Bank of England stress tests: Unfinished business

November 2016

The Authors

Rob Konowalchuk

Ram Ananth

Abstract

The Bank of England ('BoE') has published the results of the annual concurrent stress test confirming that, in aggregate, the UK banking system is sufficiently capitalised to withstand a severe stress. However, consistent with previous years, the regulator has been clear: there is more work to do for banks to have a sufficiently robust stress testing process; especially given the plans for an additional scenario to cope with next year.

In this briefing, we provide our analysis of the quantitative and qualitative results and our perspective on ways in which banks can up their stress testing game in both the short and longer terms to improve efficiency and derive business benefit from this costly regulatory exercise.

Highlights of this year's stress test

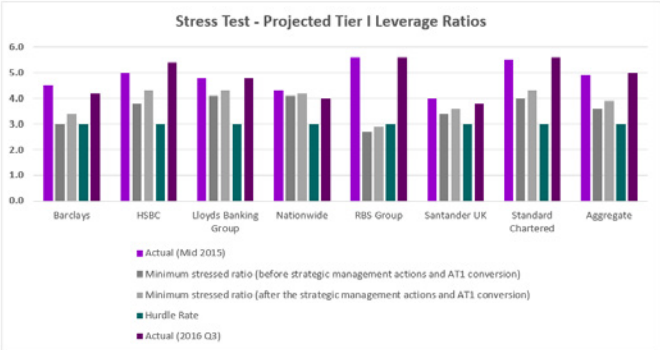
- First time using the Annual Cyclical Scenario framework signposted in October 2015.
- First time using the enhanced hurdle rate framework incorporating minimum requirements, pillar 2A and systemic risk buffers.
- More severe scenario than the 2007/8 crisis and prior year stress tests.
- Significant conduct risk element factored in.
- Aggregate CET1 dropped from 12.6% at the end of 2015 to a low point of 8.8% (after AT1 conversion which has not been triggered in previous tests) projected at the end of 2017.
- Four out of seven participants did not exhibit capital inadequacies; two banks did not meet CET1 hurdles (one of which submitted a revised capital plan); and one met CET1 and leverage hurdles but not its total T1 requirement including Pillar 2A.
- There is plenty more work to do around models, review and challenge and data quality.
- The bar keeps rising in terms of quality expectations and the nature of the test, but more guidance is coming.

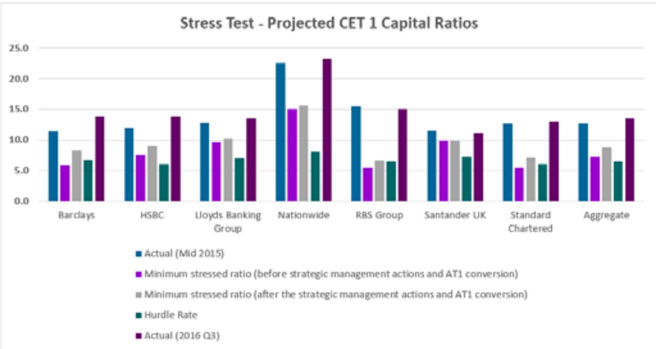
The overall results

Three years in, and stress testing is well and truly part of the furniture at the BoE. The scenarios keep evolving, as do the regulator's expectations on the quality of the process. This year was no different. The scenario was more severe and the BoE continued to be a tough marker when it comes to the rigour of banks' approaches.

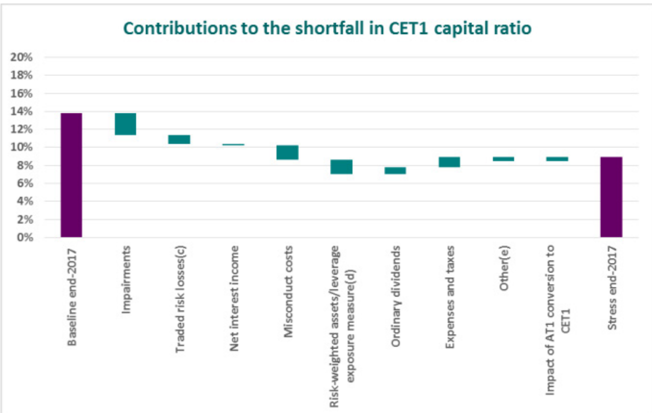
The quantitative results

The centrepiece of the results is the aggregate impact on CET1 and the leverage ratio, comparing the starting point to the minimum stressed ratios before and after the impact of strategic management actions. This is presented below along with other reference points including the 2016 hurdle rates, the low point of the 2015 and 2014 stress tests. The low point of the 2016 EBA stress test (which, while interesting, is not a like-for-like comparison as it only relevant to four of the seven banks and includes the rest of the 51 EU banks subject to that stress test).





