

Welcome to this edition of the Newsletter of the Institute of Operational Risk. This publication is designed to help keep members and non-members informed of developments within the industry and also within the IOR itself. If you would like further information about any of the issues raised in this newsletter, or have any suggestions about how we can improve the content or design, please do not hesitate to contact the Editorial team at the following address: info@ior-institute.co.uk

Education Programme

Aristotle once said *“the roots of education are bitter but the fruits are sweet.”* As with any large complex programme our education activity has at times been challenging. As we enter spring it's now almost possible to smell the sweet shoots and see what the fruits will be. In February of 2017 we signed contracts with ATHE to acquire the accreditation for our Certificate of Operational Risk Management. This is a critical milestone which will shortly be followed by signing contracts with the supplier of our examination delivery system allowing students to physically sit the exam. Having completed the workbook content and created the supporting independent Award and Operational committees we can now turn our attention to the final delivery activity that will support our soft launch in Spring 2017.

To make sure that we have the appropriate focus on this final step we have recruited a Programme Manager, Lotfi Baccouche. Lotfi brings a wealth of experience and has quickly added extra momentum, ably supported by our programme volunteers. Again the Institute is grateful to our volunteers who freely give of their time on a range of activities. The wider work on professional development is now led by Elena Pykhova as the Director on Council for Education and this too has brought additional focus to our delivery. To those working on the education programme the Institute offers a special thank you as the CORM has the potential to be the game changer for our Institute and the start of further progress on education and other professional development activity. We look forward to the day when students number in their 1,000s.

Next steps are to sign up organisations to take part in the soft launch. If members have an interest in their organisation participating, then please contact ifenn@ior-institute.org. This soft launch aims to validate our new processes and systems prior to scaling up later in 2017.

Membership Benefits

The Institute constantly looks for ways to improve member benefits and to enhance the value of being an Institute member.

Chapters are working on their events programmes for the rest of the year and these will be communicated to you direct via local chapters and via the IOR website. If you are not yet involved in or attending the events organised by local chapters, we would encourage you to either reach out to local chapter committee members or watch for announcements on our website www.ior-institute.org.

If there isn't a local chapter in your region, have you considered setting one up? You can email info@ior-institute.org for guidance.

Over the coming months we will launch the following additional benefits:

- A jobs page where members can access roles posted by organisations and selected recruiters or even lodge your own CV.
- An upgraded payments system which we will pilot in the UK prior to a wider roll out. This will make it easier for members to renew subscriptions and has many of the features of a direct debit.
- We know that members and others who attend events often seek confirmation of attendance so that they benefit from CPD points. A solution is being piloted with 2 chapters to identify the best way of delivering benefit for both attendees and the Institute.

We also continue to negotiate with selected media and conference partners on member discounts. Watch the webpage for details.

Scenario Analysis: Fault Tree Analysis and validation techniques

The author of this article is Michael Grimwade, Executive Director, Operational Risk Management, MUFG Securities EMEA plc. Michael is also a member of the IOR Council. The full article first appeared in Risk Universe and is available in the members area of the website

Based on the recent past and an uncertain future, undertaking Scenario Analysis has never been more important, however, it remains inherently difficult, due to both our natural biases and the complexity of Operational Risk.

I believe that effective Scenario Analysis requires firms to adopt a rigorous scientific approach to both undertaking and validating the results of individual scenarios and also their portfolios of scenarios. The diversity of Operational Risk distributions means that firms should adopt a variety of techniques. In this precis of a longer article published in the February edition of The Risk Universe, I set out some innovative techniques for undertaking and validating scenarios.

