

## Effectiveness of stress testing framework and its implementation

Since the first concurrent stress test in 2014, banks have made substantial improvements to their stress testing frameworks. In relation to the annual cyclical scenario (ACS), banks have improved the governance, execution and delivery and the management of data. Banks generally have comprehensive review and challenge processes for the ACS and have made considerable improvements to the submission of data to the Bank. However, to date, banks' improvements have largely focused on the ACS and could be extended to enhance internal stress testing capabilities.

In the 2019 stress test qualitative review, the Bank has used the BCBS stress testing principles as a framework to assess banks' stress testing capabilities, and how these support risk management and capital planning, for both the ACS and internal stress testing activities such as those conducted as part of the ICAAPs. BCBS stress testing principles,<sup>1</sup> updated in 2018, are guidelines to banks and cover sound stress testing practices that focus on the core elements of stress testing frameworks, such as the objectives, governance, policies, processes, methodology, resources, and documentation that guide activities and facilitate their use, implementation and oversight. In particular, the Basel committee considers that banks should embed stress testing as a critical component of sound risk management.

Bank staff reviewed banks' self-assessment against the Basel principles and other supporting evidence. Bank staff also considered the outcome of other supervisory work undertaken such as an assessment of the implementation of BCBS 239 principles<sup>2</sup> (on effective risk data aggregation and risk reporting). The findings from the review are:

*Principle 1 and 2:* Most banks have defined and articulated their stress testing objectives, and associated processes and governance structures. Banks with stronger practices have targeted objectives that are closely linked to their risk management frameworks and follow processes and governance that are appropriate to the nature of the stress test being undertaken.

*Principle 3:* In general, banks use stress testing including the ACS, to assess the adequacy of capital resources in a stress scenario, and also to calibrate risk appetite and limits. Banks could further embed stress testing in their planning and business as usual risk management capabilities. In particular, banks should consider how best to identify insights from stress test results and use those insights more systematically and consistently in business planning and risk management. Banks could use stress testing to review strategic and business decisions, identify business vulnerabilities and inform key decisions on the future direction and management of the bank. Stress testing results could also be used, where appropriate, to support financial and capital planning, contingency planning, recovery and resolution planning, portfolio management and new trade/product approval processes.

*Principle 4:* Banks capture some relevant risks in their internal scenario but improvements are needed to ensure that risk identification processes comprehensively capture these risks and feed into the design of internal stress scenarios. Banks should consider enhancing their abilities to conduct stress tests at various levels of the organisation and of varying severity to gain insights into risks associated with their business model.

*Principle 5 and 6:* As noted, banks have improved the infrastructure, execution, delivery, and management of data for the ACS. Banks have also made wider improvements to data and IT capabilities that are integral to a robust and efficient stress testing infrastructure. We consider further improvements are required to make processes, infrastructure and data more robust and efficient and to meet the demands of both internal and external stress testing. We welcome banks' efforts to improve data quality, granularity, and the reconciliation of risk to finance data. Similarly, banks considering changes to IT infrastructure that seek to deliver increased automation, speed and flexibility would improve banks' stress testing capabilities. Our assessment of data and IT capabilities

<sup>1</sup> [www.bis.org/bcbs/publ/d450.htm](http://www.bis.org/bcbs/publ/d450.htm)

<sup>2</sup> <https://www.bis.org/publ/bcbs239.pdf>

considered additional supervisory work such as an assessment of the implementation of BCBS 239 principles (on effective risk data aggregation and risk reporting).

*Principle 7:* In 2018, the Bank reviewed participating banks' stress testing model risk management frameworks against SS 3/18<sup>3</sup> model risk management principles. The findings were reported to banks directly. We are continuing to work with banks to address the specific issues identified and will continue to monitor the progress banks make on implementing and embedding stress testing model risk management frameworks.

In 2019, Bank staff reviewed a sample of material stress testing models used for ACS and internal stress testing which identified weaknesses in modelling methodologies for some banks. Weaker methodologies were not adequately justified or appropriate to the portfolio being modelled and in some cases required improvements to risk capture or consideration to other empirical/benchmarking analysis. Stronger methodologies were appropriate for the objectives of the relevant stress test and the type and materiality of the portfolios being considered. These methodologies included adequate justification of the assumptions, limitations and overlays being applied.

*Principle 8:* In general, the stress testing results and frameworks are subject to review and challenge at multiple points and through multiple levels. In particular, the ACS is subject to a comprehensive review and challenge process and the Bank has observed increased engagement from banks' Boards and senior management in the ACS. However, for some firms less comprehensive review and challenge processes were observed for similar internal stress testing exercises. Firms should consider review and challenge processes for stress tests such that they ensure reliability of stress test results and aid an understanding of limitations or areas for improvement.

*Principle 9:* Banks should improve internal communication of stress testing. Specifically, banks should consider how communication of stress test results could be more effective, for example by considering not only the quantitative outcomes but also business insights generated. Additionally, banks should consider how stress testing undertaken by different parts of the bank could be systemically communicated to relevant stakeholders. This could help strengthen risk identification for internal scenario design through consideration of interlinkages between risks. More effective communication could enhance the use of stress testing, help drive consistency of approaches and support more effective management decision making.

The Bank will provide feedback to banks detailing the findings from the review.<sup>4</sup>As set out in the Bank's 2015 Stress Testing Approach document,<sup>5</sup> the review findings could also be used to inform Bank action including the setting of the PRA buffer and the intensity of supervision of individual banks. Consistent with PRA requirements and expectations<sup>6</sup> the findings could inform supervisory feedback on how PRA expectations on stress testing should be reflected in the responsibilities and remuneration of relevant individuals performing Senior Management Functions under the Senior Managers and Certification Regime.

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<sup>3</sup> <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2018/ss318.pdf>

<sup>4</sup> The review findings do not necessarily imply non-compliance with legal requirements.

<sup>5</sup> <https://www.bankofengland.co.uk/-/media/boe/files/stress-testing/2015/the-boes-approach-to-stress-testing-the-uk-banking-system>

<sup>6</sup> See for example Allocation of Responsibilities and Remuneration Parts of the PRA Rulebook and SS 28/15.