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The Bank of England's approach to stress testing the UK banking system

Presentation to CCBS Heads of Financial Stability workshop

23 February 2016

Disclaimer: The views expressed in this presentation are those of the author and do not represent those of the Bank of England or members of the Monetary Policy Committee, Financial Policy Committee or Prudential Regulation Authority Board.

Outline

- Background
- The Bank of England's new stress testing framework
 - Scenario design
 - Links to capital framework
 - Modelling



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A brief history of stress testing in the UK

- Sequential individual-firm stress testing conducted by the FSA to assess capital adequacy since the onset of the crisis
- “Top-down”, system-wide stress testing conducted in the Financial Stability area of the Bank of England
- The Financial Policy Committee (FPC) recommended in March 2013 that:

‘Looking to 2014 and beyond, the Bank and Prudential Regulation Authority (PRA) should develop proposals for regular stress testing of the UK banking system. The purpose of those tests would be to assess the system’s capital adequacy’.



Progress since the FPC's recommendation in 2013

Discussion Paper on overall framework



First concurrent stress test in 2014



Second concurrent stress test in 2015



Approach to stress testing up to 2018



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Key elements of the concurrent stress-testing framework to date

	2014 test	2015 test
<u>Coverage</u>	Eight major UK banks and building societies	Seven major UK banks and building societies
<u>Scenarios</u>	One baseline and one stress scenario (designed as variant of the EBA scenario)	One baseline and one stress scenario (entirely designed by the BoE)
<u>Projections of profitability and capital ratios</u>	Suite of analysis, including both firms' models and in-house models and analysis	Suite of analysis, including both firms' models and in-house models and analysis
<u>Hurdle rate framework</u>	4.5% CET1 threshold: 'strong presumption of action' Firms may be required to take action based on other factors	4.5% CET1 <u>and</u> 3% T1 leverage thresholds: 'strong presumption of action' Firms may be required to take action based on other factors
<u>Qualitative assessment</u>	Key part of the framework, with feedback provided to firms	Key part of the framework, with feedback provided to firms
<u>Transparency</u>	Disclose firm-specific results	Disclose firm-specific results



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Objectives of the concurrent stress testing framework

- Provide a quantitative, forward-looking assessment of the resilience of the banking system as a whole and individual institutions within it.
- Serve needs of both macro- (FPC) and micro-pru (PRA Board), contributing to:
 - Integrated decision-making process around bank capital adequacy
 - An accountability device
 - Strengthened supervisory approach
 - Improved risk and capital management practices within banks
 - Enhanced public confidence in the banking system



Three key areas of evolution in the Bank's approach

- Scenario design
- Link to the capital framework (including the hurdle rate)
- Modelling of profitability and capital ratios in the stress scenario



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Scenario design

- The 'Annual Cyclical Scenario'
 - Severity will reflect policymakers' assessment of the state of the financial cycle.
- The 'Biennial Exploratory Scenario'
 - Explore a wider range of risks that might threaten financial stability.

