Capital.

CyberCube intends to use the funding to expand its platform and target new clients in regional and national insurance institutions.

Cyber solution of the year: Kovrr

SINCE ITS founding in 2016, Kovrr's goal has been to enable re/insurers to predict and price cyber risk.

This has been a difficult challenge, mainly because cyber risk can be found lurking in almost all types of insurance policy. There are many catastrophic scenarios where a cyber event triggers significant pay-out for business interruption or property damage, for example, where the policy did not envisage such a loss. Getting a handle on these "silent" coverages is a major activity for the industry.

Kovrr's offering allows re/insurance professionals to calculate potential cyber losses via the use of exclusive data sources, artificial intelligence-based risk modelling and advanced monitoring capabilities.

Yakir Golan, Kovrr's chief executive officer and co-founder, explains clients and regulators were the driving forces behind the development.

"Regulators are pushing full throttle, including the Prudential Regulation Authority and the European Insurance and Occupational Pensions Authority. But it's also the clients.

"The insurers and reinsurers have a great deal of exposure around silent cyber and they need to come up with a solution."

The firm says it has "revolutionised" how re/insurers assess silent cyber risk exposure building a probabilistic model and event catalogue to quantify the risk.

The offering was put into practice in 2019 as the firm partnered with a reinsurer carrier in Asia with a focus on large speciality risks. Golan explained working with the client was helpful for Kovrr as it gained "very constructive feedback".

Kovrr said its solution has allowed its client to have "quantitative visibility" of the cyber risks in their portfolio for the first time.

Data solution of the year: FIS

Data solution of the year: FIS

TO TRULY earn the title of "data solution of the year", a provider must be able to show how it transforms raw data into meaningful financial results and risk metrics.

That sums up why the judges voted for FIS's Prophet Data Management Platform.

Available both on-premise and as a cloud-managed service, FIS says Prophet manages actuarial data and transforms these outputs in ways the wider business or external bodies will understand.

The capability to make business sense of complex data is especially relevant with the implementation of the upcoming IFRS 17 accounting standard. FIS says its Insurance Data Repository (IDR) comes with an IFRS 17 toolkit giving users a template for handling data and results as part of an IFRS 17 reporting exercise.

Oscar Weafer, director of risk solutions management and strategy at FIS, says IFRS 17 requires further integration between actuarial and financial systems and involves retaining data for subsequent measurements in future periods.

Weafer says: "So we have greater volumes of data that must be stored safely and retrieved at future dates for calculation purposes, as well as increased volumes of data that must be output from actuarial systems and consumed by the finance team."

He adds FIS has designed its software to allow insurers to minimise the volumes of data being used during the calculation process.

"The Insurance Data Repository allows for separation of the two types of output data providing permanent storage for that information required for the calculations, while also making available, in the required format, that which is needed further along the chain.

"This single repository can also be used for business intelligence and the FIS offering thereby supports multiple views on the same data set," says Weafer.

IFRS 17 solution of the year

Solvency II solution of the year

MOODY'S ANALYTICS

Maximising the benefits of IFRS 17

Colin Holmes, managing director at Moody's Analytics, explains how the solutions provider can help insurers get the most value from implementing the IFRS accounting standard for insurance contracts

What do your clients typically report as their main challenges with IFRS 17?

The issues involved with IFRS 17 can be split into two elements. In the first place, it is a new standard, and like Solvency II, it requires new business processes that firms must design, implement and operationalise.

Second, this creates a significant change to reported financials, creating a new set of metrics that insurers must use for running their businesses and communicating with investors – creating another challenge.

Of course, it is not just about IFRS 17. On the asset side of the balance sheet there is IFRS 9 to prepare for, and this is an area where our credit modelling expertise positions us well to support insurers in managing this change alongside IFRS 17.

At Moody's Analytics, we see our role as offering solutions to firms to deal with all these challenges.

How can Moody's Analytics help insurers with IFRS 17 implementation?

Our teams have a long-track record, both in delivering enterprise software that supports the process, and in delivering the complex actuarial and financial modelling that is central to IFRS 17.

Our 'vendor-maintained' approach – which is markedly different to most solution providers – is to build this expertise into our software solutions, delivering comprehensive solutions that add value by reducing implementation cost and risk, and that support our customers running effective operations.


Colin Holmes

Since IFRS 17 is principles-based, how can Moody's Analytics help insurers interpret the standard?

If IFRS 17 was a set of rules explaining exactly how to do calculations, in one sense, the industry's challenge would be much easier! However, this might not lead to the most helpful outcomes in terms of representing financial performance.

The actuaries in our firm, and more broadly in the industry, add great value to this process by developing appropriate interpretations of the standard that do ultimately provide insight on firms' financial performance. This is undoubtedly a challenge, but I suppose if it was easy it would not be so interesting!

What new IFRS 17 functionality is Moody's Analytics planning to launch this year?

Our primary focus right now is on supporting our customers as they move towards the preparation of financial statements under IFRS 17 and we continue to develop functionality that will enable firms to do this. Part of this is evolving modelling solutions as clarity emerges around interpretation of the standard. As an example, following the IASB's recent clarification on treatment of profit-sharing contracts, we are developing a methodology to help our customers deal with this challenging technical area.

Another key element for firms is selecting the discount rates to be used in the calculations. We have recently launched our IFRS17 discount rates service which addresses methodology and operational challenges for firms, and is creating a lot of interest.

Finally, looking further ahead, firms' financial planning processes will need to evolve in order to support the change from IFRS 4 to IFRS 17. We have existing capabilities in this area and are engaging with customers to understand their needs, as the focus evolves from the calculation of actuals, towards risk and financial management under IFRS.

www.moodysanalytics.com


A cracking evening

End-user computing risk management solution of the year: Incisive Software

INCISIVE SOFTWARE Corporation is the winner of the end-user computing risk management solution of the year category because its automated approach to spreadsheet management helps minimise risk.

Our judges liked the way Incisive provides insight into potential errors that may be hiding in spreadsheets. The system automatically tests for more than just accuracy in formulas and calculated values, but also for hard-to-find items like inconsistencies and references.

Results are then highlighted to draw the users' attention to potential issues and discrepancies. Users can also drill down into cells to see why formulas are not working as expected.

Another feature recently added is the ability to manage spreadsheets that live outside of a controlled environment – such as on shared drives.

Overall, the judging panel liked Incisive's solution because it addresses one of the most common problems insurers face in end-user computing. They also noted that efficient ways to reduce model, computing and Excel process risks are needed and underappreciated.

Diane Robinette, president and chief executive of Incisive Software, tells *InsuranceERM* while there was a trend at one point to eliminate spreadsheets, they are being used more frequently than ever before and will continue to remain a key business tool.

She says: "Our customers are challenged with a number of things, such as visibility and control of their spreadsheets. They need deeper trust in their data, whether this is driven by regulators or for internal reasons."

She adds that because spreadsheets are typically a manually driven process, customers are realising if they do not have control of their spreadsheet, "they cannot track the data running their business".

ERM end-to-end solution of the year: Moody's Analytics

END-TO-END risk modelling solutions have developed from a need among insurers to have a quick, accurate and reliable understanding of their enterprise risk and solvency positions.

