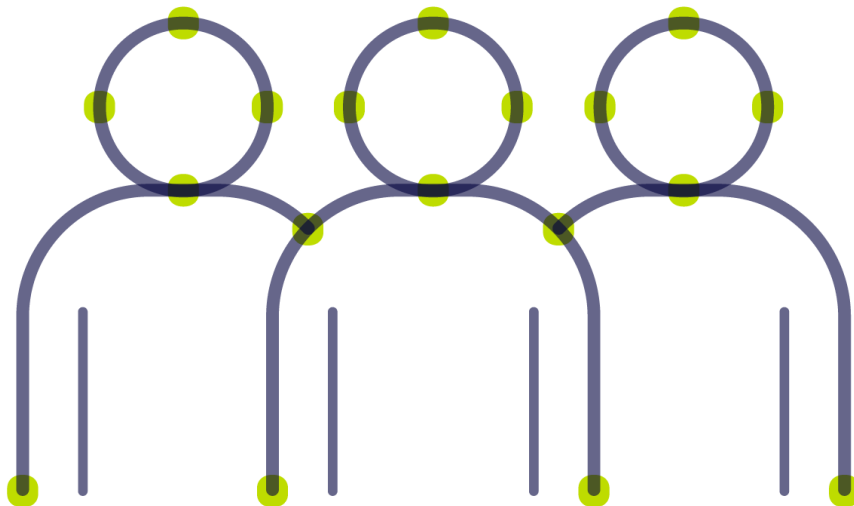


O.R.X Scenarios

Analytics and Scenario Virtual Forum

Summary note

September 2021



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ORX were very pleased to be joined by 120 delegates from around 70 institutions for our 2021 Analytics and Scenario Forum, the second edition to be held virtually. Two days of discussions were held with ORX member firms from across Europe, Africa, and the Americas on 22-23 September, followed by a one-day event that was held for participants in the Asia-Pacific region on 29 September.

The discussions across the three days highlighted the value of scenarios as a tool for addressing a wide range of current challenges facing the industry, such as control enhancement, climate change, and resilience. This note captures the key takeaways from the discussions across the three days, highlighting the value of the scenario toolset in tackling these challenges.

Three routes to maturity in scenario practice: integration, controls, triggers

Firms see scenario practice maturity as requiring greater integration with different components of the risk management framework, increased consideration of the control environment, and a greater use of triggers to prompt scenario assessment.

Synergies in operational risk scenario analysis and wider risk programmes

The first route to maturity in scenario analysis (SA) practice identified during the discussions is increased integration and synergy between SA and other elements of the risk management framework, such as the risk and control assessment (RCA) process, the risk appetite framework, disaster recovery, or resilience.

The growing interconnection between these elements is taking place against the backdrop of the expanding use of scenario analysis for wider risk management purposes, beyond pure regulatory measurement uses – a journey shared by most firms. Work in the RCA and resilience spaces is particularly central to the increasing integration of SA within the wider risk management suite.

In seeking to integrate SA and RCA work, firms see SA as a ‘customer’ or recipient of RCA work in the capital estimation and allocation process. The RCA process supports identification of material risks, which SA then assesses from a forward-looking perspective. Building bridges between the two helps to avoid duplication of effort and to highlight the value added of SA.

There is also widespread recognition that elements of operational risk SA work can be leveraged for resilience (such as the assumptions informing scenario storylines), and vice versa. There is potential for increased alignment, with resilience providing a more holistic view of impacts on business services and helping to better identify critical business processes. The differences between operational risk and resilience scenarios provide an opportunity for mutual learning, with each party capable of providing tools and expertise to enhance scenarios and promote active management of new and material risks (for example, apply learnings from resilience scenario outcomes and/or basing resilience scenarios on relevant existing scenarios).

Incorporating controls into scenario development promotes active risk management

In widening the scope of SA beyond measurement, firms are working to better integrate controls into the scenario development process and to establish how scenario analysis can inform the wider controls framework.

Scenario storylines that incorporate the control environment are seen as more realistic, with over 78 per cent of participants reporting that they consider control effectiveness when developing their scenarios. Firms report that they are considering using (varying degrees of) control effectiveness to determine and adjust the likelihood of a scenario. It was noted, however, that extreme assumptions that need to be made about controls in severe scenarios (such as in the event of the simultaneous failure of multiple controls) tend not to be realistic and are therefore difficult to link back to the current control environment.

In addition, there is a growing consensus that the value of scenario analysis lies in using scenarios to identify risk management follow-up actions. This helps to turn scenarios into an active risk management tool, enabling the 2nd line of defence (2LOD) to better partner with the business. For example, a number of firms reported that where they identify severe control gaps in scenario workshops, these may be reported, documented and tracked through to remediation, while the handling of less severe gaps may be a matter of management discretion based on current priorities and are treated as potential opportunities for improvement.

Using triggers helps to optimise the scenario review process

Trigger-based approaches to SA work are increasingly becoming the norm, with their application largely driven by the search for efficiencies in SA work and by the increased focus on continuous risk management. Their use for assessing changes in material risk exposure is helping to reduce the burden on the 1st line of defence (1LOD), driving optimisation.