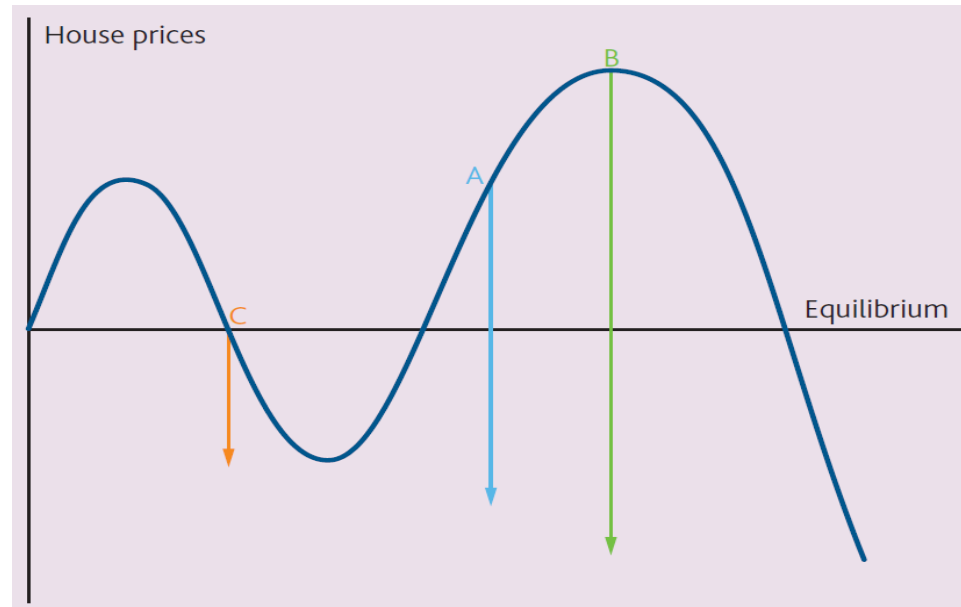


The 'Annual Cyclical Scenario' – key features

- Severity will vary with state of the cycle
 - The severity of the ACS will increase as risks build and decrease after those risks crystallize or abate.
- Systematic and predictable
 - The severity of the scenario will evolve, in line with judgments around the magnitude of financial imbalances.
- Global in nature
 - The annual cyclical scenario will have both domestic and global elements.



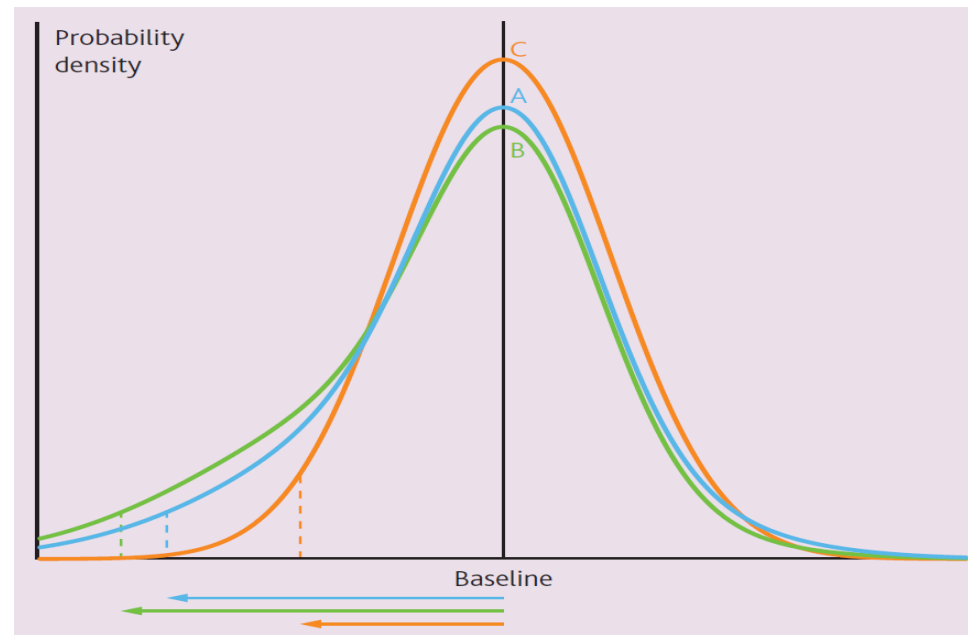
The 'Annual Cyclical Scenario' – a stylised example



- Scenario becomes more severe in the upturn of the cycle, and vice versa



The 'Annual Cyclical Scenario' – a stylised example



- Scenario changes over time only due to evolution of financial imbalances, not because of changes in risk tolerance



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The 'Biennial Exploratory Scenario'

- The Biennial Exploratory Scenario will allow policymakers to probe the resilience of the system to a wider range of risks.
- Any single scenario is almost certain not to materialise.
- Do not want to assess system is against only a single 'bad state of the world'.
- Differences in banks' business models imply that scenarios that might be stressful for one bank might be less so for another.



