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INTERVIEW

TURKISH ACTUARIAL ASSOCIATION JOINS THE AAE

INTERVIEW BY
JENNIFER BAKER

The Actuarial Society of Turkey has recently joined the AAE, so The European Actuary caught up with its President, Taylan Matkap, to find out more.

Mr Matkap explained that having become a full member of IAA in 2016, joining the AAE was the logical next step to 'enhance relationships with other societies as well as to support our members in terms of technical and professional skills.'

'We wanted to be an integral part of the European actuarial scene, and gaining benefits from the AAE's experiences is of great value to us. There are various committees which are responsible for different areas of actuarial interest and it was crucial for us to be a part of these committees in order to expand our knowledge in the actuarial field and improve the skill-set of this profession,' he continued.

Established on 25 May, 1951, the Actuarial Society of Turkey is the association for insight on the sector in Turkey. 'Like in many countries in Europe, the Turkish Insurance Market is keen on the IFRS17 process and the challenges it will bring in near future,' explained Mr Matkap.

'However, the most essential problem in the Turkish market is the changing legislative environment. Since Turkish actuaries must reassess all of their assumptions practically every quarter based on some new regulation issued by Ministry of Treasury and Finance, MTPL (Motor Third Party Liability) has become a problematic issue. For instance, the ministry issued a price cap implication and an insurance pool for risky drivers at the same time in 2017. It directly affected the loss portfolio of insurance companies as well as average premium level. The continuously changing legislative environment is a problem in the Turkish insurance market. On the other hand, advanced analytical modelling methods are gaining attention from actuaries in pricing/predictive analysis area as well as reserving such as GBM (Gradient Boosting Machine) and Neural Networks,' said Mr Matkap.

The Actuarial Society of Turkey is expanding quickly as insurance awareness and penetration in Turkey has started to develop in recent years thanks to growing per capita income. As a consequence, recognition of the profession and the number of the actuaries began to increase, explained the president. New investments by multinational companies and technological improvements have also helped the profession to gain more importance in Turkey.

According to the 2018 records of the Ministry of Treasury and Finance, there are 347 Actuaries in Turkey, 41 percent of whom are fully qualified and 96 percent of whom work in Turkey - 29 percent in the insurance industry, 27 percent in the consulting fields, 15 percent in public offices, and 8 percent in the universities. A further 11 percent are retired or working in other fields.

'In addition to our representative duties, we are responsible in the actuarial exam committee for improving the quality of our examination process. Furthermore, we organize professionalism courses, conferences and seminars on various actuarial topics attracting both local and foreign attendees. We also contribute to regulation changes and designs,' said Mr Matkap.

'For actuaries in Turkey, one of the biggest challenges is related to

TAYLAN MATKAP is President of the Actuarial Society of Turkey

volatility in the economy.
For an actuary, whose vocation is basically to measure and to manage risk, economic fluctuations and unpredictable, political decisions make it harder. For example, as a result of the 26 percent increase in minimum wage level at the end of 2018, non-life actuaries had to re-analyse their future assumptions considering the fact that above 80 percent of the loss portfolio in insurance companies consists of the people on the minimum wage income,' explained Mr Matkap.

'Furthermore, due to the high inflation rate and the Turkish economy's vulnerability to foreign currencies, not only can actuaries not move in terms of actuarial estimation, but all parties in the sector suffer from an environment of uncertainty. For instance, variable costs affect pricing so it impinges on the customer party,' he added.

However he is optimistic about the benefits of joining the AAE. 'We aim to spread professional awareness and up-to-date practices in the actuarial profession in Turkey and strengthen our ties with other actuarial associations. We want to cooperate with other organizations as long as it supports our members and the profession,' concluded Mr Matkap.

The Actuarial Society of Turkey has jointly hosted the 4th National Insurance and Actuarial Science Congress (USAK) with the Institute of Applied Mathematics at Middle East Technical University on 24th and 25th of June 2019 in Ankara, Turkey. This fourth biennial congress is the only and most prominent nationwide meeting whose first event was initiated by the Ministry of Treasury and Finance in 2013.

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TRANSITIONAL MEASURES AND PHASING-IN TO SOLVENCY II FOR LIFE INSURERS

BY **SIEGBERT BALDAUF**

Business models of insurers in member states of the European Union differ considerably. This became apparent when in an ongoing low interest rate environment the replacement of Solvency I with the risk-based system Solvency II was required. Especially undertakings offering long-term contracts with guaranteed interest rates had to face serious challenges. The market-consistent valuation required by Solvency II resulted in a significant increase of the technical provisions and the Solvency Capital requirement (SCR) if the guaranteed interest rate was higher than that offered risk-free by the market.

Requiring immediate compliance with Solvency II could have necessitated short-term activities like restructuring of asset portfolios or mitigation of risks. Such probable procyclical activities could be associated with negative effects on markets and on the policyholders as well. The transitional measures set out in Articles 308c and 308d of the Directive allowed undertakings a gradual phasing-in to Solvency II. Users can adapt their capital position over a period of 16 years. Close monitoring of this process is mandatory to ensure full compliance with Solvency II in 2032 at the latest.

Thus, careful monitored transitional measures have proved to be a suitable means to facilitate a phasing-in to Solvency II. They strike a balance between the risk resulting from a deferred complying with all requirements of Solvency II and the risk resulting from extensive procyclical activities in the market.