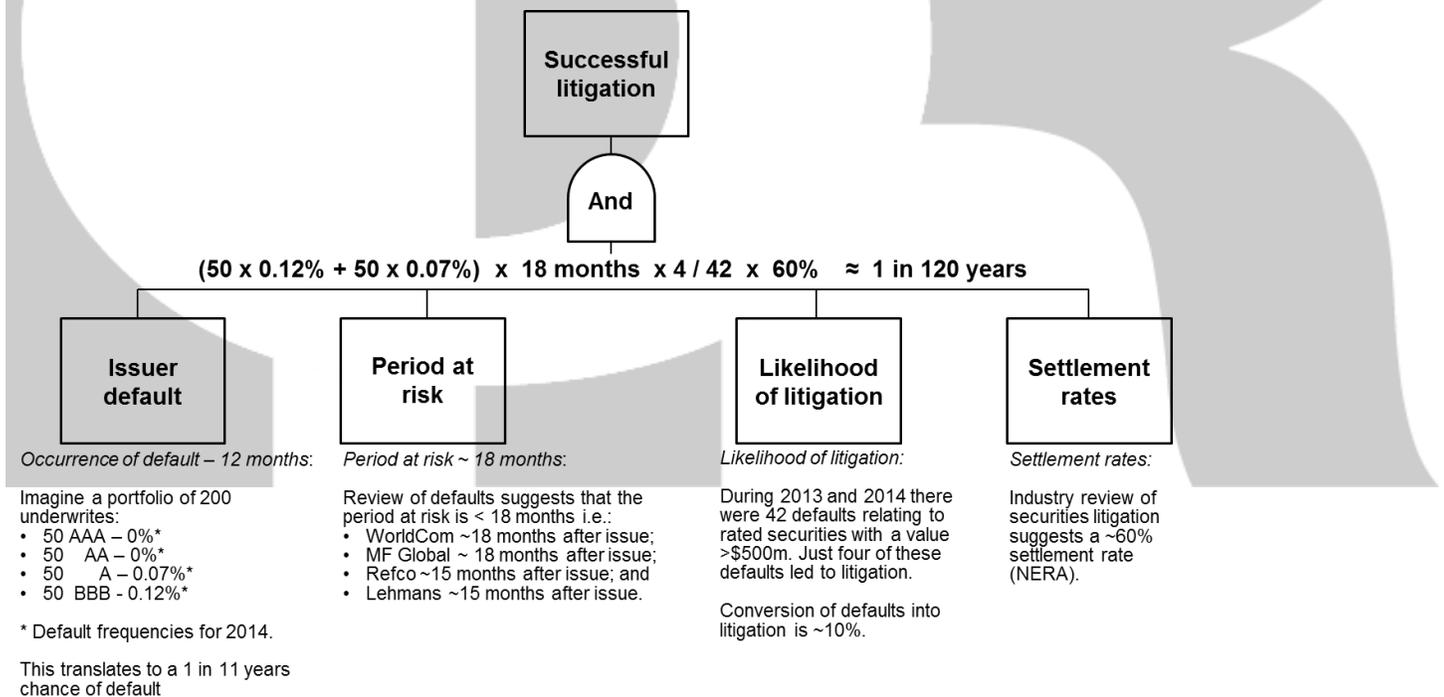
A case study on the use of Fault Tree Analysis

Fault Tree Analysis is a top-down approach for estimating likelihood by combining a sequence of lower-level events i.e. it involves preparing more granular analysis of how losses can occur and the sequence of controls that need to fail and their reliability. In a simplified version, the analysis of the reliability of the controls can be substituted by observed frequencies of failure. In the example below, for the risk of post-underwriting litigation, as occurred following the collapse of WorldCom, the frequency is driven by:

1. The likelihood of issuer default;
2. The duration of exposure;
3. The likelihood of litigation arising; and
4. The likelihood that litigation will be successful.

As Figure 1 demonstrates, each of these four factors can be either internally or externally measured. Several firms use this technique for this specific risk as it is both demonstrably real but too remote to estimate effectively through Expert Judgement. This technique is naturally dynamic i.e. the results change intuitively with business profile (i.e. the volume of underwrites and the riskiness of the issuers) and the point within the credit cycle.

Figure 1: Using Fault Tree Analysis to estimate the likelihood of a post-underwriting litigation¹



Credit Risk techniques can be leveraged to estimate the impacts of this scenario, again using a mixture of own and industry data, as illustrated in the equation below:

Estimating the impacts of post-underwriting litigation using Credit Risk techniques

“Exposure at issuer’s default” X “Loss given issuer’s default” = Scenario impact

Akin to Credit Risk’s Exposure at Default

Akin of Credit Risk’s Loss Given Default

Underwriting position:

- Largest single underwrites;
- Cumulative underwrites for single names in a ~18 month period; and
- Average underwrites etc.