The 'Biennial Exploratory Scenario' – key features

- Could explore risks that are particularly unusual from a historical perspective, or more detailed test of specific sectors.
 - Persistent deflationary pressures in 2015 test
 - Detailed test of particular books eg buy-to-let
 - Unusual cross-correlations in variables eg tightening monetary policy in a stress
 - Implications of a single event or structural break eg default of major sovereign or financial institution



Coverage

- All major UK banks with total retail deposits greater than or equal to £50bn will be included in the Annual Cyclical Scenario.
- Small and medium-sized lenders not included.
 - This is on the grounds of proportionality, given their lower significance to overall UK financial stability and the balance of costs and benefits.
- UK subsidiaries of foreign investment banks not included for now.
 - The Bank will keep its supervisory strategy and the inclusion of these entities in the test under regular review, and stands ready to include these entities if doing so would enhance UK financial stability.
- Coverage of Biennial Exploratory scenario may vary depending on risks being explored. Banks for which the scenario may be less relevant will not be asked to participate.



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The role of stress tests in the capital framework

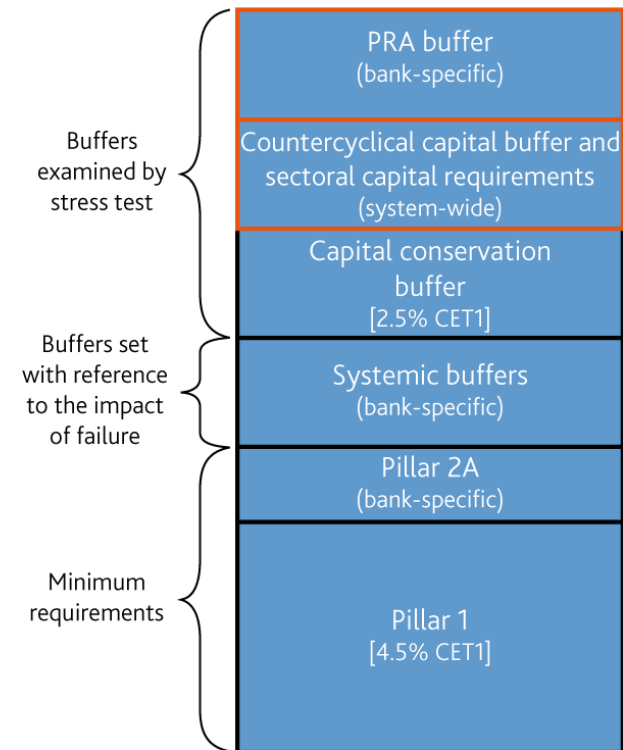
- Stress tests are there to reflect – not recreate – the overall capital framework
- Well-suited to calibrating regulatory buffers designed to absorb losses that arise in a stress
- Allow policymakers to judge whether banks would remain above regulatory minima in a stress – ‘mark to crisis’



Using stress tests to inform the calibration of regulatory capital buffers

- Effectively, use stress test results to assess the adequacy of the Capital Conservation Buffer
- Combined regulatory capital buffers should be sufficient to absorb the fall in the capital ratio in the stress – for the system as a whole, and for individual banks
- Achieve that by setting countercyclical capital buffer (system-wide) and PRA buffer (bank-specific)