As required by Article 77f of the Directive, the transitional measures will be subject to a review as well. Commission requests EIOPA to assess the 'ongoing appropriateness of the transitional provisions in terms of policyholder protection and a level-playing field'.

SIEGBERT BALDAUF CERA is an independent actuary, and works as Chair of the Solvency II Working Group for AAE.

WHAT HAD NECESSITATED THESE MEASURES?

Solvency I was introduced in 2002 for all EU – countries (remaining applicable for undertakings not subject to Solvency II regulation, esp. smaller entities) as a

SIEGBERT BALDAUF

stopover on the way to a risk-based solvency regime. For life insurance undertakings, the basic requirements had already been part of the Third Life Assurance Directive 1992. Thereby these had become an important issue for the steering of undertakings. Already existing business models, local GAAP specificities, fiscal treatment and contract law shaped the product portfolio.

Insurance business in the particular countries had developed over years. Compliance with the Solvency I requirements was possible without a significant alteration. In some of the Central European Countries, long-term contracts with guaranteed interest rates had been tax-privileged and therefore been favoured by undertakings and policyholders as well.

The interest rates are limited by 60 % of the rate on bond issues by the State in whose currency the contract is denominated. In line with this requirement, member states calculated a national upper bound value for accounting. This was often an upper bound for the guaranteed interest rate offered in products with regular premium payment as well. This guarantee spanned the whole duration of the contract.

While developments in the capital markets led to several adaptations of these interest rates in new business, rates in the portfolio remained unchanged. A portfolio thus can have guaranteed interest rates between even more than 4% and 0%.

Undertakings steering their business compliant with these requirements came increasingly under pressure when the interest environment got worse. Solvency II, requiring a market consistent valuation of assets and liabilities, exacerbated this pressure. Risk-free rates offered by capital markets dropped successively below those interest rates needed to meet the guarantee.

Even where accounting rules had already required undertakings to take precaution (e.g. Belgium, Austria, Germany...) a calculation in line with Solvency II requirements resulted in significantly higher technical provisions, simultaneously driven by the increasing value of options and guarantees.

STOCKTAKING ON 31 DECEMBER 2015:

- Undertakings are adequately capitalized under Solvency I
- Undertakings have started to strengthen reserves to meet the local-GAAP requirements
- Undertakings have to achieve compliance with Solvency II in 2016

Depending on the capital position and the risk-exposure of the undertaking, considerable efforts could be necessary to meet the requirements of Solvency II. Striving for immediate compliance with Solvency II might necessitate short-term increase of own fund, restructuring of asset portfolio or mitigation of risks. To bridge this gap between Solvency I and Solvency II requirements, transitional measures had been introduced via Omnibus II – Directive.

These should prevent procyclical activities and associated negative effects on markets and on policyholders as well. They allowed a planned process and a gradual phasing-in to Solvency II until 2032 the latest. Application is limited to the portfolio already in force on 31 December 2015. New business incepted after 1 January 2016 has to be compliant with Solvency II immediately.

IMPACT OF TRANSITIONALS ON THE CAPITAL POSITION OF UNDERTAKINGS

The transitional measure on the risk-free rate (TRFR) and the transitional measure on the technical provisions (TTP) had not been part of the Solvency II Directive when published in 2009. They had been included as Articles 308c and 308d as part of the Omnibus II – Directive together with other transitional and long-term guarantee (LTG)-measures based on the outcome of an assessment performed in 2013.

Both, TRFR and the TTP aim at full compliance with Solvency II in 2032. Solvency I items are the basis for both measures.

- TRFR starts with an adjustment of the risk-free rate that when applied to the cash flows reproduces the Solvency I technical provisions.
- TTP uses the difference between the Solvency I- and the Solvency II technical provisions. This can be used to adjust the technical provisions at the beginning.

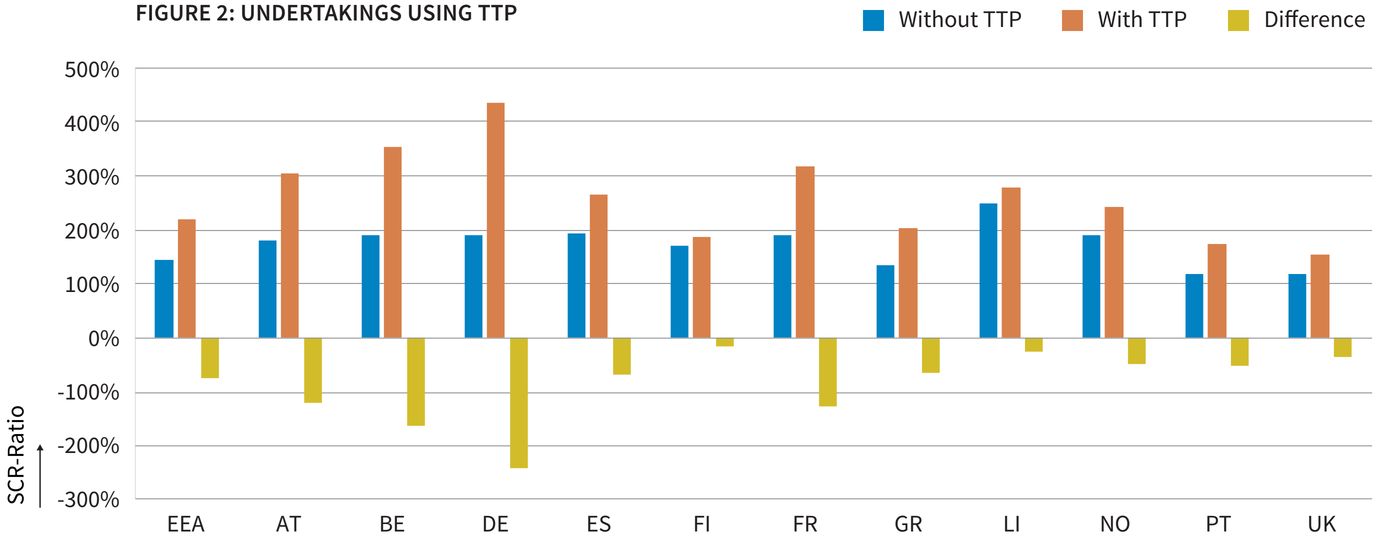
Both beneficial adaptations will gradually be reduced during the transitional period. The duration of 16 years for this period resulted from a political compromise.