At Moody's Analytics, its RiskIntegrity Suite does just that, bringing together its AXIS and Scenario Generations Solutions offerings, and providing capabilities that encompass Solvency II standard formula and internal model calculations, capital modelling, asset-liability management, and regulatory and management reporting.

The firm's well-established solutions continue to be enhanced with investments in the "next wave of solutions" that take advantage of developments in technology – for example, the emergence of cloud computing, with its flexibility and performance benefits, is creating greater chances to support clients' needs in more effective ways.

Moody's Analytics says its offering has been optimised with these developments in mind, for managing risk and finance data as well as providing transparency via audit and data quality features.

In the past year, the firm has also made enhancements to its software to deal with the big new modelling challenge facing many international insurers: IFRS 17.

RiskIntegrity for IFRS 17 allows Moody's Analytics' actuarial expertise to be packaged into the enterprise software required to integrate into firms' financial reporting processes and support smoothly running operations.

Recent upgrades include introducing Moody's Analytics chart of accounts, end-to-end accounting logic and mapping of an insurer's accounts to disclosures of insurance contracts under IFRS 17.

The approach has clearly paid off as BNP Paribas Cardif, the insurance subsidiary of French bank BNP Paribas, chose RiskIntegrity for IFRS 17 for its global implementation of IFRS 17 in January.

This followed similar partnerships with a number of Canadian insurers including ivari, iA Financial and Manulife in the past 12 months.

ESG software of the year: Moody's Analytics

ECONOMIC SCENARIO GENERATORS (ESGs) are critical to insurers' risk and capital management processes and demands for greater innovation in these offerings is intensifying.

Moody's Analytics' Economic Scenario Generation Solutions holds a leading position in the market, and the firm says it continues to support both new and existing clients in key areas including capital strategies, streamlining modelling processes by increased automation and helping to build robust investment strategies.

It also deploys what it calls "best of breed" models and calibrations to help calculate asset estimates with current accounting standards and regulations firmly in mind.

Developments in the past year have included introducing its "Cloud Burst Service", a combination of its existing offering and grid computing technologies. The end result allows users to run the ESG

in the Moody's Analytics' own cloud environment, providing easy access to computing cores and reducing run time.

The year has also seen the introduction of IFRS 17 yield curve services, providing fully fitted curves each quarter across a number of economies appropriate for use in an IFRS 17 environment based on its own methods.

From a regulatory perspective, Moody's Analytics has made enhancements to its capital modelling applications in line with regulatory requirements, specifically to align with changes to Solvency II and stress and scenario testing methods.

In addition, the firm said it would be introducing beta and test calibrations to explore enhancements made by the European Insurance and Occupational Pensions Authority. Judges were quick to praise the offering, noting it was a "fast and comprehensive solution with intercontinental reach".

IFRS 17 Solution of the year: Moody's Analytics

RISKINTEGRITY for IFRS 17 is a cloud-based tool launched in April 2018 that addresses key requirements such as contractual service margin (CSM) calculations and associated calculations to bridge the gap between actuarial modelling systems and accounting general ledgers.

Soon after its launch, it proved to be popular amongst a number insurers on both sides of the Atlantic.

In Canada, Manulife, iA Financial Group and ivari are using RiskIntegrity for IFRS 17. In Europe, Moody's Analytics has won mandates from Belgium's Belfius and France's BNP Paribas Cardif.

Moody's Analytics says the tool has 320 users around the world currently and it is now targeting growth in Asia Pacific, where a number of firms are using the RiskIntegrity for IFRS 17 solution to prepare to meet the new standard.

Overall, judges were impressed with the client coverage of Moody's Analytics.

"Implementing IFRS 17 is a complex, data-intensive process requiring the convergence of actuarial and accounting systems," says the firm.

"This creates significant operational challenges related to data, modelling, governance, and auditability. For example, insurers now need to aggregate data and results across their organisations, often operating across multiple locations."

In June, Moody's Analytics added new accounting and reinsurance capabilities to its offering, but work does not stop here. The vendor says it is committed to evolving its technology to answer market needs.

"We will continue to closely assess those changing needs and will be well prepared to update our solution appropriately."

Operational risk solution of the year: ViClarity

IN THE PAST YEAR, operational resilience has become a spotlight issue for risk management teams at insurers.

Operational risk solution of the year: ViClarity

Regulators have been primarily concerned that insurers' finances can survive a catastrophe or crisis. But their focus has swung to ensuring firms can actually continue to operate if, for example, a third-party supplier of services happens to shut down, or there is a large-scale cyber incident.

ViClarity won this year's best operational risk solution because it allows insurers to track and manage all of their audit, risk and compliance in one system.

The client list of some 50 European insurance organisations using ViClarity's software for operational risk underlines the strong reputation it has built up.

In today's landscape, regulators are focusing heavily on accountability with developments such as the Senior Managers and Certification Regime (SM&CR) in the UK, for example.

ViClarity was judged to help facilitate this operational risk accountability.

For example, reports can be tailored to client need, and a colour-coded dashboard enables risk officers to monitor risks and mitigation controls over time, location and business area.

ViClarity is very much an end-to-end operational risk solution. Organisations can automate their risk registers, control attestations, KRI tracking and operational risk events on the system.

Neil O'Sullivan, business development manager at ViClarity, says an increasing focus on operational risk by regulators means insurers have become more open to partnering with software solutions providers to help them address this risk.

He comments: "We're always updating what we offer, and in the last six months ViClarity has also launched a survey tool on its platform to allow companies to understand the culture of compliance at organisations."

Regulatory reporting software of the year: Moody's Analytics

IN AN ERA where all eyes are on compliance, regulatory reporting remains one of the most demanding areas for insurers.

In addition to the reporting requirements of Solvency II, the industry faces the pending demands of IFRS 17 and IFRS 9. Finance, investment, actuarial and risk data are all needed – and much of it requires a high level of granularity.

Moody's Analytics wins regulatory reporting software of the year for its RiskIntegrity Suite, which helps insurers deliver on demands for more frequent and timely reporting.

The judging panel liked the comprehensive solution for reporting across a range of regions with different regulatory constraints. For example, the tool supports the delivery of group and solo entity quantitative reports to help insurers comply with regulatory requirements such as Solvency II and other similar solvency regimes.

Its flexibility and ease of use were seen as a major plus point. For example, the RiskIntegrity Suite is constantly updated to reflect new developments in reporting regulations. Eiopa reporting templates covering over 50 countries are also translated into all European languages.

Furthermore, the solution's workflow manager enables the monitoring and management of regulatory reporting using workflows that include automatic checks and automatic or manual signoffs.

Using decision branches, several workflows can be linked together, which can enable insurers to dispense with the need for human intervention in launch and management phases.

Testimonials are usually the best indicator of a product's value and in the case of Moody's Analytics RiskIntegrity Suite, clients commented on report production and submission that is seamless and easy.

Other clients of Moody's Analytics said they have a reporting engine that works across all Eiopa requirements for reporting.

Reserving solution of the year: Dynamo Analytics

INSURERS may have been quite wedded to traditional reserving processes in the past, but all that is all changing now, according to Shil Patel, Psicle director at Dynamo Analytics – the winner of this year's best reserving solution.

Patel says the actuarial and software consultancy has witnessed "more openness" by insurers to changing their reserving processes. Part of this is due to IFRS 17, the new accounting standard for insurance contracts, which has triggered "finance and actuarial transformation".