□ Calibration informed by stress test

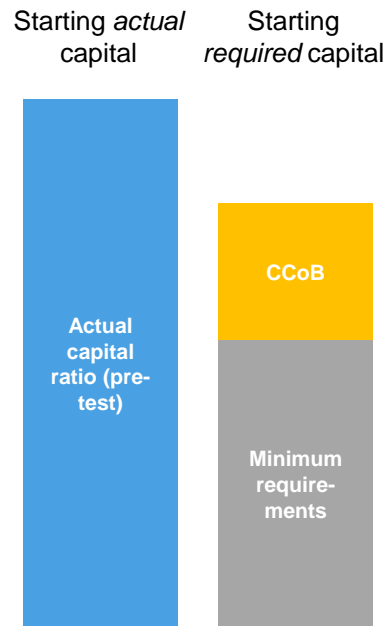


Setting regulatory capital buffers to absorb the impact of the stress

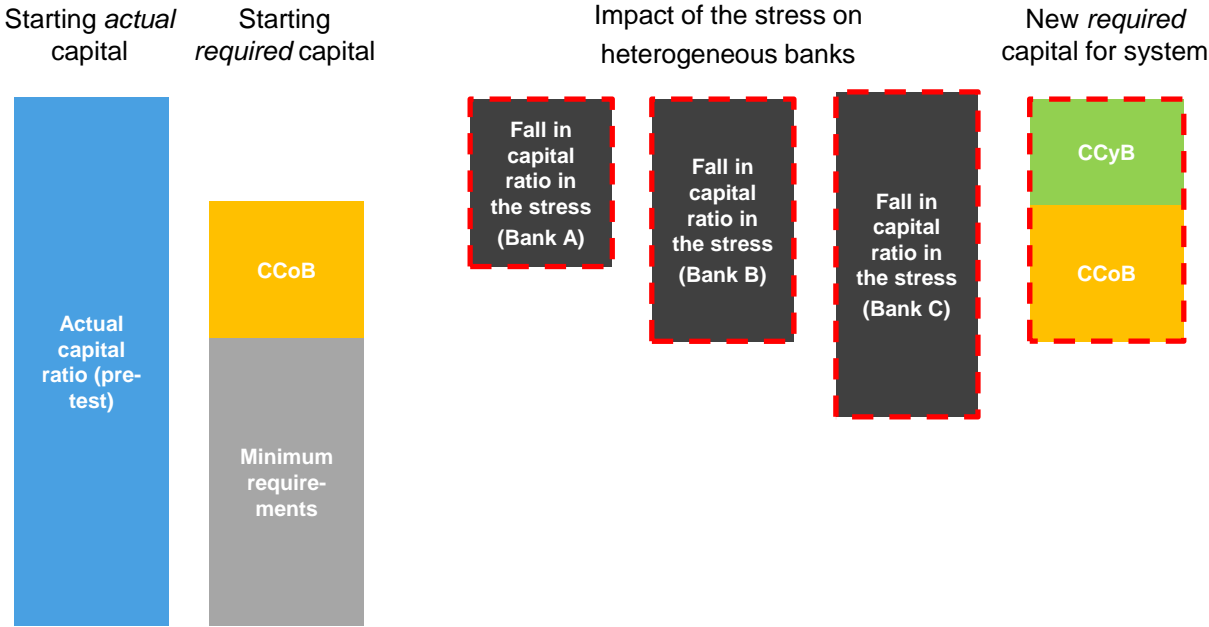
- CCoB is not sufficient to absorb losses for the system as a whole: consider activating system-wide buffers (CCyB/SCR).
- CCoB and any system-wide buffers set (CCyB/SRC), are not sufficient to absorb losses for individual banks: consider activating bank-specific buffers (PRA Buffer).
- Underlying principle is that the combined regulatory capital buffers should be sufficient to absorb the fall in the capital ratio in the stress – for the system as a whole, and for individual banks.