More detailed analysis of the results shows the component parts of the difference between the base scenario results and the stress scenario results as forecast at the end of 2017. This is depicted below.



There are two major points evident in these results: 1) the banking system in the UK is becoming more resilient; and 2) the material drivers of the stressed results continue to be credit losses, trading book losses, RWA increases and net interest income (while the net impact looks negligible, the gross impact on interest revenue and expense is material given the interest rate shocks inherent in the scenario).

What is not evident in the numerical results themselves is that this outcome is far from a precise measure. As always, a significant amount of judgement goes into the forecasting approaches (modelled and non-modelled) so the results carry a great deal of uncertainty.

For the above reasons, banks and regulators care as much about the quality of the process leading to the results as they do the results themselves.

The qualitative results

As with previous exercises, the BoE remains highly interested in the quality of banks' stress testing process given its importance to risk management and capital planning. Previous BoE feedback to the industry has focused on areas such as board level governance, data quality and management, documentation of judgements and assumptions, and model development and management.

This year, the BoE has noted some improvements and some areas still requiring enhancements, and has made the overall statement that it is disappointed in the progress made.

- The area getting the most attention is model development and model management. Banks have been investing heavily in this area over the years but this has not gone far enough in the BoE's view.
- Specifically the BoE thinks that progress has slowed in the development of the more mature forecasting models, such as credit risk; and nowhere near enough progress has been made on developing more mathematically robust techniques for forecasting revenue and costs.
- Furthermore, independent validation of stress testing models remains inconsistent and in some cases incomplete – a long-standing industry issue that appears unresolved still, in the BoE's view.
- Given the extent of judgement inherent in stress testing – in both modelled and non-modelled components – review and challenge of results is clearly important. While the BoE seems satisfied with how the level of board engagement has evolved over three years, their focus on lower level review and challenge has left them wanting to an extent. In their view, this is sometimes insufficiently formal, consistent and robust.
- Finally, while the BoE notes significant improvement in data quality, there remain some pockets of data that require a quality uplift supported by enhanced data management – traded risk and liquidity projections.

More guidance is coming…

Over the course of the three annual concurrent stress tests conducted by the BoE, banks have been investing in upgrading their stress testing processes informed by their own ambitions and self-assessments and the specific feedback provided by the BoE. However, there has been no published definition of the UK regulator's detailed expectations about banks' stress testing processes. It is clear that the bar has been rising, but exactly where that bar is and what it means has heretofore been somewhat vague.

The BoE has said in their 30 November results publication that they intend to publish guidance on their expectations as they relate to model development and management – a key area that has drawn criticism in the past and this year. This is a very welcome change for banks because it will enable:

- A clearer path and plan towards remediation and further development;
- Prioritisation of enhancement efforts with on-going resource constraints;
- A more precise estimate of effort required and associated investment costs; and
- An ability to articulate to budget-holders and boards the clear case for this investment, amidst many other competing demands for spending on mandatory change.

What's next?

The BoE continue to invest in its own capabilities and evolve their approach.

- This year was the first time the BoE employed its Annual Cyclical Scenario ('ACS') approach.
- A newly developed feedback and amplification model was developed to estimate contagion effects in the financial system.
- While the Firm Data Submission Framework ('FDSF') has been in use for all three stress tests, the BoE has now published its core data set that represents a more stable set of data specifications, definitions and formats. A welcome development for banks that have spent considerable effort adapting their systems and processes to this evolving framework.

This regulatory stress test will continue to evolve, however, as clearly signposted by the BoE. Below is a summary and our view on the potential impact on banks.