Psicle is Dynamo Analytics' actuarial and financial modelling platform. One of the key capabilities of Psicle is its triangle reserving, which aims to transform the way clients run their reserving processes. This follows clients' feedback that existing reserving technologies had not developed fast enough to keep up with growing demands.

Reserving solution of the year: Dynamo Analytics

Its flagship Psicle client is a large Australian group that has adopted it for reserving and IFRS 17 across multiple territories. Other Psicle reserving clients are a mixture of UK, Nordic and South Africa domiciled insurers across personal and commercial lines.

Given the large amount of touch points that Psicle has with different processes, the judges praised the way the platform can offer a true process transformation with real benefits such as reduced reporting timelines.

Patel says: "Our philosophy to reserving is a top-down approach where actuaries and teams can set assumptions in advance, rather than in the heat of the moment."

Asked about plans for 2020, he says Dynamo Analytics is starting to think more about offering algorithms to help make actuarial judgements more automated.

Patel says the firm will also work on a standard this year on how IFRS 17 models should be run as part of the reserving process.

Solvency II solution of the year: Moody's Analytics

SOLVENCY II came into life on 1 January 2016, bringing major changes to how insurers in the European Economic Area manage risk and capital, and how they report on their business.

But the insurance landscape has shifted over the last four years and Moody's Analytics wins the Solvency II solution of the year for its understanding of insurers' changing needs. The judging panel commended the solution as a comprehensive offering, which enables a strong end-to-end solvency management process.

Moody's Analytics says in the years since Solvency II was implemented, insurers' priorities have changed significantly.

"While we continue supporting our customers through regulatory change, for many of them, their attention is now more

InsuranceERM Awards 2020 Winner
Operational risk solution of the year

ViClarity

All eyes on operational risk

Ogie Sheehy, chief executive and founder of Ireland-based governance, risk and compliance (GRC) technology provider, ViClarity, explains why there is an increasing focus on operational resilience, and how technology offers insurers an effective solution

How would you describe the current operational risk landscape for insurers?

The operational risk landscape for insurers is becoming tougher and tougher. There is a significant increase in regulatory scrutiny based on what is happening across the financial services sector.

There are a lot of new challenges facing insurance companies. The trend we are seeing is an uptake from insurers in the UK and Ireland looking to streamline and automate their governance, risk and compliance (GRC) management processes, as well as drive efficiencies.

From a board perspective, there is a significant increase in interest levels around risk management within insurance companies. There is also more responsibility and accountability on decisions made by members at a board level and that is driving an enhanced focus on operational risk.

The introduction of the Senior Managers and Certification Regime has put a lot of focus on board members. There has been a shift toward individual accountability and board members need to be more involved in the organisation's GRC processes. Ireland will see similar changes in the coming months with the introduction of the Senior Executive Accountability Regime.

With the growing reliance on external providers, how can insurers manage operational risks?

The trend we are seeing is that people are starting to become more comfortable with outsourcing some of their core functions to third-party vendors. And of course, we are one of those vendors ourselves.

Ogie Sheehy

Nowadays with the technology solutions that are available via the cloud, the levels of security are so robust that in my opinion vendors and providers of technology services can provide more robust systems than often have existed internally within insurers. An automated platform can reduce the burden on insurers and save them hundreds of hours a year.

Of course, having third-party vendors does introduce additional operational risks to the business, but these can be very effectively managed and mitigated. One of the products we provide, for example, is a vendor management and outsourcing solution.

What other risk management solutions does ViClarity offer insurers?

We appreciate GRC management is a broad spectrum. We provide a Solvency II packaged product in conjunction with Milliman. Our core solutions in the insurance space include Risk Management, Regulatory Compliance, Vendor & Outsourcing, Policy Management and Incidents/Complaints.

Today we have 53 solutions in use with clients and our flexibility is key. We can take an organisation's existing manual spreadsheets and build them into our system. The system is highly customisable and we architect solutions to match our clients' processes, but we also have a full knowledge base of modules they can lean on us for.

When it comes to compliance and risk management in insurance companies, culture is critical.

We recently released our culture diagnostic tool, which allows the people on the ground to anonymously give their views that can be added to the senior management's data. The tool also shows companies care about people's opinions.

What would you say are your insurance clients' priorities this year?

We are seeing a major uptake and interest in people wanting to automate their manual processes. Many insurance chief risk officers and compliance officers are faced with growing regulations, but they are faced with a bank of Excel spreadsheets on a shared drive somewhere, and they are trying singlehandedly to manage the risk within the organisation. That is why we are seeing huge interest in technology to automate processes such as this.

www.viclarity.com

focused on effective management under Solvency II.

"As an example, some of our customers need to analyse, efficiently, the impact of external factors and management decisions on Solvency II metrics – for example, when they're developing investment strategy."

Moody's Analytics "solid track record" of Solvency II expertise was recognised by the judges. This encompasses the RiskIntegrity Suite, which features standard formula and internal model capabilities, as well as regulatory reporting capabilities.

Moody's Analytics also offers scenario-generation solutions to meet challenges from Solvency II compliance.

Some of the areas where Moody's Analytics has developed its Solvency II solution include improved asset coverage for bond and FX options, and introducing the ability to price and stress bond options in line with the regulatory solvency calculation.

Among several achievements, the RiskIntegrity internal model software enables multiple real yield curves to be modelled simultaneously for a single economy.

This was also a competitive field and zeb was highly commended by the judges for Solvency II solution of the year.

Stress scenarios software of the year: Milliman Mind

IN A WORLD where the universe of risks is ever expanding, insurers need a structured way to identify a range of identifiable possible outcomes, their impacts and how to deal with them.

Stress testing enables firms to test the sensitivity of their liabilities and assets to a range of scenarios. The findings can then generate ideas on how to grow the business or position it to avoid potential losses.

Our judges declared Milliman Mind this year's winner of best stress scenarios software for its ability to help insurers achieve those goals. Milliman developed Mind as a cloud-based modelling solution for reducing the model risk arising from spreadsheet models.

The system automatically converts Excel-based models to C# models, and allows the user to add stochastic dimensions to deterministic Excel models in order to produce a distribution of results.

Pierre Miehe, head of Milliman Mind, explains that Solvency II and IFRS 17 both require firms to test a range of scenarios for their balance sheets.

He says: "Solvency II imposes 20 stress tests on the liabilities of all insurers in Europe. For some insurers, this can be a huge burden and takes days to run." A key capability of Mind is its dashboards, which enables users to drill down through scenarios and understand how the assumptions change the result.

Miehe adds that Mind can handle stress test models that take up hundreds of gigabytes with no issue, whereas Excel can only manage up to 300 megabytes. He also claims Mind is 40-80 times faster for stress scenario testing than Excel. Among Mind's users are two of the largest reinsurers in the world and a large bancassurer.

Stress scenarios software of the year: Milliman Mind

Judges' award for contributions to the industry: Gabriel Bernardino, Eiopa

THINK of the European Insurance and Occupational Pensions Authority (Eiopa) and chances are you will think of Gabriel Bernardino.

The Portuguese actuary has been chair of the organisation since its inception in 2011, having also led its preceding body (Ceiops) since 2009.

His biggest achievement has been overseeing the introduction of Solvency II across 28 countries. Though well embedded now, there were rocky moments in those post-crisis years when the deadline was delayed and some doubted the regulation would ever be introduced.