Triggers are used to both develop new scenarios and refresh existing scenarios, with firms applying different levels of refresh (for example, none, partial, full). The effect is to change both the frequency with which scenarios are reviewed (with triggers cutting across existing cycles as a reactive tool) and the level of focus in the review process (with some reviews focusing specifically, for example, on a specific impact only or on minor changes in the environment, such as a change in the inflation rate), thereby increasing the level of responsiveness to changes in the risk environment.

Firms also report defining different types of qualitative and quantitative trigger metrics to support the scenario identification process, with nearly two thirds of participants reporting that they use both. However, applying certain metrics (for example, internal risk control, loss event and external triggers) can be cumbersome in the case of some risks. In addition, although the regulatory response has so far been limited, early indications have generally been positive.

Firms accept that there is scope to improve how triggers are used, specifically:

- Further work is required to complete the identification and definition of triggers, and other key elements of the approach
- Greater coordination across different businesses and entities is needed, with some applying different triggers
- Defining and evidencing action on the back of a trigger requires further effort

More work on triggers will be carried out within the Scenarios Working Group (SWG) in the coming months. The focus will be on how to define and implement triggers, and how to follow up on actions arising from them.

An upcoming challenge for scenario experts and modellers: climate change

Driven by growing regulatory and wider stakeholder pressures, climate change has emerged as a top risk concern for financial institutions.

Discussions during the forum highlighted several challenges of particular interest to the industry:

- One of the major challenges around quantification is the variety of impacts and the interdependency with other risks, making it difficult to draw the line between climate-specific physical risk and other traditional physical risks.
- The scarcity of climate-related event data is felt to be the greatest challenge (as confirmed by a poll among participants). Consequently, scenarios are widely seen as having a key role to play as a stress-testing and forward-looking tool in identifying the operational risk elements of losses.
- The lack of relevant data means that validating outputs is cumbersome since back testing is not yet possible, highlighting the need for trust in the models being built.

- Given the longer-term horizon of climate risk compared to other operational risks, a further challenge is the different rates at which risk profiles are changing and the timeframe over which events will manifest.

Presentations

Two excellent presentations were given, providing ideas about how to overcome the lack of data and begin to model climate risk.

In the first, Patrick Naim, risk modelling expert, showed how the use of Structured Scenarios can help measure the impact of climate stress on operational risk. The specific example given related to physical climate risks.

In the second, Michael Grimwade, operational risk managing director, drew on a range of historical examples that highlighted how behavioural change and economic consequences may impact operational risk. These are particularly relevant to transition climate risks, which will have conduct, legal, compliance, and reputational aspects to them.

Future ORX work

To support developments in this area, ORX is working to better understand the impact of climate change on operational risk and to identify common challenges and potential solutions:

- Building on the existing (albeit limited) climate information available across our Loss Data, ORX News, Scenarios Library and Horizon scanning, we aim to support climate risk within the context of specific regulatory requirements (for example, ECB 2022).
- We are looking to expand the scope of ORX News to include relevant events covering both severe weather events and infrastructure failures outside of financial services.
- We will continue our definitional and other work streams with the Definitions Working Group (DWG) and within our climate change discussion group.

Future of operational risk modelling

The simplification of Pillar I regulatory capital through the introduction of the SMA will soon be complete. This signals the end of a modelled approach and replacement by a formula.

Despite this, in a poll asking participants where they expect their capital model to be in 5 years' time, approximately two thirds stated that they anticipate an improvement in scope, level of sophistication, and breadth of use. This is echoed by record participation in [ORX Capital Benchmarking](#) and a high level of interest in a 2022 [Capital Methodology Study](#).

It is clear that current models are being broadly retained with firms relying on what they have built to estimate their regulatory capital to act as a starting point, but this is now being pivoted towards Pillar 2, stress testing, and allocation needs. However, within a less prescriptive environment, we also heard that many see this as an opportunity to innovate their model.

Some of the ideas discussed included:

- Using a wider set of data, especially other inputs (for example, KRI, RCSA data) that contribute to severity and frequency modelling.
- Taking a P&L view of loss data, where losses spanning a period are not simply wholly accounted for at the earliest date of recognition. This may correspondingly lead to the inclusion of serial correlation within the model.
- Interest in factor models (see [ORX Exploring risk exposure methodologies study](#)) that model loss based on the factors that contribute to exposure to a risk.

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There is also growing interest in models that align better with risk management through, for example, correspondence between modelling units and risk management, and the introduction of a time dependency element to make models more risk sensitive. Members are keen to adopt a more sophisticated approach to frequency as a way of making modelling less static and more responsive to real-world conditions.

Next steps for ORX

The discussions held at the forum will directly inform future workstreams within ORX in a number of areas:

- The Scenarios Working Group (SWG) will continue to focus on trigger-based approaches to scenario work.
- An additional focus for the SWG will be climate risk (alongside the climate-related work of the Definitions Working Group). A key output here will be a Climate Risk [Development Handbook](#) for scenario practitioners.
- Work in the analytics space will focus, in particular, on how the industry is developing operational risk models for economic capital purposes.

ORX would like to thank all participants for their attendance and contribution on the day. Materials from the sessions can be found on the [event webpage](#) and the [ORX member website](#).

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