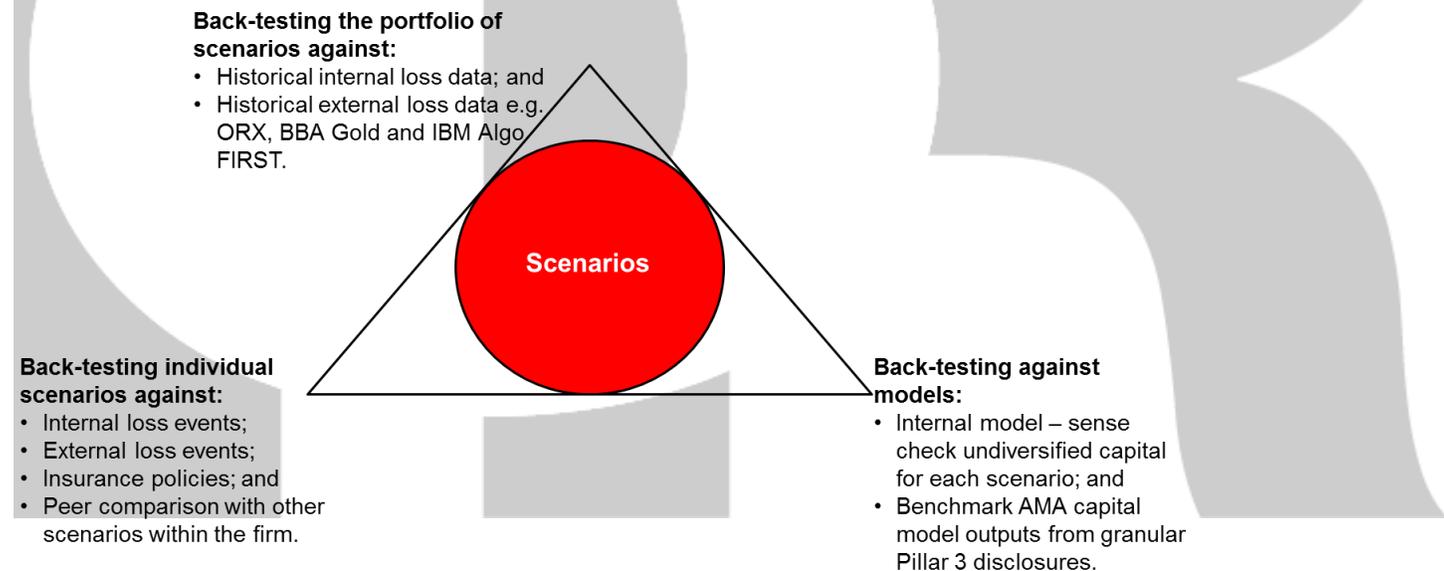
Settlement %:

- WorldCom ~30%; and
- Lehman’s settlements averaged ~11%. (Obtained from the relevant court documents).

Validation techniques

There is no perfect way to validate the outputs of scenarios, hence firms should triangulate between three groups of techniques (see Figure 2).

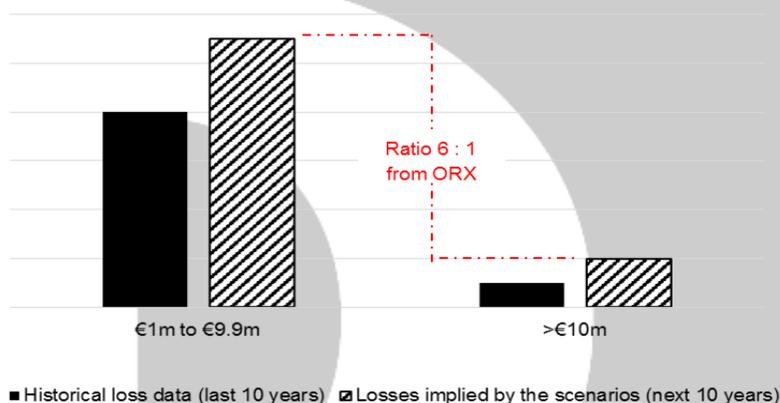
Figure 2: Validation through triangulation¹