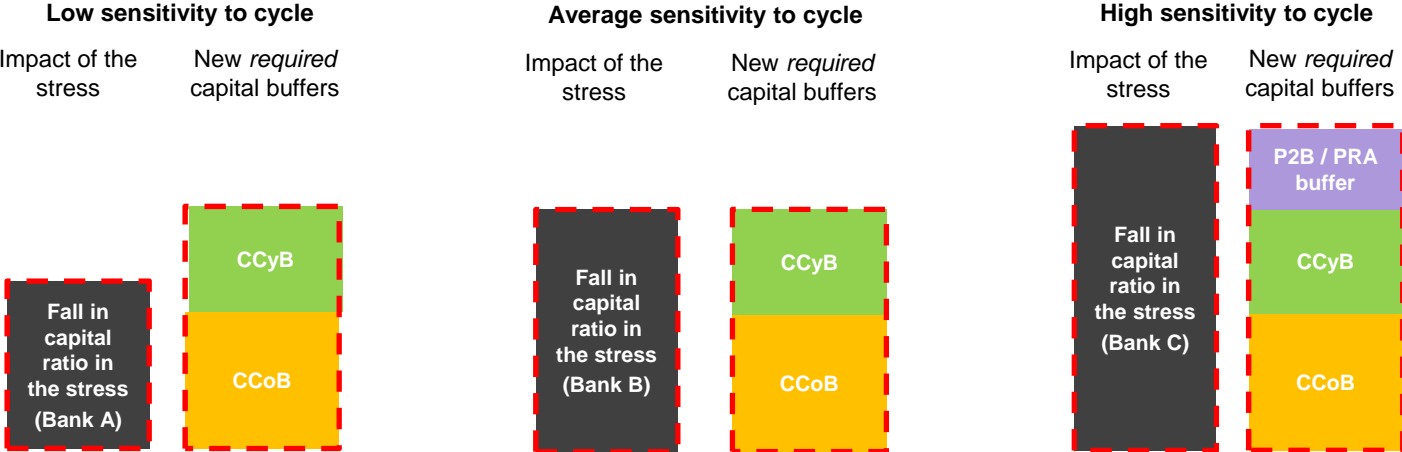
Using stress tests to inform the calibration of the Countercyclical Capital Buffer – a stylized example



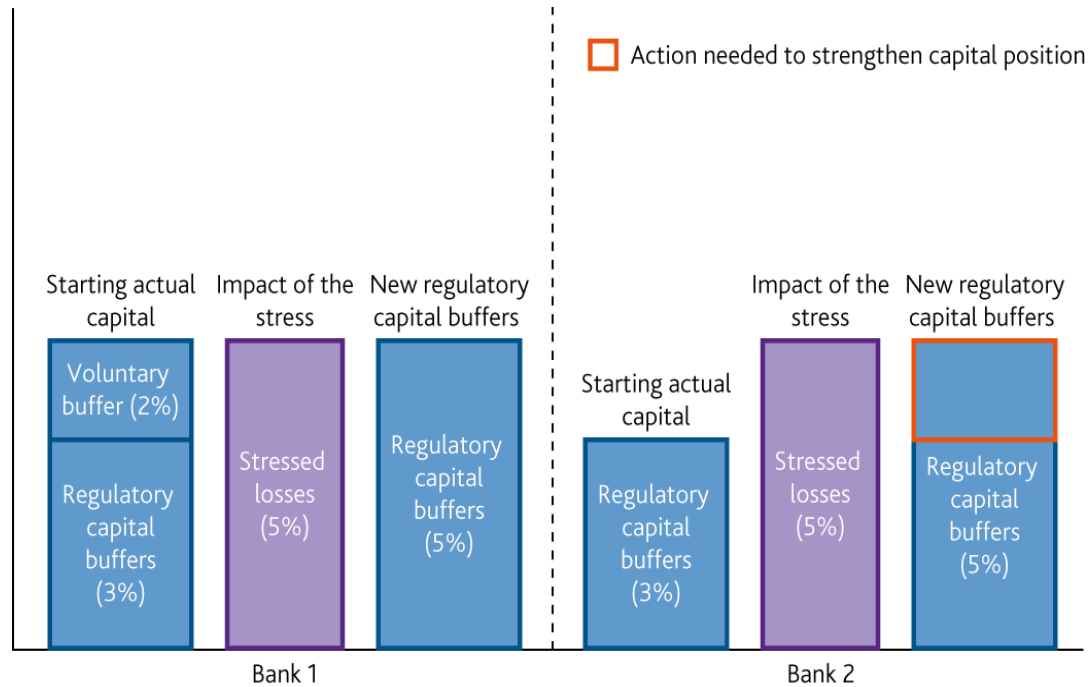
Using stress tests to inform the calibration of the Countercyclical Capital Buffer – a stylized example



Using stress tests to inform the calibration of the PRA Buffer – a stylized example



Determining whether remedial actions are required



- Setting of regulatory capital buffers, does not necessarily mean banks will have to take remedial actions