The use of transitional measures reflects specificities of the particular insurance market. They are not uniformly used across EU-member states. The TTP has turned out to be the preferred measure. According to EIOPA's LTG – Report 2018, 162 undertakings in 11 countries (predominantly life insurance undertakings) used the TTP. Only seven undertakings in five countries are using the TRFR. Most of these countries are early members of the European Union. (See Figure 1)

FIGURE 1: NUMBER OF UNDERTAKINGS USING THE MEASURES

Type of undertaking	Total number of undertakings	VA	TTP	MA	TRFR	DBER	No measure
Life	596	273	110	20	4	0	293
Non-life	1.620	220	11	0	0	1	1.398
Both life and non-life	402	179	40	13	2	0	213
Reinsurance	294	24	1	1	1	0	271
Total	2.912	696	162	34	7	1	2.175
Number of countries		23	11	2	5	1	

FIGURE 2: UNDERTAKINGS USING TTP



The significant impact on the Solvency ratio is depicted in Figure 2 for the TTP.

CONCERNING THE RISK

Undertakings can make full use of the benefit resulting from the transitional measures in the first year. This initial benefit will gradually be reduced to zero until the end of the transitional period in 2032. The average duration of contracts with long-term interest rate guarantees can be significantly higher than 20 years. After the transitional period of 16 years, these will still constitute a considerable part of the portfolio, now requiring a treatment fully compliant with Solvency II.

Undertakings applying for the use of a transitional measure for their relevant portfolio in force at 31 December 2015 have to demonstrate their ability to achieve full compliance with Solvency II until 2032 the latest. An application is possible even in subsequent years.

Undertakings have to strive for a continuous improvement of their capital position. Supervisory authorities are required to monitor this process to ensure the phasing-in. The companies have to disclose publicly the benefit resulting from the use of a transitional measure in their annual Solvency and Financial Condition Report.

If without this benefit compliance with SCR is not possible, undertakings immediately have to inform the supervisory authority. They have to set out necessary measures to ensure compliance with the SCR in a phasing-in plan. The measures taken and the progress made have to be reported annually to the supervisory authority.

The supervisor has to revoke the approval for the application of the transitional measure if these progress reports show that achieving compliance by the end of the transitional period is unrealistic. A revocation would force the insurer to recover much faster. Consistently applied, these frame conditions and transparency requirements are suitable to strengthen the position of policyholders and to prevent from a misuse of the transitional measures.

A CASE STUDY IN CROSS-BORDER REINSURANCE

INTERVIEW BY **JENNIFER BAKER**

It didn't make international headlines, but on 12 March 2018, a company called CBL Insurance Europe was placed into administration. James Sandow, Associate Consultant at Lane Clark & Peacock, explained why it's a case worth considering.

'The case involved a group called CBL, based in New Zealand. While they had a European subsidiary in Ireland (CBLIE), the company also had connections to at least two other European insurers, Alpha and Elite. Therefore, even though almost all of the liabilities ended up in New Zealand, the problems affected a range of European policy holders, from London cabbies to French homeowners,' he explained.

The case was one of the first major insolvency events under the Solvency II regulations and this means that we can look back at what Solvency II disclosures told us about these companies prior to their failures, and whether the disclosures could have helped see this coming.

'The original aim was to tell the story as much as possible through Solvency II public disclosures alone, but we realised early on that these would not provide anything like the full version of events. In part, this is because of the timing of the SFCRs (Solvency and Financial Condition Reports): the 2016 round of reporting was too early to cover some of these events, but the 2017 reports were not published. We also observed that SFCRs tend to report a relatively *"sanitised"* version of events. For example, the CBLIE SFCR as at 31 December 2016 only obliquely refers to what transpired to be an extensive relationship between CBL and Elite,' explained Mr Sandow.

'The most useful parts of the Pillar III reporting were the Quantitative Reporting Templates (QRTs), typically included as appendices to the SFCRs. These contain hundreds of data points for each insurer, and therefore many thousands of pieces of information across Europe. Using this data, we identified several key metrics to understand where the companies connected to CBL fitted into the *"landscape"* of European insurers,' he continued.

'What became clear was that – with a retrospective steer – these companies did look unusual in some respects. For example, they appeared to have a relatively low counterparty default load in their SCR considering how heavily reinsured they were. This suggested that the capital charge for their reinsurance was potentially low when compared to other companies,' said Mr Sandow.

