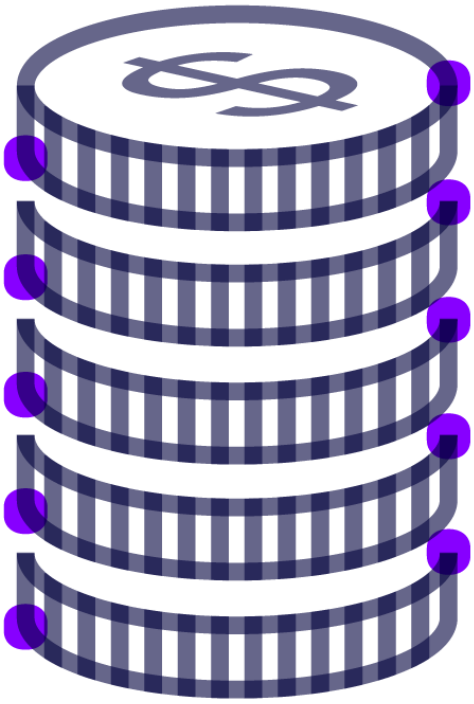
O.R.X

CCAR benchmark 2017

Report summary

January 2018



About this report

This report summarises some of the key findings of the CCAR benchmark 2017, which is an annual study conducted in collaboration with ORX member and non-member firms.

The objective of this study was to provide participants with a benchmark of their CCAR operational risk modelling methods and outputs. In comparison to previous years, this study also went into more detail regarding certain topics, such as material risk identification processes.

To learn more about how to sign up to the CCAR benchmark 2018, please see page 4 of this report.

Executive summary

The Comprehensive Capital Analysis and Review (CCAR) was initiated in 2009, yet continues to be a challenging assessment for firms due to the continuously evolving regulatory requirements.

This was reflected in the results of this benchmark, which collected information on submission ratios, forecasting inputs, modelling approaches, material risks, validation processes and top challenges.

SME inputs based on scenarios and historical data increasingly chosen over modelled input

The inputs used for forecasting show a distinct move away from models and towards the use of subject matter expert (SME) input, especially based on scenarios but also using historical data. While this trend is more distinct among "large and complex" (SR 15-18) firms, several "large and non-complex" (SR-15-19) firms also stated they expect to make more use of scenario-based SME input going forward.

In fact, SME input and business judgement are increasingly relied upon throughout the entire CCAR process, year on year. Three quarters of surveyed firms use SME input and regression in parallel, indicating that qualitative inputs help guide quantitative modelling approaches. The use of intuitive processes continues through the selection process.

Most firms indicated they rely upon SME input and business intuition to select models from the variable pool. They also use it to guide validation and challenge efforts, create scenarios, quantify legal and idiosyncratic losses, and guide the firm through the attestation process.

The importance of scenario analysis and risk identification programs are growing

Although it is not required of all bank holding companies (BHCs), firms are usually incorporating scenario analysis and idiosyncratic events into their submissions to capture losses that are not covered by other modelling. This is driven by the need to identify and quantify risks which are material to the BHC. From this comes risk identification programs and linkage to risk taxonomies – two practices which are being employed by the majority of firms.

Firms increasingly establish their own risk taxonomies

Most of the firms surveyed stated that they link their risks to taxonomies. Furthermore, an increasing number of firms are establishing risk taxonomies to map their material risks to. This was reflected in the findings of this report, although mapping material risks identified for CCAR to a newly established risk taxonomy was also found to be a challenging process by at least one firm.

The modelling and forecasting process remains the key challenge

The top challenges experienced by the BHCs undergoing CCAR show an appreciable amount of commonality between SR 15-18 and SR 15-19 firms, with the majority of difficulties relating to the modelling and forecasting process. Firms especially struggled with finding the right qualitative and quantitative balance; the use and integration of scenarios into the submissions; the sensitivity around legal issues; and providing the right documentation to support the findings.

Three other areas that were found challenging included: material risks and their identification; data and data governance; and the timing of and regulatory guidance for CCAR.

Forecasting and analysis

Forecasting

As part of this study, participants were asked to estimate the proportion of their forecasts that was contributed by models, SME input based on scenarios and SME input relying on historical averages. The method choices show that, in 2017, SR 15-18 firms were moving away from the use of modelled input in comparison to other inputs, specifically in the adverse and severely adverse supervisory scenarios. At the same time, the use of scenario-based SME input increased in all three supervisory scenarios.

The forecasting methods chosen by SR 15-19 firms emphasize the difference between the two groups. SR 15-19 firms rely more heavily on modelled input, followed by SME input based on historical data. In fact, there was a considerable increase in the median use of models for the baseline supervisory scenario in 2017.

The median use of models decreased in the adverse and severely adverse scenarios, but the survey results indicate that a number of SR 15-19 firms continue to rely strongly on this input.

Modelling

Firms rely on various modelling approaches to yield the loss forecast for submissions. Loss forecasting methodologies are based primarily upon the use of both regression and SME input, although a few firms use structural models and a loss distribution approach (LDA) as well. The process of selecting which models to include into the submission is a mixture of quantitative and qualitative approaches. The average firm selects models from the variable pool to represent the appropriate risks; this is where business intuition and the expertise from SMEs takes on a more prominent role.

Both internal and external losses are used in forecasting

Of the population of responses, 89 per cent said they rely on internal loss data for their projections or supervisory scenarios. When asked about the use of external loss data for the same purpose, 58 per cent responded that they used external data.