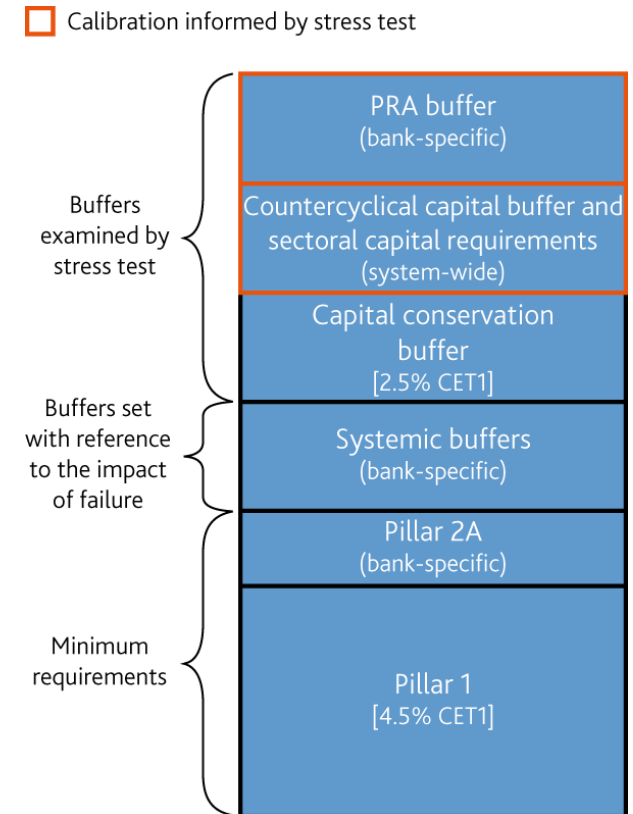
Determining whether remedial actions are required

- Whether or not action is required depends on the level to which a bank's capital ratio falls in the stress test, relative to the hurdle rate.
- The hurdle rate is the level of capital that banks are expected to maintain in the stress scenario.

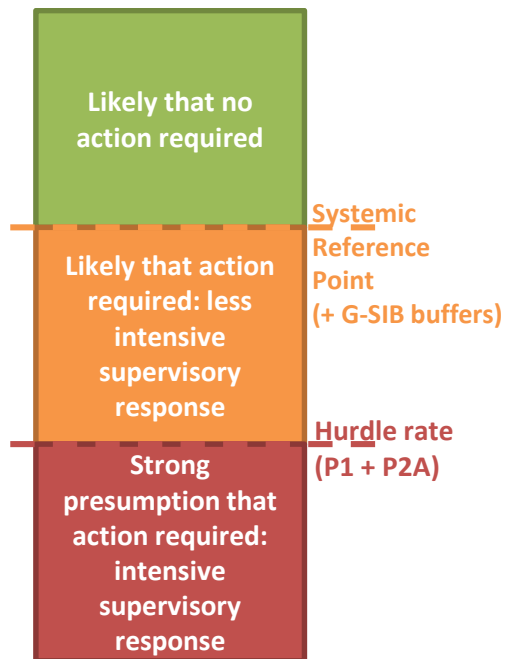


The hurdle rate framework

1. Minimum risk-based capital requirements
 - Pillar 1 (4.5%)
 - Pillar 2A (bank-specific)
2. Minimum leverage requirements (3%)
3. Systemic buffers
 - GSIB buffers



Systemic buffers



- Introduce an additional threshold for G-SIBs but in a graduated way
- Will allow us to hold G-SIBs to higher standards and reduce their probability of default
- Supervisory response to a breach of G-SIB buffers will be less intense than for a breach of minimum requirements