According to Mr Sandow, the ultimate cause of the insolvencies can be traced back to a large book of French *"decennial"* construction insurance written in varying amounts by all three of the companies involved, and heavily reinsured by all of them back to CBL in New Zealand.

'The event that precipitated the subsequent insolvencies for these companies was the discovery that CBL's reserves were insufficient, leading to a NZD100m reserve hike in February 2017. This clearly had a knock-on effect for the European insurance companies whose balance sheets relied on the recoveries expected from their reinsurance arrangements with CBL,' he explained.

As it stands now, Elite is in a solvent run off; Alpha has been declared in default; CBLIE has been placed in administration; and the New Zealand based CBL corporation, once valued at NZD750m, was placed into liquidation in May 2019.

JAMES SANDOW is Associate Consultant at Lane Clark & Peacock.

The companies involved were divided between Europe and New Zealand, and all three European companies used quota share arrangements to pass back a large proportion of their business to CBL in New Zealand. This complexity was ultimately part of the problem.

'The major issue we identified in these arrangements was concentration risk. Across all three of the European companies, they were very reliant on a single counterparty. It would be very interesting to see a scenario in companies' SFCRs that considers the default of their largest counterparty. In many cases this could be a very unlikely event, however, it would identify companies that would also be potentially vulnerable to the same fate.

'Having said that, it seems that there were a few areas where working across borders (both national and regulatory) did cause issues. For example, it's not clear how quickly the three regulators involved started to communicate, or if they were hampered by regulations on what they could or couldn't discuss. If they'd been able to work together sooner, or more fully, it may have been that some problems could have been avoided,' said Mr Sandow.

'There were also difficulties for the New Zealand regulator trying to manage the administration proceedings for a group with large subsidiaries and creditors on the other side of the world. The New Zealand High Court affidavit reveals they were worried about their powers to stop the transfer of assets away from New Zealand and/or between the European companies involved. For example, despite explicit instructions from the regulator not to do so, the affidavit reveals that CBL transferred €25m to Alpha in February 2018 (this was in part the grounds upon which they sought to put CBL Insurance into liquidation),' he added.

Does this mean that after years fighting tax havens, we now have to fight regulatory havens'

Mr Sandow says this is an interesting question. 'Regulatory havens could arise if there are differences in regulation between jurisdictions, and if it is easy to transfer assets and liabilities (including insurance risk) between the two areas. I'm not sure if we're yet seeing full prudential regulatory convergence across the EU under Solvency II. For example, there was a statement last month from EIOPA raising their concerns over divergences in the calculation of the SCR across European national regulators. Therefore, it seems ambitious to hope for this on an even more international level, across multiple regulatory jurisdictions.'

The CBL story is one example of how easy it is for (in this case) European insurance companies regulated under Solvency II to transfer risk to the other side of the world. 'I don't get the sense that this was an effort to take advantage of any regulatory differences, but the point remains that it seems the capital held by the companies in Europe was insufficient to cope with the strain caused by CBL,' concluded Mr Sandow.

JENNIFER BAKER is a freelance EU Correspondent reporting tech policy, digital rights & Brexit for Euractiv, Euronews, TheNextWeb, IAPP, BBC radio and more.

ACTUARY 2020 - A PROFESSION ON THE MOVE

ESKO KIVISAARI

BY **HENNING WERGEN**

This was the overall theme of the 3rd European Congress of Actuaries held by the Actuarial Association of Europe in conjunction with the Instituto dos Atuários Portugueses and the European Actuarial Academy in Lisbon, Portugal.

With 266 registrants representing 33 different countries from Europe and beyond, the ECA 2019 was very well attended. The congress was already fully booked by the end of the early bird period in February 2019.

GABRIEL BERNARDINO

The ECA 2019 featured a high-ranking congress programme including daily Plenary Sessions with renowned guest speakers from insurance, regulation, related institutions and academia. Invited speakers included Paul Embrechts, Professor Emeritus of (Insurance) Mathematics at the ETH Zurich, Jan-Hendrik Erasmus, CRO NN Group and Chairman of the CRO Forum, Gabriel Bernardino, Chairman of the European Insurance and Occupational Pensions Authority, as well as Darrel Scott, Member of the International Accounting Standards Board. In order to make these valuable sessions available to the public, the Plenary Sessions were broadcast live on the ECA 2019 website and are still available as recordings on **https://www.eca2019.org/live/** free of charge.

Apart from the Plenary Sessions the congress programme featured 36 presentations submitted by experts from the actuarial community as part of the Call for Papers. Selected from a total number of 85 submissions, the presentations covered topics ranging from the application of cutting-edge data science methods, to Solvency II, traditional mortality studies and new ideas for products, plus many more.

In addition to the scientific sessions, this year's ECA also featured opportunities for networking and extending professional and personal contacts. All delegates were invited to spend a special evening in the picturesque vineyards of Quinta da Catralvos on 6 June 2019. The programme included a guided tour through the winery followed by a wine tasting of five locally produced first-class wines and a four course gala dinner. A perfect way to end the first day of the congress.

The full congress programme was broadcast live on the first actuarial streaming platform **www.actuview.com** and is now available as recorded sessions. Additionally, actuview features nine exclusively produced online sessions with speakers who, for capacity reasons, were unable to have a presentation slot in Lisbon.