If not at the helm, Bernardino was certainly on the bridge of this ship, skilfully helping to steer between competing national interests to craft a piece of maximum harmonising legislation.

"He's a natural diplomat," says one senior leader who worked with him during that time. "I've seen him have some quite vigorous disagreements with people, and then sit down to dinner in the evening with them and chat away quite merrily."

Bernardino also possesses the technical skills of an actuary and the real-world judgement required of an insurance supervisor, which several people commented was an unusual combination in one person.

Others say his biggest achievement has been to push the boundaries of possibility in EU insurance legislation.

Another industry figure describes him as "the best lobbyist in town". With the respect he has earned at the Commission, Council and Parliament, he is able to spell out the problems he sees in the insurance industry – and also suggest solutions.

ERM end-to-end solution of the year

Economic Scenario Generator software of the year

Regulatory reporting software of the year

MOODY'S ANALYTICS

A power of good for insurers

Colin Holmes, managing director at Moody's Analytics, discusses how the large-scale computing power of its AXIS actuarial system can help insurers rapidly generate answers for a multitude of challenges

How is Moody's Analytics using technology to improve insurers' risk and capital management processes?
The cloud is transformational in terms of large-scale computation and we are helping our customers to take full advantage. For example, our AXIS actuarial system has a cloud computing capability that enables insurers to burst to thousands of CPUs. This has a number of advantages – calculations can be performed in a fraction of the time of a conventional set-up, and because there are no fixed infrastructure costs, it is extremely cost effective.

This has proven valuable for customers with the most demanding modelling challenges and uptake of these capabilities continues to grow. We expect this to continue, with the advent of IFRS 17 and GAAP LDTI – and have recently added cloud-burst capabilities for our scenario generator.

What do you see as the most pressing risks facing insurers?
There are both well-known challenges and risks and others whose prominence is increasing. First, Solvency II and IFRS 17 continue to shine a light on the challenges life insurers are facing in many parts of the world from the combination of existing liabilities and the persistent low-rate environment, and we are working with insurers to provide real-time risk and solvency monitoring as they manage that challenge.


Colin Holmes

Added into the mix is the rapidly growing focus on climate change, with the certainty that it will change the risk landscape. In the last year to 18 months, that climate risk conversation has really moved up the agenda. We have incorporated the impact of climate change into risk simulations, as our customers increasingly wish to assess the impact of this on their business.

Aside from IFRS 17, what other regulatory and compliance developments is Moody's Analytics focusing on?
The Financial Accounting Standards Board's Long Duration Targeted Improvements (LDTI) standard, which is due to come into effect in the US in 2022, is another main area we are currently working with insurers on. The changes are somewhat similar to IFRS 17, introducing significant changes in recognising the economic value of the business.

We are developing the new actuarial calculations required within AXIS, and have launched a new AXIS module, 'GAAPLink', that helps insurers address the specific challenges of LDTI in several ways, including through streamlined batch processing and reporting, and improved run time governance, control, and efficiency. In addition, we are working with insurers' accounting teams to understand and help them to implement their target processes – watch this space for future developments from us on this!

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Eiopa hits back at the French ICS revolution

Some prominent French re/insurers don't want the Insurance Capital Standard in its current form, angering EU and US negotiators alike. Eiopa looks determined to carry on regardless. The IAIS is treading carefully. It is a fraught situation and some practitioners believe the standard could even collapse under its own weight, as Sarfraz Thind reports

As 2019 drew to a close, proceeding with the development of the global Insurance Capital Standard (ICS) version 2.0 appeared to be a done deal.

European and US insurance regulators emerged from the International Association of Insurance Supervisors (IAIS) summit in Abu Dhabi in November announcing their satisfaction that a peaceful, mutually agreeable outcome had been found.

Despite outstanding questions about the details, what had looked like an impasse between Team USA and the IAIS seemed to have been resolved.

But at the start of 2020, it emerged the French had unleashed a gut punch into the ribs of the European authorities. Eight French re/insurers had written to their Ministry of Finance saying they would not participate in the monitoring period of the ICS.

The major objection of the unnamed underwriters is an unhappiness with the ICS considering two different approaches to calculate capital, plus a dislike of the US-backed aggregation method (see The French position, below).

The French objection appears to have blindsided – and riled – US participants who thought things had finally been smoothed over in Abu Dhabi. One US insurer participant responded angrily stating that French insurers had not yet "seen the aggregation method or its comparability" and describing the unilateral decision by France as "odd" and inconsistent with Abu Dhabi. The theme of France aiming to "renegotiate" the meeting was echoed by others in the US.

"It could be possible to imagine a situation where a different capital calculation methodology would deliver substantially the same outcomes as the ICS"
Gabriel Bernadino, Eiopa

The European Insurance and Occupational Pensions Authority (Eiopa) sought to quell French re/insurers' revolt against the global capital standard.

In a blunt statement issued on 20 February, chairman Gabriel Bernardino sent a warning to French underwriters that have refused to participate in the ICS monitoring period. "In the race towards an ICS we can all be winners. But one thing is for sure, the ones that don't participate in the race can't win it."

He added: "We will continue to work with our international peers from all continents in order to ensure that the final ICS standard is based on a market-adjusted valuation, that capital requirements are sufficiently robust and risk-sensitive, and that internal models are allowed to be used under sound and prudent criteria.

"The progress made in the latest years, namely the agreement on the ICS 2.0, shows that this convergence process is unstoppable."

EIOPA AND IAIS RESPONDING

Eiopa also clearly makes room for the US aggregation methodology (AM) in the overall plan.

"It could be possible to imagine a situation where a different capital calculation methodology would deliver substantially the same outcomes as the ICS," Bernardino wrote.

The IAIS for its part issued a generally positive message, though one light on detail – understandably so, given the fine line it is walking between the suddenly-warring camps.

It suggested expectations that "at a minimum" the same groups that participated in ICS field testing exercises will also participate in confidential reporting.

According to the IAIS, on average 50 groups participated, and they were responsible for almost 40% of global gross written premium, and seven in 10 of all the internationally active insurance groups (IAIGs) by number took part. Given the

eight French groups represent one-sixth of all IAIGs sitting within the ICS remit, the absence of the French will be felt.

The IAIS was also keen to play down the weight of the AM in future progress of the ICS, perhaps with a view to softening French objections towards it.

Jonathan Dixon, secretary general of the IAIS, stated: "The AM is not part of ICS Version 2.0, nor is it being developed by the IAIS as an alternate global standard. Rather, it is an approach to a group-wide capital calculation being developed by the US and other interested jurisdictions that will be assessed in terms of whether it provides comparable outcomes to the ICS."

He added the IAIS has made it clear this will be a robust and credible technical assessment that "does not provide the AM a free pass," while at the same time providing a viable path for the AM to be deemed an outcome-equivalent approach.

Given all the twists and turns, it remains difficult to foretell what route this might take. However, participants seem to anticipate two potential outcomes.

Either the EU forces France to comply and the ICS survives. But this still puts great pressure on how the comparability situation will progress.

Or, more grave, the EU backs out and the ICS "collapses under its own weight," according to one participant, who foresees Europe then simply continuing on with Solvency II.

So far, the Europeans seem to be pursuing the former path, while how France responds now is anyone's guess.