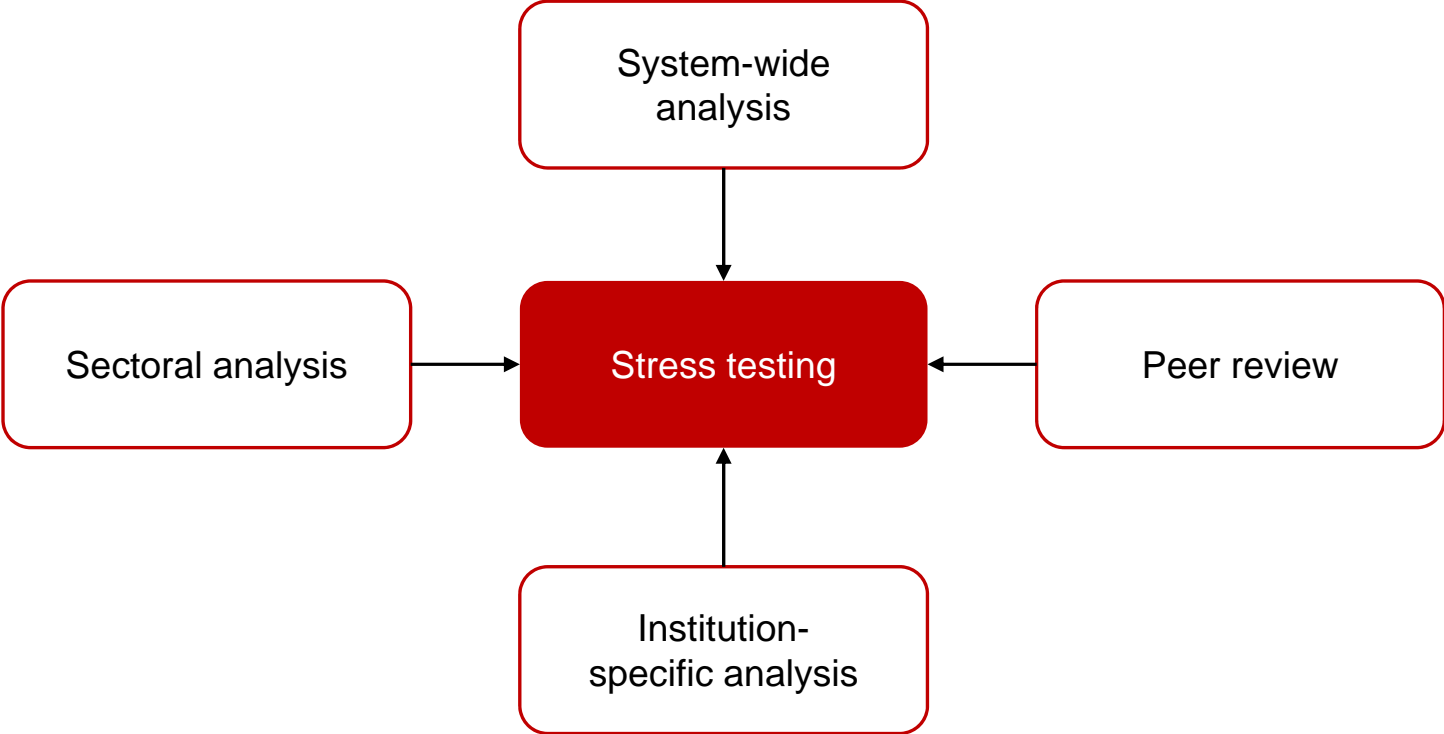


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Different types of analysis feeding into the stress test



Analytical approaches used by the Bank of England

- Suite of models:
 - Granular, regulatory stress-testing models
 - Capture detail of business models; deliver consistency in outcomes
 - Coarser, system-wide, stress-testing models
 - Capture system-wide amplification mechanisms; allow more flexibility
 - Banks' own stress-testing models
 - Even greater degree of granularity; but incentives not aligned
 - Other 'satellite' models
 - Sector-wide view to act as a cross-check of bank-specific results
- Staff at the Bank – under guidance of FPC and PRA Board – to synthesise results



The role of in-house modelling in the future

- An important strategic choice relate to the relative weight attached in-house models vs firms' models
- In 2014 and 2015, Bank's approach was not far off using in-house model results as a 'cross-check' on the outputs of firms' models



The role of in-house modelling in the future

- Aim to enhance in-house modelling capabilities further
- Key focus on system-wide dynamics, including amplification mechanisms and spillovers that could operate in a stress.
- The Bank is better placed than participants to coherently and consistently model such risks



Questions / Discussion



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