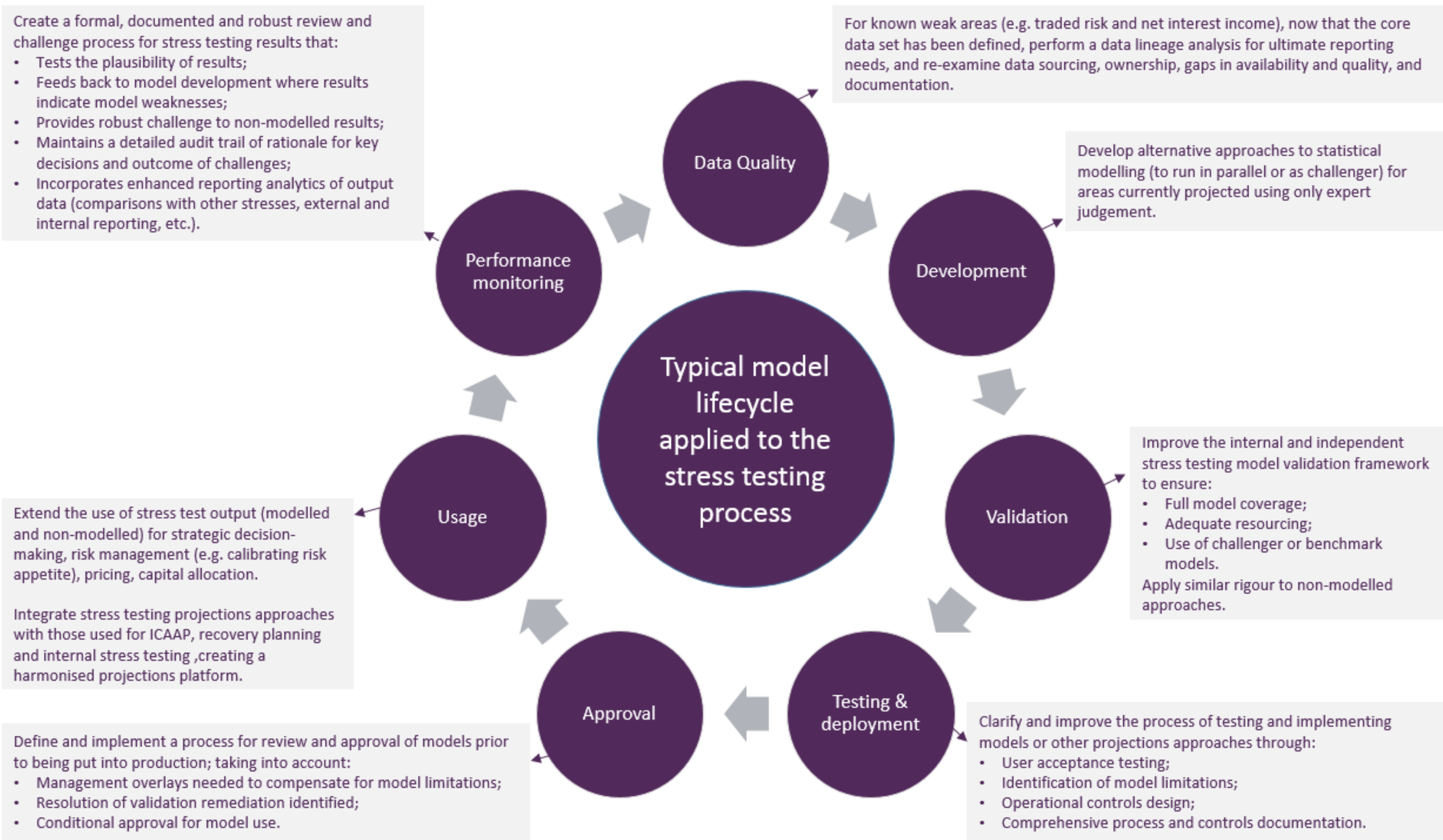
Development	Potential impact
The biennial exploratory scenario next year will apply to all seven firms and will: • Not be more severe than the ACS; • Have a longer time horizon (7 years); • Focus more on qualitative aspects including business model impact and management actions; and • Require less data to be submitted.	Firstly, conducting the single stress scenario exercise remains a long and cumbersome process. Adding a second scenario – albeit less data intensive – will challenge the bandwidth of stress testing and supporting teams. The characteristics of the exploratory scenario means that: • Banks' ability to conduct longer range planning with greater uncertainty will be tested; and • Processes for setting assumptions, making judgments and estimates will be even more heavily scrutinised as this will form the basis of the analysis (rather than models).
The BoE will build on its initial development of a contagion model for use in producing/adjusting banks stress testing results.	While the impact of the modelled contagion from the inter-bank lending market was negligible this year, further modelling of systemic risks and contagion may be more significant in the future, causing a bigger dent in stressed capital and leverage projections – further testing banks' resilience.
Continued use of the ACS approach enabling banks to anticipate counter-cyclical aspects of future scenarios and adapt capital plans accordingly.	This is an added layer of complexity on banks' economic forecasting processes that must feed into capital planning. The ability to anticipate the nature of stress scenarios, whilst necessitating greater analysis, gives banks more information with which to develop its forecasting techniques (assumption setting, models and other quantitative techniques).
Finalisation of the core stress testing data set	The absence of a stable platform for stress testing data requirements has caused reluctance within banks to spend on upgrading data architecture and reporting systems infrastructure. Banks can now advance plans for these systems enhancements. This suggestion by the BoE's implies strongly that they feel banks have some way to go to improve in this area, in line with BCBS 239 and the rising bar on data quality. The challenge for banks is in designing and/or refining their strategic data and systems solution given the multitude of other reporting requirements which continue to evolve (which are not necessarily consistent with FDSF).

