

Stress Testing

November 2024



Executive summary

Local insights

The significance of stress testing has increased in recent years, consistent with APRA's heightened emphasis on the risk management practices of institutions. This focus arises from a range of challenges and risks, such as geopolitical conflicts, climate change, increasing inflation, and cyber threats, which may compromise the stability of financial institutions.

Similarly, we have seen a greater focus from the industry with regards to stress testing, particularly in the lense of:

- Importance of robust data infrastructure;
- Better alignment of models and strategic goals; and
- Board's involvement in critically challenging the output.

Global insights

Globally we are seeing an increased demand for enhanced stress testing capabilities. This is due to the increasing frequency and scope of regulatory stress testing requirements and significant regulatory concerns with respect to idiosyncratic risk.

APRA highlighted within their 2024-2025 corporate plan that they remain committed to adopting international best practice where it is appropriate in an Australian context. An example of this is APRA's upcoming financial system stress test which follows the Bank of England's System Wide Exploratory Scenario.

Other recent overseas supervisory developments include Desk-Based Stress Testing, Climate Risk Stress Testing and Cyber Resilience Stress Testing.

Roadmap

With the growing reliance on stress testing, institutions have a prime opportunity to evaluate the effectiveness of their current frameworks, systems and processes. The goal is to enhance efficiency and ensure the prompt generation of meaningful results under various scenarios.

By focusing on key principles and dimensions, institutions can transform their stress testing into a more efficient and effective forward looking analytical tool, enabling them to utilise insights for strategic decision-making and robust risk management.

Strengthening the stress testing framework is essential for institutions to maintain resilience and adaptability in an ever-changing environment.

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Stress testing's importance has surged due to APRA's emphasis on risk management amid global risks like climate change and cyber threats. Institutions must enhance data infrastructure, align models with strategic goals, and engage boards. Globally, adopting best practices and innovative stress tests will fortify resilience and strategic decision-making.



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What are the recent and upcoming changes?

The importance of stress testing has never been more critical. Recent regulatory focus has intensified, highlighting the need for robust stress testing frameworks. Improved stress testing ensures resilience, better risk management, and a stronger financial system, positioning Australia to effectively navigate future challenges.

APRA's 2020 stress testing assessment & findings

SVB's failure refocuses APRA's attention on **prevention through a sound risk management processes**, liquidity (APS 210) and interest rate risks

CPS 900 comes into effect, requiring ADIs to develop a **crisis management plan**

APRA will release insights regarding the approaches taken to identify, assess and manage **climate risk** from the Climate Risk Self-Assessment survey

CPS 230* and revisions to APS 210 and CPS 190* regulation comes into effect, addressing **operational resilience**

APRA have communicated that they will renew their focus on **cyber risk** and their implications on stress testing scenarios

2024

2025

2026

Revision to APS 110 with the aim to **strengthen the capital requirements** for ADIs

2022 ADI stress test included significant macroeconomic stress and a **cyber attack**

2023 annual ADI stress test results published during 2024 raised improvement opportunities in banks' internal stress test capabilities in areas such as **governance, modelling, data and scenarios**

APRA propose banks to **phase out AT1 capital instruments**, and to replace them with cheaper and more reliable capital sources

APRA will conduct a **system wide stress test**, to consider the transmission mechanism across the financial system (banking, insurance and superannuation)

APRA to commence a broad review on governance settings set out in CPS 510 and CPS 520

* CPS 190 and CPS 230 do not specifically mandate stress testing, they require institutions to have comprehensive risk management frameworks, which may include stress testing as tool to assess and manage risks effectively.

Local learnings - have an integrated process, critically challenge the results, align outcomes to organisations objectives

Processes should be supported by data

Local banks and ADIs have demonstrated a growing awareness of the importance of **robust data infrastructure**. The movement of data between systems highlights the need for seamless integration to ensure accuracy and efficiency in stress testing. This transition is crucial for aligning various data sources, which supports more comprehensive and reliable stress testing models. Local banks and ADIs are increasingly recognising that **harmonising data** across different platforms is essential for informed decision-making and effective risk management.