One practitioner says: "I think there will be a recognition in the EU you can't have members going off on their own, so you need to stick with it. If France goes its own way, you can't do it."

> "The AM is not part of ICS Version 2.0, nor is it being developed by the IAIS as an alternate global standard"
> Jonathan Dixon, IAIS

THE FRENCH POSITION

InsuranceERM spoke to a senior figure at one of the eight French signatories of the pivotal letter declining to take part in the ICS monitoring period. On the proviso of anonymity, the representative gave a frank explanation of the French position.

The starting point was that French IAIGs support a unique global standard, but it needs to be a truly level playing field if it applies to all.

"There is nothing against the ICS per se," said the participant, "quite the contrary. The idea of having a unique global standard is supported by the French industry. The letter was more to reflect what has happened in the latest steps of the ICS process and the Abu Dhabi discussion. The outcome of that raised questions for many IAIGs, and in particular the French ones."

Of particular concern for French insurers is that the Abu Dhabi agreement has moved away from the original purpose of the ICS, by stepping back on the initial objective of having a unique standard applicable across all jurisdictions.

The French representative continued: "In Abu Dhabi [the US representatives] all indicated there was no incentive to participate in the ICS monitoring period going forward. French industry conditions, to achieve a level playing field, were not met anymore. The US position and Abu Dhabi negotiations [have] led to an outcome which will not deliver a unique global standard anymore."

STICK IN THE MUD?

The participant added France was "not against the US in particular". At the same time, however, the remarks appear to point to the US being the major obstruction, by essentially not participating in the creation of a global insurance standard.

This view, it seems, is shared unanimously by all the French participants. The participant *InsuranceERM* spoke to was unwilling to be drawn into whether this view was also held in other European countries, but others have observed it as solely a French issue.

The participant also decried the idea of implementing the ICS on top of Solvency II – itself a "very big undertaking to achieve" – stating this would be counterproductive if it were not to move to something more, "which is to have a true level playing field globally."

"It is not because French insurers are lazy that they don't want to do the monitoring period. But given it does not deliver what was promised, why then make it a priority?"

Three lines of defence: a necessity or a nuisance?

The three lines of defence model has become a fixture for enterprise risk management in the insurance sector. But after nearly two decades since its introduction, does the model still have a place within the industry or are changes needed? Paul Walsh investigates

Talk to any insurer about enterprise risk management (ERM) and the one subject guaranteed to arise is the three lines of defence model, a structure designed to assign risk management responsibilities to specific individuals (see box).

But despite widespread use as tool to ensure good ERM, it has limitations. Not taking into account emerging risks or how individuals engage in risk-taking for profit are two widely cited shortcomings of the model. As a result, this model has come under the microscopes of risk managers.

Tom Wilson, chief risk officer (CRO) at Allianz, stresses the three lines approach is a "very useful framework" at a high level but notes three main complications that arise from its implementation.

"The first is ensuring that the first line is in fact recognising and exercising their responsibilities, often leading to a 'line 1.5'," with responsibilities halfway between a strict reading of the first and second line roles.

"A second complication is how far risk management can 'manage' risk versus only controlling risk taking. It is clear that the second line, in principal, is responsible for advising the board and management team regarding the enterprise risk framework covering underwriting accumulations, asset / liability management, solvency etc.

"Another complication can arise, for example in the areas of accounting and actuarial as the boundary between calculating the numbers and controlling or validating the numbers continues to be refined through industry and regulatory practice," says Wilson.

"The model in its purest status prevents the second line doing anything particularly substantive apart from oversight"
Giles Fairhead, PIC

Giles Fairhead, CRO at Pension Insurance Corporation (PIC) suggests the model has become outdated as the risk function has matured.

"The model in its purest status prevents the second line doing anything particularly substantive apart from oversight.

"Internal models are a perfect example. As a CRO I'm responsible for our internal model and I also have to validate it. Does that mean I can't run the internal model or manage the team that develops the internal model because, in this case, how can I check if I have to do the oversight?"

Despite these issues, the model is still championed. Philippa Herz, CRO at UK insurer OneFamily, notes the model is useful for engaging in "fundamental conversations" to identify the first line of defence.

REGULATORY ISSUES

Solvency II's implementation, particularly pillar two which focused on qualitative requirements, has led to greater coordination of risk management among European insurers.

However, some argue this increased focus on ERM has led to a misapplication of the three lines model.

"Regulations like Solvency II, while trying to reinforce the internal control system, have had a very negative impact in putting a lot of the burden and implied responsibility onto the second and even third lines," says Anh Tran, head of ERM at Allianz.

"In doing so, it has helped shift that business responsibility away from the business owners."

Allianz's Wilson concurs, stressing Solvency II may have "muddled the ownership situation" by having a regulatory focus and entry point on the second line to such an extent the first line's ownership responsibility becomes "dampened".

CROs were split over how strictly regulators are forcing a three-lines model onto insurers.

PIC's Fairhead believes regulators are pressing insurers into using the model but "only when it leads to the outcome they want."

"I think they chop and change as they certainly do not take a purist approach and some things they do, in my view, are contrary to the three-lines model."

He cites the UK's Prudential Regulation

Authority (PRA) as an example.

"In a purist view, the second line should never be 'doing the doing' of anything, it should be providing oversight," Fairhead explains.

"Increasingly the PRA requires the second line to 'do more of the doing' in areas they feel it would be beneficial and this blows the model out of the water."

SM&CR

OneFamily's Herz stresses regulators are not pushing the three lines model per se, but rather clarity on senior management functions.

Some regulators have introduced additional legislation to hammer home that point; for example, the PRA adopted the Senior Managers and Certification Regime (SM&CR) in December 2018.

"In the insurance world, we've got senior management for key areas of business management, capital management, liquidity management, operational resilience - and then you've got your risk role and your internal audit role.

"I've noticed in some of the material issued by the regulator that they refer to what they expect from each function, so the key thing here is the senior management regime and the clarity over the responsibilities map that goes along with that."

Allianz's Wilson describes the three-lines model as the "cornerstone of most regulatory frameworks" and says its use is being "sharpened" by stricter definitions of executive accountability brought about by SM&CR and similar regimes.

FUTURE CHANGES

The Federation of European Risk Management Associations (Ferma) concluded last September the model did not need fundamental material changes as it was "well established" and an "effective model" for risk management.

Ferma stressed any revision to the model should emphasise the central, coordinating role of risk management and show how internal audit can develop an advisory role.

The association did say the model could be repositioned as a means of increasing performance and value creation.

Fairhead explains any changes must consider the reason why the model was introduced, i.e. because oversight of the first line was required.

"I would be a fan of moving away from the model but to something that spells out what the model was there to try and resolve but in a different way.

"I think a lot more about oversight and conflicts rather than the model, then you look at the most efficient way of doing that within your business. So you have a bar, but that bar is perhaps not clearly defined as it is in the model with who does what."

Allianz's Wilson also calls for changes in how regulators approach the model, stressing some activities regulators are requiring can be "value destroying" in how the first line is supported and likens this process to "a hamster on a wheel".

> "The place where it falls is the first line folks really taking on full responsibility for the day-to-day risk management"
> Dave Ingram, Willis Re

"For example, although operational risk is a well-defined discipline, activities can range from doing nothing to documenting every process and control point requiring a whole host of people feeding the machine.