The ECA 2019 would not have been possible without the support of sponsors. In total, ten companies related to the actuarial profession supported this year's ECA as partners. The ECA 2019 organising committee thanks all of them for their strong commitment. Next to the sponsoring, four sponsors also used the opportunity to exhibit and introduce their company and products to the delegates onsite.

With 266 delegates, 51 speakers, 10 sponsors, 40 presentations and 1 evening event the 3rd European Congress of Actuaries was a full success. The Actuarial Association of Europe thanks all delegates for their participation and invites interested actuaries to also join the ECA 2019 online!

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INTERVIEW

CAREER CHIEF CASTS HIS EYE ON CASES

INTERVIEW BY
JENNIFER BAKER

JEAN-LUC BOURGAULT

After 17 years as NewRe's Chief Underwriting Officer, Jean-Luc Bourgault stepped down last year. He will fully retire, after a transition phase at the end of 2019. As technically he's no longer the CUO, he's in transition. He started his career as a life underwriter at SCOR in Paris and then moved to MMA Re (Covea Group), where he spent 20 years with various underwriting responsibilities in international markets. He joined NewRe in 2000. The European Actuary caught up with him to ask him about some big cases and his advice going forward.

CBL was the first case of insolvency under Solvency II. What was the root cause of these insolvencies?

'Well it's been a while since the CBL case, so I don't recall all the details of the construction because it was quite a complex web of companies. But essentially they entered a business through managing agents which is complex, in construction insurance in France, without really understanding the risk. And relying on third party underwriters who didn't have a good understanding of the risks.'

What are the implications, in particular for reinsurers?

'Actually I'm not sure to what extent reinsurers were involved because CBL itself was retaining a lot of these risks. I think in fact most reinsurers knew that these companies, the CBL companies, were making big mistakes and I don't think they got a lot of reinsurance coverage. I don't think reinsurers have been affected to a great extent - it won't keep them awake at night. I think any professional player in that field would know immediately that this would be bad and lead to very big losses.'

*So what lessons **can** be learned?*

'The problem point was writing a specialty business that they did not understand. In this case it's specialty construction business in France. And they didn't know the market here, they didn't understand it, and essentially wrote the worst risk at very low premium rates.
I think what is unusual in this case is that it took so long for the losses to emerge because this is a very long tail line of business with a very high initial cash flow, because the premium is paid in advance with a coverage up to 10 years. So there is a huge initial cash flow and it takes quite a long time for claims to emerge. If you don't understand how this insurance works, then you can think you're writing profitable business, this is typical of long tail business.'

Who else should review the case?

'Well, It was a problem for the supervisors because it's their role to protect the insurance and they definitely failed in that. It's a problem with supervision in Europe. The supervisors were informed by the insurance players in France that this would lead to a disaster. But because the way supervision is organised in Europe - under the freedom of services in the Solvency II framework - the local French supervisor could not act effectively.

Supervisors in Europe are not exchanging information and working together. This is changing now based on insolvencies such as CBL. The supervisors didn't exchange with their supervisor colleagues in other countries which led them to a wrong interpretation of the Solvency II reports. Fortunately that is now changing, but I think the main lessons here are for the supervisors rather than the market players.'

Most insurers have disclosed their 2017 Solvency and Financial Condition Reports, or in short, SFCR. These are mandatory and public regulatory reports under Solvency II. So what do their disclosures tell us?

'If you use a model without understanding the risks, the model will not tell you anything. In the case of the Solvency II models, whether they are standard models or internal models, if the underlying risk is not well understood then it's wrongly modeled. But if all the insurers and regulators understand the risk underlying the models, then it is working well. Of course [in the CBL case] the insurance companies that wrote the business did not understand the risks, so their Solvency II reporting with their model was wrong and the supervisors, which were not based in the markets where the risks were written, had no clue about this very specific construction risk. So the model didn't tell them anything. The model is as good as good as long as you understand what's the underlying risk. But in general, I think people are getting their models right, especially in the main lines of business like motor and property.'

As you approach retirement, what is the biggest piece of advice you would give to those following in your footsteps?

'We are in the risk business, and I think the key thing is to not lose sight of the basics in underwriting and risk assessment. We tend to make decisions based on sophisticated models, and that's all good, but it's not worth much if you don't understand what's underlying the model. I think the key to success is to really keep to the underwriting basics in a more and more complex environment.'

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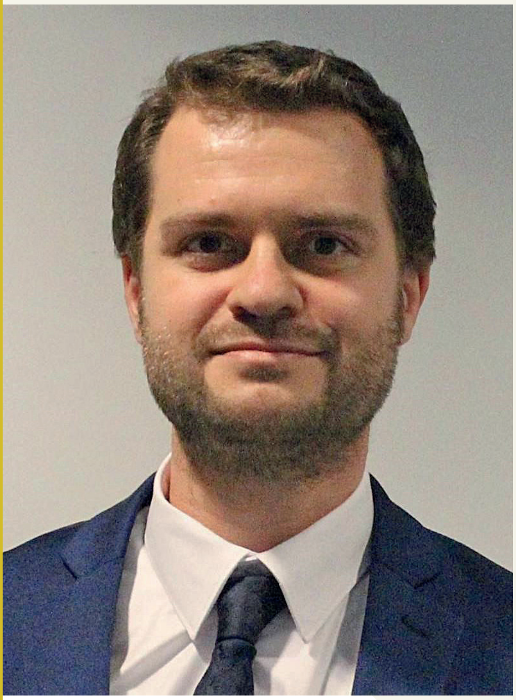
MANAGE YOUR BUSINESS, MANAGE YOUR RISK ADJUSTMENT

BY **JASPER HOOGENSTRAATEN**
AND **SERVAAS HOUBEN**



SERVAAS HOUBEN is Senior Manager at EY Actuaries Netherlands. He studied econometrics in the Netherlands and thereafter worked in Dublin, London and Curacao. Besides actuarial, Servaas completed the CFA and FRM qualifications, and regularly writes for his blog, CFA digest and (actuarial) magazines.