Models are selected using an intuitive process with input from the business and SME's to select from the variable pool.

The BHC scenario selection process is varied. Most firms stated that there is a specific governance process, as well as selection criteria, which are executed by financial departments in partnership with risk experts. Through this process, macroeconomic variables are selected which can be used to adequately represent the risks which are idiosyncratic to the firm.

Macroeconomic factor linkage to operational losses were identified by 83 per cent of the firms surveyed.

Idiosyncratic events

These events differ from a typical scenario analysis event, in that they are generally on a wider scale, and specific to the individual firm. Submissions generally require that firms account for all their identified top material risks. The inclusion of an idiosyncratic event can achieve this condition.

Idiosyncratic risks are usually incorporated into CCAR submissions, although they may not be required.

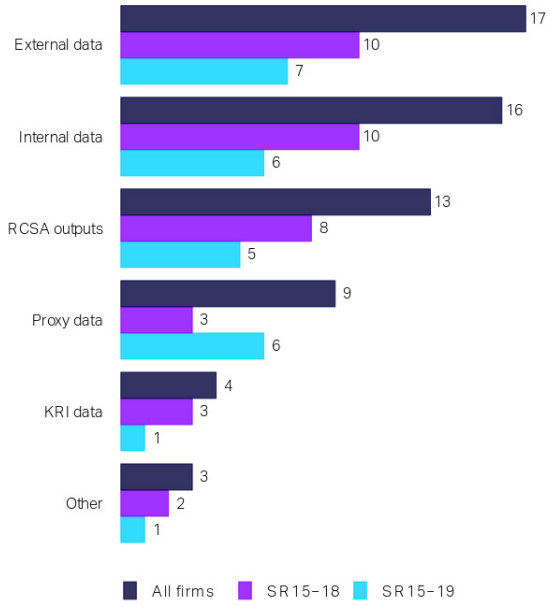
Scenario analysis

Results from scenario analysis exercises are included in CCAR submissions across the board, even for firms who are not required to do so. Scenarios can be used as an overlay to current modelling techniques to account for material risks to the bank which are not well captured elsewhere.

Internal and external data, along with RCSA outputs, are the primary supports for quantified scenarios

Although there are several sources of information which can be used to support the quantified outputs from scenarios, the use of internal and external data, along with risk control self-assessment (RCSA) outputs, were relied upon more frequently (figure 1). In fact, this is an area where the use of external data has risen.

Figure 1. Data used to support the quantified impact from scenario analysis



Legal losses

Legal reserves and specific legal losses are most commonly used to support the forecast of future legal losses. However, the use of a model and historical averages is also often present in this process. Legal losses are made up of several components, and the majority of firms decided to split them into distinct categories, such as fines and penalties and restitution.

Risk identification

Most firms include all their material operational risks for inclusion into their CCAR submissions. To successfully identify risks and put them into appropriate categories, some sort of process to identify risks should be established.

Levels of involvement in the risk identification process

The levels of the business involved in the risk identification process shows a deep interaction throughout the firm. The process of identifying material risks indicates the highest level of involvement is from the 1st line of defence (LoD), with the 2nd LoD (group risk) closely behind. Other areas of the business that are heavily involved in the process include: finance, compliance, and legal, with a few firms showing audit groups participating as well.

Once material risks have been identified, there is a shift in the level of engagement from different areas of the firm when material risks go through the review process. Risk functions in second LoD move to the front, while the first LoD moves down and is involved at the same level as finance, compliance and legal.

Finally, after the review process is completed, material risks are ready for the attestation process, which moves back primarily into the hands of the first and second LoDs, with support and involvement from the other areas of the business.

Validation

The majority of firms found that the validation of qualitative aspects was less rigorous than the validation of quantitative aspects.

Firms relied largely on process validation during the challenge phase of their analysis results, followed by challenge models and (external data) benchmarks.

Some participants involved up to four different functions or parties in the validation of the modelling elements, but a number of firms stated they relied solely on model validators. Several SR 15-19 firms also included model development or group operational risk. Some SR 15-18 firms included a wider number of parties, including independent teams and audit functions. Group operational risk and independent parties were more often part of the validation process of non-modelling elements.

Top challenges

The top challenges faced by firms undergoing CCAR fall into four broad categories (figure 2).

Figure 2. Key challenges

Modelling and forecasting processes

- Qualitative/quantitative balance
- Sensitivity of legal issues
- Use of scenarios
- Providing the right documentation

Material risks

- Finding a sensible relationship to macroeconomic drivers
- Establishing a risk identification process
- Avoiding double-counting
- Finding business partner support

Data and data governance

- Quality and granularity
- Modelling below the loss threshold
- Data governance
- Linkage to internal risk taxonomy

Timing and regulatory guidance

- Time pressure
- Extent of regulatory guidance
- Implementing regulatory feedback by next CCAR cycle

Sign up to the CCAR benchmark 2018

This report is the outcome of an annual benchmark ORX has conducted for several years. The next CCAR benchmark will begin in July 2018.

Participating firms will receive a comprehensive project report and individualized factsheets benchmarking some of their responses to key questions to those of their peers.

To sign up, please contact **support@orx.org.**

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www.orx.org
+44 (0)1225 904 397

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We work closely with over 90 Member firms to develop a deeper understanding of the discipline and practical tools. We set the agenda, maintain industry standards, and garner fresh insights.

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Authors

Annika Westphal
Research Analyst
annika.westphal@orx.org

Sarah Reed
Research Manager
sarah.reed@orx.org