"While this may give the sense of progress, the reality may be that the actual impact on the business is basically zero because the focus is not on improving the business but on documentation."

POSITION OF ERM

Vivek Syal, group CRO at Tokio Marine, says the value of the risk management function is underappreciated, and the focus on the three-lines model is a factor in that.

"In theory it [the model] works but improvements are required as ERM is an entire system and not just the three lines model. That's where the discussion needs to be."

He adds larger issues with the ERM framework stem from ERM being considered a "side issue" by many boards.

"It's central to any conversation you want to have, whether you are setting a strategy, acquiring a company or putting yourself into run-off. ERM is central to these decisions but it's typically not understood."

Dave Ingram, executive vice president at Willis Re, says the concept of three lines of defence seemed a great help, compared to what was going on before, as it allowed risk management to shed its image as a "policing" function.

He adds this "opened up a channel for the risk management folks to be collaborators with the business units".

But he notes its implementation has been underwhelming in some cases and has hindered the potential for ERM to contribute to business value. "The place where it falls is the first line folks really taking on full responsibility for the day-to-day risk management."

Ingram says this is partly due to the way firms have attempted to align their ERM and business objectives, by putting their solvency objectives into their business objectives. This makes the first line reluctant to engage with ERM. Instead, firms should be "looking at business objectives and saying how can ERM support the business objectives".

A complete overhaul of the three lines model is highly unlikely, and it does seem insurers are keen to work within this structure. However, some fresh thinking is surely needed if the risk function is to prosper in the future.

What is the three lines of defence model?

The three lines of defence model was designed to ensure effective and transparent risk management by setting out clear responsibilities. Its application in the financial services industry is believed to have stemmed from a paper published by the UK's Financial Services Authority in 2003.

- First line: The functions that take or "own" risk
- Second line: Functions responsible for risk oversight, controls and compliance
- Third line: The internal audit function that provides independent assurance

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Choosing KPIs for IFRS 17

IFRS 17 is bringing a fundamental change in the accounting of re/insurance contracts for more than a thousand insurance entities around the world. Milena Lacheta and Wijdan Yousuf explain what analysts, rating agencies and auditors are thinking about measuring performance under the new standard

One of the key implementation activities for chief financial officers (CFOs) implementing IFRS 17 is figuring out preliminary views of their company's financial position and financial performance upon transition to the new insurance contracts accounting standard. This will involve producing key performance indicators (KPIs) that will be meaningful in IFRS 17 annual financial reports.

While analysts await the first set of IFRS 17 annual reports to properly assess the impact of the accounting changes, CFOs are looking to analysts for their perspective on what kind of data sets can be discarded and what new metrics they would like to see produced. Some CFOs are concerned they will hear inconsistent messages from analysts depending on differing perspectives on the importance of certain reporting categories, such as solvency versus performance.

Having identified an impasse in discussions, Aon hosted a round table meeting on 29 January with participants from rating agencies, investment banks and audit firms. The objective of the round table was to achieve high-level consensus on the shape of future KPIs within an insurance company's financial statements.

This article focuses on the KPIs that readers of financial statements use to assess the present and future performance of companies. Some of the most common KPIs used in the insurance industry are:

- Gross written premium
- Return on equity
- Annual premium equivalent
- Return on assets
- Operating profit
- New business value / value of business acquired
- Combined ratio, together with loss ratio and expense ratio

THE IMPACT OF IFRS 17 ON KPIS

For now, analysts at the rating agencies do not see IFRS 17 as having an immediate impact on the criteria methodology used for insurance ratings. Although the analysts indicated that numbers, ratios and thresholds might change, and guidelines for certain KPIs (e.g. return on equity) may need further consideration, an analysts' approach to ratings will not change in the short-term because of IFRS 17.

> Some CFOs are concerned they will hear inconsistent messages from analysts

However, certain second-order implications cannot be excluded in the long-term. Some analysts at the rating agencies indicated they expect the move to IFRS 17 may impact the metrics they use in their scorecards. Although the standard introduces costs and complexity, analysts at the rating agencies agreed that it is an improvement from current insurance accounting.

From the perspective of equity analysts, deficiencies in current reporting were also emphasised but IFRS 17 was noted as having the potential to bring comparable and useful measures of shareholder value and sensitivity to market risks, particularly in the context of M&A and hedging. This will increase the complexity of financial statements but is likely to provide a better economic view of the insurance company.

Insurance companies are likely to run parallel reporting during transition years. With the potential for several years of accounting volatility arising from the run-off of the back book under the new regime, it will be important for analysts to see an analysis of what the numbers would have looked like under the previous accounting standards for two to three years. This will depend on the magnitude of the differences.

GROSS PREMIUMS WRITTEN

With the arrival of IFRS 17, gross premiums written (GPW) will no longer be presented in financial statements. Instead, "insurance contracts revenue" will be the new top line item in an income statement. This revenue figure will be comparable to GPW for short-duration contracts but not for long-duration contracts.

Preparers can choose to continue producing those numbers as a volume metric for internal reporting and management information. They also have an option, but not a requirement, to disclose GPW in the notes to financial statements under the alternative performance indicators sections.

Those sections can be subject to audit, but at the preparer's discretion. If not audited, GPW data will still be of value to analysts, similarly to regulatory numbers that were not subject to audit or subject to 'lighter' audit as is the case for Solvency II reports in some EU member states.

The analysts agree that under IFRS

17, volume information is still needed. IFRS 4 life premiums have long been viewed as problematic in this respect and, in life insurance, annual premium equivalent (APE), or other conceptually similar measures, will likely remain the most meaningful volume-metric for new business that will help inform market share.

Looking outside of business measured using premium allocation approach (PAA) and the life segment, non-life reinsurance looks to have the strongest incentive to report new supplementary volume data.

With information on onerous contracts on day one becoming easily available, it will be important to assess the weight of those groups in the volume of total business written that year. Analysts will want to use it to formulate a view on whether the company is overstretching its operations or understand its market share positions. The ability of analysts to do this would depend heavily on the depth and richness of insurance companies' disclosures.

> IFRS 17 has the potential to bring comparable and useful measures of shareholder value and sensitivity to market risks

In conclusion, even if not audited, the volume-based metrics about new business written will be still valuable for analysts and should be reported.

RETURN ON EQUITY

Both numerator (net income after tax, NIAT) and denominator (equity) will change substantially upon IFRS 17 implementation.

Many insurance companies are concerned the accounting change will suppress equity figures, and, at least in principle and in exceptional circumstances, possibly to negative values. For some companies, particularly in the life segment, return on equity (RoE) indicators may be viewed as distorted if the contractual service margin (CSM) is wholly excluded from the denominator. In Europe, a potential solution is to have more and better disclosures of Solvency II capital to prove solvency.

Changes to RoE will have a knock-on effect on measuring executive performance and thus on executive compensation. The analysts will continue to perform peer group and sensitivity analyses. The analysis of net capital generation and how it links to IFRS 17 should be viewed as a basis to the assessment of executive compensation programmes.

Milena Lacheta

Wijdan Yousuf

To obtain a useful RoE, it may make sense to increase the denominator by the CSM (and use a consistent numerator), particularly in the life segment. Analysis of changes in the CSM would also be a useful indicator of the strength of underwriting, risk appetite of the insurer and of performance of claims and expenses.