EXECUTIVE SUMMARY

In the new IFRS17 accounting standard a margin is added to best estimate liabilities for non-financial risks, called the risk adjustment. The risk adjustment represents a buffer that compensates insurance undertakings for non-financial risks in their cashflows due to different levels and timing in expected and actual claims and payments.

The risk adjustment concept is based on a similar concept within Solvency II, the risk margin. Contrary to Solvency II, IFRS17 allows insurance companies to use their own judgment to determine the techniques used and the level of risk adjustment. As a result, insurance companies have more freedom to value the risk adjustment based on their own view of the risks involved and their own level of risk aversion and risk preferences. This allows the risk adjustment not only to be a calculation exercise prescribed by regulations, but also a metric which can be actively used to manage risks and the business.

SOLVENCY II LEGACY

In the Solvency II EC Directive 2009 the value of technical provisions is defined as the sum of a best estimate and a risk margin (77.1), and expresses the amount required to take over insurance and reinsurance obligations (77.3) on a transfer basis. The risk margin is defined as the cost of capital a third party incurs for taking over the best estimate liabilities on its balance sheet and is determined as the net present value of the future Solvency Capital Requirement (SCR) and the accessory Cost-of-Capital (CoC). The corresponding CoC rate is set at 6% independent of the solvency position of the selling (re) insurance undertaking. EIOPA's second set of advice outlines the reasons for applying a 6% CoC assumption and mentions that the CoC rate is the same for all insurance and reinsurance undertakings. Furthermore the risk margin is assumed to be 'a long-term average rate, reflecting both periods of stability and periods of stress' therefore avoiding procyclical effects (increase in reserve requirement at times of stress) resulting in a constant rate over time. Although avoiding procyclical effects seems desirable from an undertaking and regulator point of view, it is unclear if this is a realistic perspective from a market based view as during times of stress risk premiums tend to increase.

Considering that the risk margin refers to a buffer required for transferring liabilities to a third party, the assumption of independence of company or country specific circumstances does not seems unreasonable: the value of cash flows from the perspective of the receiving undertaking won't be impacted by either the credit rating or the country of residence of the selling undertaking. However the second set of advice does provide interesting links to studies from finance professor Damodaran showing that CoC rates are industry, country and business cycle dependent.

Although Solvency II can be considered to a market value framework, a fixed 6% CoC rate independent of the economic cycle does not seem to fully reflect changes in economic reality. Moreover it does not reflect a level of risk as perceived by the insurance company itself on a going concern basis.

IFRS17 CHANGES

Fundamentally different from Solvency II, IFRS17 defines the risk adjustment as a compensation the insurance company itself requires for bearing the uncertainty in the timing of cash flows from non-financial risks. Hence the risk adjustment is defined on a going-concern basis and reflects the company's own perspective, not the perspective by a third party on a transfer basis.

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	Solvency II Risk Margin	IFRS 17 Risk Adjustment
Valuation perspective	Transfer to third party	Going concern own entity
Scope	All relevant SCR risks including operational risk and non-hedgeable financial risk	Contract specific non-financial risk only
Valuation method	Cost of capital	Own estimation technique
Stress level	99.5% following SCR	Dependent on company's own degree of risk aversion
CoC rate	6%	Not predefined, can be company specific or other method may apply
Shock type	Unfavourable outcomes	Assess risk aversion to favourable and unfavourable outcomes

IFRS17.B88b mentions that the risk margin reflects the entity's degree of risk aversion (i.e. risk appetite) which results in differentiation between (re)insurance undertakings, for example:

- **Business units:** risk appetite for life, pension and non-life domains might differ;
- **Geographies:** some geographies might be expanding whilst others might be closed book resulting in different levels of risk appetite;
- **Business strategies:** some companies might want to expand in growth times and shrink in recessions while others might have the opposite strategy resulting in the level of risk aversion changing over time depending on business strategy and the economic cycle;
- **Financing**: companies might apply different levels of debt to equity financing (Damodaran), the cost of debt and equity financing might differ per company and financing strategies might change over time depending on the organization life cycle;
- **Risk types:** companies might have other tolerance levels depending on the risk type. Company sensitive risks (e.g. operational risk/reputation risk) may be less desired than other general non-financial risks (morbidity, mortality risk) that follow overall industry and population trends, hence resulting in different levels of risk aversion depending on the risk type.

Compared to the generic Solvency II risk margin, the IFRS 17 risk adjustment is a much more company specific metric. This makes it less likely and convincing that the risk adjustment is the same across the industry. Furthermore IFRS17.B88b mentions that the risk adjustment should reflect 'both favourable and unfavourable outcomes' implying that entities should assess their risk aversion to uncertainty in both positive and negative scenarios.