In addition to the specific changes that lie ahead for the BoE stress test, there are other developments in prudential regulation that will affect banks' stress testing capability requirements:

- The BoE has made clear that it intends to use this stress test to evaluate the need for and magnitude of banks' capital buffers. It will do this in conjunction with other relevant information provided by banks, including ICAAP and recovery planning submissions. This underscores the need to have a holistic capital management process that integrates these processes.
- Structural reform and regulators' focus on legal entity solvency and resolvability will place an additional strain on banks' stress testing capacity as they begin to produce legal entity specific stress tests. This will pose challenges from a systems and data as well as people and resources perspective.

Where should banks focus?

The BoE's qualitative review focuses heavily on model development and management. But their comments on review and challenge and data quality are closely linked to this topic. We believe that a broad analysis of the concepts within a typical model life cycle, but applied to the broader set of stress testing projections processes – not just models – is an effective way at looking at defining and prioritising enhancements.



Overarching all of the above elements is technology. There is a multitude of platform options to consider and many banks are already investing in some of them, with the aim of automating large parts of the process to gain efficiency and reduce the operational risk of manual intervention. Many parts of the stress testing process would benefit from automation including: scenario analysis, data management, models, reporting and analytics.

There is no one-size-fits-all target technological architecture. Some banks are content with a selected modular approach to adopting technology (e.g. reporting platform and certain high risk models); whereas others are exploring and implementing more holistic enterprise planning management ('EPM') solutions that integrate much or all of the stress testing and business planning process.

Conclusion

Of course, this investment is not just to get the regulator off your back. There are clear benefits that some leading banks are already starting to achieve:

- Automation and streamlining reduces costs, strain on people and frees time up to perform deeper analysis and more value-adding activities.
- Ultimately stress testing is a tool to manage risk and test whether the bank's plans are able to withstand adverse shocks. Having a process that is reliable, efficient and integrated into finance and risk processes will enable banks to use its output to make strategic decisions and manage and price risk more appropriately.
- Stress testing brings together front office, finance, treasury/ALM and risk disciplines. It is an exercise that, if done right, can foster greater levels of collaboration and coordination between these functions.
- Firms that successfully address the enhancements outlined by the regulator – and beyond – will be well placed to not only achieve compliance but derive maximum business benefit and a crucial competitive advantage

Contacts

Avantage Reply (Amsterdam)

The Atrium | Strawinskylaan 3051
1077 ZX Amsterdam
Netherlands
Tel: +31 (0) 20 301 2123
E-mail: avantage@reply.com

Avantage Reply (Brussels)

5, rue du Congrès/Congresstraat
1000 Brussels
Belgium
Tel: +32 (0) 2 88 00 32 0
E-mail: avantage@reply.com

Avantage Reply (London)

38 Grosvenor Gardens
London SW1W 0EB
United Kingdom
Tel: +44 (0) 207 730 6000
E-mail: avantage@reply.com

Avantage Reply (Luxembourg)

46a, avenue J.F. Kennedy
1855 Luxembourg
Luxembourg
Tel: +352 26 00 52 64
E-mail: avantage@reply.com

Avantage Reply (Milan)

Via Castellanza, 11
20151 Milano
Italy
Tel: +39 02 535761
E-mail: avantage@reply.it

Avantage Reply (Paris)

3 Rue du Faubourg Saint-Honoré
75008 Paris
France
Tel: +33 (0) 1 71 24 12 25
E-mail: avantage@reply.com

Avantage Reply (Rome)

V.le Regina Margherita, 8
00198 Roma
Italy
Tel: +39 06 844341
E-mail: avantage@reply.it

Avantage Reply (Turin)

Via Cardinale Massaia, 83
10147 Torino
Italy
Tel: +39 011 29101
E-mail: avantage@reply.it

Xuccess Reply (Berlin)

Mauerstrasse 79
10117 Berlin
Germany
Tel: +49 (30) 443 232-80
E-mails: xuccess@reply.de

Xuccess Reply (Frankfurt)

Hahnstrasse 68-70
60528 Frankfurt am Main
Germany
Tel: +49 (0) 69 669 643-25
E-mail: xuccess@reply.de

Xuccess Reply (Hamburg)

Brook 1
20457 Hamburg
Germany
Tel: +49 (40) 890 0988-0
E-mail: xuccess@reply.de

Xuccess Reply (Munich)

Arnulfstrasse 27
80335 München
Germany
Tel: +49 (0) 89 - 411142-0
E-mail: xuccess@reply.de