RETURN ON ASSETS

Return on assets will experience similar impacts as RoE, to the extent that its numerator is also NIAT. These two fundamental KPIs will change and analysts will need to understand the drivers behind the change and whether it is a result of an accounting mismatch (whether under IFRS 4 and/or IFRS 17), which might be from the mechanics of the CSM, or an economic mismatch, or a mix of both. In some instances, these ratios may however move in different directions. In cases where the values of insurance liabilities increase because of the CSM, equity might be depressed and the RoE correspondingly inflated.

The difference between the yield on investment assets and the discount rate applied to the insurance liabilities may become an important performance metric. The new IFRS 17 income statement may more transparently tell if the investment function is adding real value as it will compare investment income with the amount required to meet the unwind of the discount rate on insurance liabilities. This metric has not previously been available.

FINANCIAL LEVERAGE

Some analysts expect that material equity hits as a result of IFRS 17 transition may have an immediate and significant impact on the financial leverage of insurance companies. Financial leverage metrics could be distorted when reported equity becomes negative and, equally, significant changes to financial leverage ratios can follow for many years after implementation because insurance companies will be looking to optimise their reported equity balances.

As a result, analysts expect to see the industry looking also at other KPIs, such leverage on a Solvency II capital basis (in Europe). Analysts see a potential solution in factoring the CSM balance into the equity figure in the denominator.

> Many insurance companies are concerned the accounting change will suppress equity figures

OPERATING RESULT

The International Accounting Standards Board (IASB) is currently working on clarifying disclosure requirements for composition of profit or loss statements across all sectors. As a result, the overall meaning of an insurance company's operating result should become clearer in future IFRS 17 annual statements.

The key information from the insurance operating result (the sum of insurance service result and insurance investment result) is the indication of the extent to which it is driven by recurring business, new business and run-off business. Although this is not a disclosure requirement, it would be of great value to analysts because it gives a clear picture of where the business is headed.

GENERAL INSURANCE: LOSS RATIO

Today, a loss ratio is calculated as the claims incurred divided by net premiums earned. It may not always be easily translated to new IFRS 17 line items such as insurance service expense divided by insurance service revenue. This is because new IFRS 17 line items are derived by various adjustments, for example, for variance in cash flows or for time value of money.

Losses incurred will stay the same regardless of accounting. Complexity will be driven by the new IFRS 17 requirement to discount those losses and the insurance contract revenue (from inception), thus sensitivity to discount rates, as well as by coverage unit methodology.

Net loss ratios for short-duration contracts measured under PAA may deviate if those contracts are covered by multi-year reinsurance treaties and valued under the general measurement model (GMM). Stability of loss ratios is a base for sliding scale commissions in reinsurance

contracts. Risk adjustment may not absorb all the volatility from the contracts and little practical guidance exists on the risk adjustment more generally. As a result, much is left to the discretion of management.

Analysts expect that, over time, combined ratio and loss ratio will evolve to be composed of purely IFRS 17 line items. Until the "new combined ratio" emerges, parallel reporting will be necessary.

During the years after first adopting IFRS 17, analysts would find waterfall charts with reconciliations between IFRS 17 equity and Solvency II capital helpful because capital remains the most relevant measure. Participants noted that IFRS 17 may result in loss ratios becoming more meaningful as discounting will make general insurance liabilities of different duration more comparable.

The new IFRS 17 income statement may more transparently tell if the investment function is adding real value

REINSURANCE

IFRS 17 requires separate measurement of reinsurance covers. As such, analysts agree that reinsurance KPIs will become increasingly important. However, as of today there is little clarity of what those KPIs might be.

Today's attempts at measuring ceded RoE and gross or net loss ratios encounter significant limitations and data challenges. Insurance companies often produce internal reports from the actuarial function about the effectiveness of reinsurance, but they have no equivalents reported externally. It has emerged that analysts would welcome such information as they believe that disclosures about loss recovery components could be an interesting KPI to consider.

LIFE INSURANCE: MCEV

Analysts recognised that only a few insurance companies still disclose market consistent embedded value (MCEV). The majority in the industry has limited its reporting to internal purposes or stopped producing the embedded value (EV) data altogether. EV is not always a completely audited number and IFRS 17 is likely, at least to some degree, to supersede remaining EV disclosure, thus further reducing separate EV reporting.

In conclusion, MCEV is likely to become even less important as a result of IFRS 17.

LIFE INSURANCE: VALUE OF NEW BUSINESS

Some analysts acknowledge the CSM and new business value (NBV) are conceptually similar yet the CSM is a more comparable measure than NBV moving forward. Other analysts took the view that there could still be significant differences in methodologies relating to discount rates, grouping of contracts, expenses and risk adjustment that suggested comparability may not increase by as much as initially thought.

The analysts agree that at first look of financial statements, some portfolios of life business (e.g. UK bulk annuities) may appear less attractive because of significant delay in profit recognition. The delay in recognition may have a positive impact on management behaviour and approach to executive compensation because it would enforce long-term view on performance assessments.

Today, users of financial statements mostly interpret NBV as only an estimate of expected profits at issue because it doesn't provide insight as to whether a company ever delivered on those estimates. The analysts see the cohort requirement as a potential answer to that problem.

The analysts strongly support the disclosure of CSM by year-of-issue for future new business reporting, if not the value of business in force at transition, even though they appreciate that annual values for CSM are a sum of many moving parts and thus are far from perfect.

Such disclosures would bring reporting in the life sector closer to the non-life sector, as general insurance companies provide this information, although, as anticipated for life business, often without product splits. Such disclosures will give users a better grasp of life profit development and how it contributes to the overall profitability of companies. This should improve users' confidence in insurance financial statements.

Some portfolios of life business may appear less attractive because of significant delay in profit recognition

LIFE INSURANCE: VFA COHORTS

For participating business such as with-profits, the lack of clarity on what is profitable business and what is not is a key reason why such business has fallen out of favour as a product that shareholders could reasonably support management in writing new business, even with favourable economics.

It was noted that the profitability of participating business is connected to its bonus paying capacity: having clear disclosures by cohort will also tell policyholders whether they are being subsidised by/are subsidising/ others. Insurance companies may not be keen to disclose this information, but it would improve transparency.

The analysts felt strongly that financial stakeholders need to understand what the performance of a cohort looks like before any subsidies between cohorts, as for any other business that may incur losses on a year's sales. As such, there is a clear need for annual cohorted information.

LIFE INSURANCE: ANALYSIS OF CHANGES IN CSM

The analysts believe the analysis of change in the CSM would be an important disclosure because it helps in understanding evolution of the business. It shows trends in performance by making it clearer how expenses, claims, strength of underwriting interact with the profitability of groups.

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This is an edited version of a longer report. Read more at: https://aon.io/3bMeZrq

AAIC's Lorie Graham: inspired by Europe

Lorie Graham started AAIC's enterprise risk management programme in 2008 at a time when the US reinsurance sector had few models to look at. So she took her inspiration from the Europeans, she tells Sarfraz Thind

American Agricultural Insurance Company (AAIC) has been around since 1948 and is among the top 50 reinsurers in the world. But until 2008, the company had no group-wide enterprise risk management (ERM) programme in place.

Enter chief risk officer, Lorie Graham, who was quickly given the task of setting up the North American reinsurer's ERM structure by chief executive Janet Katz.