CONCLUSION

IFRS17 defines the risk adjustment in valuing liabilities as the compensation the insurance company itself requires for bearing the risks of a specific insurance contract and hence forces undertakings to fully understand their level of risk aversion and how this may differ between business lines, geographies and might change over time. We believe that the risk adjustment approach in IFRS17 should stimulate insurance undertakings to appreciate differences in risks, products and financing their business. Instead of a fixed charge specified by regulation, the risk adjustment will respond to management actions and will provide management a tool for better managing their business reflecting actual risk and their own risk appetite. To be able to manage their business accordingly, insurance companies should keep an open mind to the extra level of complexity the risk adjustment requires compared to the current risk margin.

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Damodaran information on weighted average cost of capital:

http://pages.stern.nyu.edu/~adamodar/

http://www.stern.nyu.edu/~adamodar/pc/datasets/wacc.xls (US, similar setup for other geographies)

EIOPA's second set of advice:
https://eiopa.europa.eu/Publications/Consultations/EIOPA-18-075-EIOPA_Second_set_of_Advice_on_SII_DR_Review.pdf

Final CEIOP's advice for Level 2 implementing measures on Solvency II;
technical provisions – article 86 (d) calculation of the risk margin:
https://eiopa.europa.eu/CEIOPS-Archive/Documents/Advices/CEIOPS-L2-Final-Advice-on-TP-Risk-Margin.pdf

Solvency II Directive:
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009L0138-20140523&from=EN

MEETING THE CHALLENGE OF AGEING IN THE EU

BY **MARIA ECONOMOU**

The great advantage of increasing life expectancy is that it is happening slowly and is predictable from afar. As actuaries we seize this advantage and we have the tools and the expertise to ensure how we can become appropriately prepared.

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What happens when working lives extend to 70+ years? What does it take to make this a challenge rather than a condemnation? The lengthening of life is happening right now and all of us will be touched by it. What would be the impact of this in pensions and social security provisions? Would we be able to find our way in an EU which is getting older at a continuing remarkable rate?

As actuaries we are aware of the great advantage of increasing life expectancy; it is happening slowly and it is predictable from afar. So our response on the above could be nothing different from the simple truth: to manage the impact of longevity on pensions we need to seize the advantage of increasing life expectancy and to ensure how we can become appropriately prepared.

The EU is getting older. This is because people are living longer and because there have not been enough births. The population aged from 15 to 64, which accounts for most workers, is projected to fall by 17% for the EU27 as a whole. At about 30 years from now, in 2050, the population structure will go from roughly three working age people per person over 65 to only two. Meanwhile in every European country the

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costs of Health Care and Long–Term Care are projected to rise. The continuous change in family dynamics will lead to the need for a larger proportion of long term care costs to be paid out of public funds.

The pressure to consolidate public finances as fast as possible has forced policy-makers into uncharted waters. A variety of measures have been taken (and are still being taken) to reform pension systems, focusing on financially sustainable pension costs but with the result that in general pension adequacy is compromised. This outcome is enhanced by the fact that careers are becoming less and less linear, with people transiting between different employment statuses.

As actuaries we respond to the above challenges by pointing out what has to be done and indicating how that could be done. In our opinion, in order to manage the impact of longevity we need to:

- Achieve a financially sustainable system;
- Secure pensions adequacy and minimizing risk of poverty;
- Ensure sustainability of Social Security Pensions Promises and
- Communicate these challenges to the public at large.

FROM AN ACTUARIAL PERSPECTIVE

- For achieving a sustainable pension system, it is important that pension costs should be a relatively affordable percentage of GDP and not growing significantly over the long term. Despite the fact that nowhere is it clearly defined what would constitute sustainability it may be implicit that it is not sustainable to have an ever increasing share of national income required to pay pensions. The resilience to ageing of the population could be also faced through some form of sustainability factor or automatic adjustment mechanism at retirement age to offset increasing length of life. Robust funded second and third pillar pension arrangements will contribute as well towards the key policy objective of maintaining the standard of living post-retirement.

- For securing pensions adequacy and minimizing the risk of poverty, it is important to pay a lot of our attention on the social protection of the vulnerable groups. A significant element of social protection for people, such as those on low income, interrupted career or non-standard form of employment, could be achieved through minimum guarantees in the public pension system. Due to the high degree of differentiation between employment statuses, in assessing the current and future adequacy of pensions in terms of level of income, gender, and type and length of career, the distributional effect of different profiles of individuals needs to be considered.
- For ensuring that the Social Security Pensions Promises could be maintained, it is important to develop a statutory requirement for regular actuarial reporting on the finances of social security. In addition, regular actuarial reviews of long-term financial outcomes of social security pension schemes could serve as an essential financial governance tool.

Actuarial modelling approaches and methodologies should be used to project future cash flows and assess the short, medium and long-term impact of pension policies and reforms on adequacy and sustainability of pension system provision in an integrated way. Projections though are not forecasts. Uncertainties surround many aspects of the future, including the outcomes of pension reforms, the development of career and other demographic patterns and economic growth.