To support **best practice**, it is important to ensure that the **data management systems are unified**. This involves integrating data from disparate sources into a centralised platform, ensuring consistency and accessibility. A movement towards **data lead decisions** can ensure that the internal processes are flexible to changes in the economy and improve the overall efficiency of stress testing processes.

Challenge of the output

Local banks and ADIs have recognised the critical importance of challenging the outputs of their stress testing models. This involves **questioning the assumptions and results** to ensure they are robust and reliable. By understanding that models have inherent limitations and what these limitations are, local banks and ADIs are learning to apply expert judgment and **interpret results critically**. This approach helps in identifying potential discrepancies and areas for improvement, ultimately leading to more accurate and meaningful insights.

Challenging outputs is essential for maintaining the integrity and reliability of stress testing models and ensures financial institutions are completing **best practice**. **Encouraging a culture of critical thinking and continuous improvement** among stakeholders, including the Board, ensures that outputs are not taken at face value. Regularly updating models and incorporating feedback from diverse teams can enhance the robustness and relevance of the results.

Models should be aligned to its objectives

Significant strides have been made in aligning stress testing models with organisational objectives. The focus on learning from industry submissions and understanding the limitations of models has been pivotal. Local banks and ADIs are increasingly aware of the importance of interpreting outcomes correctly and **ensuring that models are not only technically sound but also aligned with strategic goals**. This alignment is crucial for deriving actionable insights from stress testing exercises.

Aligning models to objectives requires a clear understanding of organisational goals and regulatory expectations. Regularly reviewing and updating models to ensure they reflect strategic priorities is essential.

Engaging with regulators and industry peers can provide valuable insights and foster a collaborative approach to stress testing. Additionally, incorporating scenario analysis and expert judgment can enhance model robustness and ensure that outputs are aligned with both short-term and long-term objectives.

Overseas Regulatory Developments

Developments overseas further underscore the necessity of robust stress testing frameworks, as global standards continue to evolve.



System Wide Stress Testing (UK)

The Bank of England (BoE) published details of its system-wide exploratory scenario (SWES) in June 2023, which is the first exercise of its kind to understand market-wide dynamics. The BoE is seeking to understand the behaviour of banks and non-bank financial institutions in market stress situations, and how this might impact on UK financial stability.

Learnings from the BoE SWES will contribute towards APRA's approach for their FY25 system-wide stress test.

Refer to the following PwC UK and BoE publications for further details of the BoE SWES exercise:

[PwC UK - At a Glance - BoE launches system-wide exploratory scenario exercise](#)

[BoE - System-wide exploratory scenario](#)

Desk-Based Stress Testing (UK)

The BoE Annual Cyclical Scenario (ACS) Stress Test has been replaced with desk-based Stress Testing for FY24. A key benefit of a desk-based exercise is to allow for resilience to be tested for more than one adverse macroeconomic scenario.

The exercise does not involve firm submissions of stressed projections. It will use the Bank's own estimates of the impact of the stress scenarios on the resilience of the UK banking system.

Refer to the following BoE publication for further details:

[BoE - Scenarios for the 2024 desk-based stress test](#)

Climate Risk Stress Testing (Global)

Globally, supervisory authorities are increasingly conducting climate stress tests.

The United Nations Environment Programme Finance Initiative (UNEP FI) released a comprehensive review of global supervisory climate stress tests in July 2024.

This includes guidance for supervisors and financial institutions for conducting a climate stress test.

Refer to the following UNEP FI publication for further details:

[UNEP FI - A Comprehensive Review of Global Supervisory Climate Stress Tests](#)

Cyber Resilience Stress Testing (EU)

The European Central Bank (ECB) concluded its first Cyber Resilience Stress Test (CRST) of 109 banks in July 2024.

The stress test exercise involved a scenario under which all preventative measures failed and a cyberattack severely affected the databases of each bank's core system. The assessment focused on how banks would respond to and recover from this event.

Refer to the following ECB publication for further details:

[ECB - Cyber resilience stress test](#)

Global learnings - expand the scenarios modelled, streamline process to increase speed to result, focus on analysis of outcomes

Scenario design & expansion

Market events materialise quickly, so it is essential firms can **design and run simulated scenarios in a matter of days**. Firms that can do this have a significant advantage in quickly assessing the impact on their P&L and exercising early decision making to minimise any downside.