Firms can check whether the frequency of large losses implied by their portfolio of scenarios is reasonable through comparison to both benchmark data and their own losses e.g. the 2013 published ORX data indicates that the consortium (then 58 firms) suffered 146 losses > €10million (i.e. $45,090 \times 0.3\%$)². This gives a frequency of 2.3 large losses per firm per year. For larger firms this frequency can be compared to the frequency of the occurrence of large losses implied by their scenarios. The portfolio of scenarios can be similarly back-tested against historical internal losses. Firms can also compare the ratio of losses implied by their scenarios i.e. €1million to €9.9million vs >€10million with both their internal and external loss data (see Figure 3).

ORX members can also assess the reasonableness of individual scenarios through comparison to the frequency of occurrence of large losses (e.g. >€10million) for the ORX consortium for each unit of measure. The impacts of the scenarios can also be compared to the maximum and median values of large loss events. This enables firms to identify potential outliers for further review and challenge.

Figure 3: Back-testing a portfolio of scenarios against both historical internal & external losses¹



The outputs of models for individual scenarios can also be checked against key business metrics to determine the reasonableness of either the scenario and / or the model. The metrics that might be considered include the largest payments; the largest underwrites; the largest ‘fat-finger’ limits etc. Similarly, for insurable risks, scenarios can be compared to the level of cover and the premium, implying the approximate frequency with which the insurer expects to meet a full claim. At a portfolio level, firms can also currently compare the outputs of their Pillar 2 capital models against AMA firms which helpfully report their AMA numbers by business lines.

Through using these techniques and others, firms can get a sense as to the reasonableness of both individual scenarios and their overall portfolio and reduce their susceptibility to the various biases.

Conclusions

If you would like to know more about conducting Scenario Analysis then there is a longer article in the members area of the website, and there is also an IOR Sound Practice Guidance on “*Scenario Analysis, Stress and Reverse Stress Testing*”.

Sources

1. “*Managing Operational Risk: New Insights & Lessons Learnt*”, written by Michael Grimwade and published by RiskBooks; and
2. 2014 ORX report on Operational Risk loss data.

Council and Chapters

On the 24th February members of Council and Local Chapter Heads met to discuss our progress towards our strategic objectives and to continue to strengthen relationships and understanding.

Among the topics discussed were:

- local chapter governance;
- the education programme;
- funding the Institute and chapters; and
- the role of chapters in support of our mission statement.

These were valuable conversations which fully inform Council on chapter needs and allow Local Chapter Heads input into our direction and plans. It was clear that there is still much to discuss and a follow up session is planned to be held before the summer break.

The opportunity was also taken to let chapter heads know that Caroline Tinsley, Director for Chapters has decided to step back from Council. As a volunteer led organisation the Institute is both mindful of and grateful for the time choices that those who give hands-on contributions make. Caroline has recently taken up a new role and wishes to focus on that and her family. We wish her well and Council thanks Caroline for many years of service as a member, Local Chapter Head for Scotland and latterly as Director for Chapters. Caroline will of course continue as a member and we know her insight and input will not be completely lost to the IOR. This offers an opportunity to consider the best model to lead the Council/Chapter relationships and an announcement on the way forward will be made as soon as possible.

Director of Marketing

We are delighted to confirm that Manoj Kulwal has agreed to take up the Director for Marketing role. This is a critical position for Council as we move to the launch of our education programme. Working with the team on Council, Manoj will bring a strategic and linked approach to our activity. His expertise in building brands and on social media will significantly aid our growth opportunities and claim the space we need to fill as an aspiring professional body.

Upcoming Events

Member discounts are available for the following events, see members area of the website for details:

- Risk Minds Insurance (Amsterdam) 13-15th March 2017
- New Generation Operational Risk: Europe (London) 14-15th March 2017
- InfoSecurity Europe (London) 6 – 8 June 2017

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