With the change in demographics there are challenges not only for our social security systems but also for the ways in which people are served in their financial choices. It is thus of great importance to raise pension awareness. People need effective advice and solutions to save and prepare themselves. Longer lives implicit that the impact of wrong decisions potentially lasts for longer, even if there is time to claw situations back from the edge. This is why emphasis on planning and preparation should be placed as priority. So effort should be made for wide discussions in order to help everybody to understand his/her situation more implicitly and consider his/her options and choices more fully.

As actuaries, with expertise in the quantification and management of long term risks we are confident that with positive planning and action-taking, we can meet the challenge of ageing in the EU looking ahead how a different, exciting new world might be awaiting for us.

THE NEW FACE OF THE ACTUARIAL PROFESSION

A PROJECT OF **THE ACTUARIAL ITALIAN BOARD**

Eight years ago the Actuarial Italian Board embarked on a new project. Its aim: to change the perception of actuaries in the wider world.

The Actuarial Italian Board found that people mainly considered actuaries solely in terms of numbers and technical questions. Actuaries were seen as experts in calculations, but not much else. So, step-by-step, the project was to change this mindset. The first real challenge was to communicate to the world the existence of actuaries as a profession, and then to explain the content and practice of the role.

Within the actuarial world itself, the board organised three significant congresses in recent years, with the aim of changing the perception, approach and mentality of the profession. At the same time, through coordinated communications, the board informed the general public that actuaries are not only experts in terms of calculations or numbers. Above all, actuaries are able to express complicated concepts in

> ***When organisations ask 'how can we evaluate and manage risks?' their number one answer should be to turn to an actuary.***

managerial, planning, governance, etc. terms. They are strategic and able to present the wider view of very complex problems. The goal of the board was to ensure that people, particularly potential clients and institutional interlocutors, understand the very large contribution that actuaries can make in facing these problems.

When organisations ask 'how can we evaluate and manage risks?' their number one answer should be to turn to an actuary.

The project was made up of two steps: Firstly to change the *"face"* of the actuarial profession; the second, an evolution of the first step, to further the concept actuarial competence towards governance and management.

In detail, the first step was to get out the *"shell of the numbers"* - to explain that actuaries are mainly assessors and not calculations experts. Furthermore the board wanted to emphasize that actuaries are not magicians or similar. The actuarial profession is, in fact, a science based on statistics, maths, financial mathematics, economics, probability calculation and many other important factors. So, at the Italian Actuarial Congress in Bologna (2016) the board defined the so-called *"Actuary with a new face"* with the specific goal of opening the minds of actuaries to many other problems, enlarging spaces and perspectives, encouraging them to discuss issues without focusing on formulas and models to explain problems in a simple way.

The second step was launched during the last Congress of Rome in November 2018. As well as continuing communications about the *"Actuary with the new face",* the board proposed to the 1162 participants a new idea and approach: that during the next Italian Actuarial Congress of June 2020 all the actuaries must become Actuary Managers. This was very important news for the Italian Actuaries - almost a surprise - changing completely their perspective.

It was a new challenge for the profession to enlarge its scope and encompass the many diverse questions, aspects and problems facing companies, particularly in governance and management. An example is the actuarial function in Insurance and Pension Fund fields, a role that supports the decision-makers in the governance process. So it is a very broad view, essential for development at higher levels of the profession.

The board's hope is that step-by-step all the Fully Qualified Actuaries enrolled on the official list (so called *"Albo"*) will achieve this goal and the same hope concerns also all the actuaries in the world, because this new mentality is one of the most important missions for the profession and it runs parallel with the improvement of education and training, technical models, disclosure and much more.

THE EUROPEAN CHALLENGE

After the European elections, a new European Parliament will start and the deck will be reshuffled, also for the top EU positions.

In preparation for the next Parliamentary Term, the AAE issued a paper entitled *"Messages of the AAE"* in February 2019. In recent months we have been able to discuss our paper with various Members of the European Parliament (MEP) and also with the European Commission. We will continue our discussions as soon as the new MEPs have settled in after the summer break.

The AAE offers its expertise in this paper. Expertise based on more than a century of experience in the financial sector and now shared by more than 25,000 European actuaries. An interesting feature of using advice from the AAE is simply that it is free. As I wrote in the previous edition of *"The European Actuary"*, the AAE is a voluntary organisation that is happy to give advice and share its knowledge on the European stage. And of course we hope to further promote the actuarial profession with this.

Sustainability and sustainable finance will be an important topic for the next Parliamentary Term. Actuaries support the European agenda to achieve a more sustainable future. We believe that the actuarial profession has a lot to offer in the area of sustainable finance and we will commit ourselves to making a strong contribution in that area.

Another topic that will receive a lot of attention is predictive analytics. The simple fact that it is still necessary to explain that correlation does not imply causality leaves sufficient room for actuarial advice. There will be an enormous need for analytical skills to ensure that the solutions developed are appropriate, both financially and ethically, in the development of artificial intelligence, machine learning, etc. The actuarial profession will be happy to take a leading role in these developments.

Finally, actuarial modelling approaches and methodologies should be used to project future cash flows, and assess the short, medium and long-term effects of reforms of adequacy and sustainability of pension systems in an integrated way.

The fact that the actuarial profession can provide credible advice does not mean the profession can sit back and wait for questions. It requires a pro-active attitude and constant effort to show we can make the difference. That will be the real European challenge.

The full paper is available on the AAE website using this link.

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COLOPHON

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NEXT ISSUE

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EUROPEAN AGENDA

Please check
http://actuary.eu/event-calendar/
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