Increasing attention is also turning to **reverse stress testing** - identifying the concentrations and scenarios that would impact a firm the most - as an alternative to hypothetical scenario design.

Finally, **increasing adoption of AI** will no doubt increase the ability to automate idiosyncratic scenario design, and refine design as events unfold, with a feedback loop from real event data.

Developing **data-driven and rules-based solutions** can give firms flexibility to decide how many risk factors to shock for each scenario as well as choosing the best methodologies without having to spend manual effort adjusting and analysing the data. Additionally, adopting new technologies that go beyond rules-based analysis and **incorporate machine learning** means users can simply teach their tools a handful of times to expand scenarios faster and more accurately.

Rapid analytics

Stress testing becomes less relevant the longer it takes to analyse results and understand P&L impact. Taking weeks (or even months) to analyse scenarios makes it difficult for firms to be agile and adapt business models based on how different areas of their portfolios are impacted.

While there is no substitute for using the most accurate methodologies and taking the time to get it right, **it is beneficial to have options to approximate potential impact in parallel with full scenario analysis**. Rapid proxy analytics of this kind can give visibility into any blind spots quickly, particularly in areas that may not be currently in focus (such as wrong way risk and contingent risk), and is invaluable to be able to course-correct early.

Many firms are defining Rapid Stress Testing as a strategic programme to **leverage potential synergies between resolvability assessments and Stress Testing**. These programmes aim to enable capabilities like faster 'what-if' analysis, sensitivities, challenger models, and scenario analysis. Given the constantly evolving market dynamics, adoption of these capabilities will prove instrumental in enabling banks to maintain their competitive edge.

Risk management

As firms spend a lot of time on getting to the results of stress testing, questions around the reporting of results often becomes an afterthought. Aside from challenges to the timeliness of results, firms also struggle with data presentation that provides enough detail to be meaningful for decision making, but also flexible enough to meet different stakeholders' needs.

Developing a configurable User Interface (UI) would enable risk managers to almost instantaneously update data, such as excluding specific entities from a calculation or filtering by position maturity. Risk concentrations could be highlighted instantly, identifying the key areas for decision-making. A configurable UI could even give risk managers the ability to conduct 'what-if' analyses to gauge impact on the results, without having to go through the entire process of updating scenarios and recurrently expanding across to risk factors.

How well are you progressing against leading market practice?

As you assess the maturity of your stress testing framework, consider these fundamental principles and dimensions against the benchmarks of leading market practices.

Framework, Objectives and Governance

- Formalised framework, regular independent reviews, and broad organisational engagement
- Effective governance structure, with clearly articulated and formally adopted objectives understood by all stakeholders

Risk Management, Business Planning and Resourcing

- Stress test results are recognised as key inputs for strategic decision-making and are embedded into regular processes, beyond merely validating internal capital targets. Stress testing is used to inform calibration of risk appetite and limits, financial and capital planning, liquidity and funding risk assessment, contingency planning and recovery and resource planning
- Senior management have a clear understanding of the assumptions and model limitations
- Resources and organisational structures are adequate to support stress testing programs to meet their objectives

Data

- Data used is accurate and complete, and made available at sufficient granularity and in a timely manner to support stress testing exercises
- Robust data infrastructure supports stress testing function, facilitates collection and maintenance of historical data and is coherent with overall risk management framework

Models and Methodologies

- Structured scenario development and scenarios tailored to the entity's risk profile, with consideration of business mix, strategy and risk characteristics, drivers and specific risk factors, allowance for interactions between risk types and model linkages
- Assumptions, overlays or expert judgements are subject to credible challenge and review, and well justified and documented
- Model governance processes including model inventory and management, and a robust model validation and performance testing function in place

Challenge, Review and Communication of Results

- Stress testing models and methodologies, results and frameworks are subject to credible challenge and regular review at multiple points and levels
- Contextual challenge from business area and sense checks to ensure the stress test is not a pure statistical or hypothetical exercise
- Stress testing activities clearly communicated to internal and external stakeholders, senior management and the board

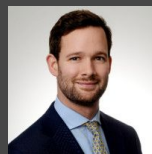
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