"The company had an ERM project at the time — it included a survey process that was sent out to subject matter experts within the organisation [but] it wasn't robust," she says. "The processes weren't embedded into the organisation so the CEO approached me to take a fresh look and develop a strong programme."

It was a new experience for Graham. She had practiced ERM for a primary insurer previously but moving to multinational reinsurer AAIC with its diverse risks in multiple jurisdictions was a fresh challenge.

The sophisticated risk portfolio needed an equally sophisticated risk process to manage it. While the company "considered risks" before, the management of those risks was siloed and the organisation had not codified the ERM process.

But the step into what now is viewed as a ubiquitous practice across the industry was initially met with scepticism. She says her manager, the senior underwriting vice president, thought it might be the next "soup de jour". The challenges were exacerbated by the fact there were few peer benchmarks to draw on and the US regulatory environment gave little guidance on implementing ERM.

Indeed, the practical model for AAIC's ERM work came from foreign regulatory models — and Europe in particular. This is perhaps surprising given the US's rejection of Solvency II-like regulation in recent years. But for AAIC, the international experience of Solvency II proved an excellent starting point.

> "All of the steps we took in enhancing our ERM [in the early stages] was with Solvency II in mind"

"All of the steps we took in enhancing our ERM [in the early stages] was with Solvency II in mind."

The company lent heavily on the International Association of Insurance Supervisors' Insurance Core Principles for its ERM gap analysis. The next step was completing an own risk and solvency assessment (Orsa).

While the Orsa was not prescribed in the US at the time, it has proven invaluable to the company's ERM work. Indeed, Graham is effusive on the European legislative creation.

"Although it was a lot of work, we love the Orsa," she says. "It brought our ERM to life and we can find all of our risk management efforts in one document."

RISK STRUCTURE

The risk structure now could not be more different to what it was. Most of the risk management work is now done at the risk owner level. The company conducts regular risk assessments, disciplinary training and provides training programmes for risk, including how to articulate risk appetite or risk tolerance.

Graham is also encouraging the company to use its risk expertise to help other insurance professionals — including from the 24 US farm bureaus that own AAIC — to learn about risk. Look on its website and you will find a range of AAIC risk seminars and workshops from introductions to basic reinsurance terminology, to overviews of major types of treaties which are open to industry participants.

Time and performance have gone some way to convincing the sceptics about the validity and profit-generating possibilities of the project. Now her boss is "all in," she says.

The move to ERM has also given the company a better understanding of what being embedded is.

"It's when it is at the heart of the organisation – employees understand their role and how the decisions they make

impact the organisation."

The ERM channel goes to the board and executive leadership team. Graham reports to the senior VP of operations, Tim Smith, who reports to chief executive, Katz, but she has a dotted line to the latter on ERM.

The CRO helps top management gain fluency in the language of risk, which helps them to communicate with other disciplines.

"Sometimes risk owners don't think in risk terminology," she says. "I can help them in interviews — get them thinking in their own language and utilising a framework which helps them look at risks from all perspectives. This is very important to assessing where mitigations can be improved."

Creativity and positioning are some of the key outcomes of AAIC's ERM structure. For example, its emerging risks task force has looked at potential risks impacting the business from cannabis to drones.

"We knew that drones would impact the business and got ahead of this early on," she says on the latter. "We were looking at the risk from all angles and when it came to the time that the FAA [Federal Aviation Administration] issued their guidelines on drones, we were ready to launch."

The reinsurer's catastrophe modelling suite has also developed significantly. AAIC currently uses three cat models — AIR, RMS and its proprietary model — that it blends.

REGULATION

Having worked at a primary insurer, Graham understands the complexity of dealing with US state regulators.

"It is important to develop relationships with state regulators," she says. "Two states can be totally different. When I was at primary insurer, one state was way easier to get business done, whereas another was much more difficult to navigate."

"Companies will continue to explore the benefits and challenges of ESG, assess their current position, and then find ways to further their efforts"

At the same time the company has complex issues dealing with cross-border rules. Canada has "much less flexibility" across all areas, she says, which can make development of, for example, the Orsa more difficult.

"In Canada it is very prescriptive," she says. "Ofsi [Office of the Superintendent of Financial Institutions] is very specific about what it wants. We produce our Orsa with our entire organisational operations in mind, but Canada requires Canada-specific Orsa metrics. Canada places a lot of pressure on foreign reinsurers."

At the same time, though, the prescriptiveness has been helpful; Canadian strictness was indeed a "blessing" that gave the company insights on what details to include in the Orsa.

FUTURE ISSUES

The company continues to face several challenging themes going into the future. Graham highlights the issue of incorporating environmental, social, governance (ESG) factors into the business, which remains an onerous task for US companies in general.

Solving it will require a deeper understanding of AAIC's desired state through accurate data capture and how to index its impact, she says. But the ball is rolling.

"There's a developing pressure for ESG in the US," says Graham. "Companies will continue to explore the benefits and challenges of ESG, assess their current position, and then find ways to further their efforts. The availability of objective and quality data in the US is very important for effective evaluation."

Another challenge is to stay ahead of the rapid pace of technological development and create new innovations to capitalise on the opportunities these developments bring.

AAIC has already invested in blockchain initiatives to have a voice and decipher how it will influence the industry. Beyond that, as an agricultural insurer, new concepts like nanotechnology in agriculture and agro terrorism remain future concerns.

But whatever the challenges, having the solid ERM framework to manage the risks will help. And Graham deserves much credit for that.

The virus infecting solvency ratios

Since the end of 2019, risk-free rates have tumbled, bond spreads have widened and equity markets have crashed as the economic impacts of the Covid-19 pandemic are reflected in financial markets. All these factors are key influences on insurers' Solvency II ratios and firms regularly disclose their sensitivities to such market movements in their financial reports.

At the time of going to press, in mid-March 2020, the markets have generally moved in the ways that insurers feared. In this infographic, we present a simplistic view of how those moves would affect the year-end solvency ratios of some of Europe's largest insurers.

Despite the significant falls, each ratio remains with the company's target range.

INSURER	SOLVENCY II RATIO, 2019 YEAR-END (%)	INTEREST RATES FALL -50BPS	GOVERNMENT BOND SPREAD WIDENING +50BPS	CORPORATE BOND SPREAD WIDENING +50BPS	EQUITY MARKETS DOWN -25%	SOLVENCY II RATIO, ASSUMING ALL MOVES (%)	TOTAL MOVEMENT (% POINTS)
ALLIANZ Equity market stress is -30%	212	-9	-10	4	-15	182	-30
AVIVA Solvency ratio is 'shareholder view'. Company reported ratio at 13 March was 175%	206	-12		-4	-7	183	-23
AXA	198	-12		-3	-5	178	-20
CNP ASSURANCES Impact of government bond widening is after VA recalculation	227	-23	-7	8	-7	198	-29
GENERALI Government bond spread stress is +100bps	224	-14	-15	1	-7	189	-35
LEGAL & GENERAL Solvency ratio is 'shareholder view'. Corporate bond spread stress is +100bps weighted average across the portfolio: lower-rated assets receive higher stress e.g. stress for BBB is four times that of AAA	184	-11		8	-5	176	-8
MUNICH RE Equity market stress is -30%	237	-13	-11	-5	-18	190	-47
NN	218	-6	-7	6	-13	198	-20

Source: Company reports