



Stress Testing: Past, Present and Future?

“Macprudential policy, bank regulation and financial stability”
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GARP Risk Institute

Stress Testing: Past, Present and Future

1. Past: how has it developed?
2. Present: where are we now?
3. Future: how does it need to develop?



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Recall: 2007 Context

- ▶ Worst recession since Great Depression
- ▶ Freezing up of many parts of the financial markets
- ▶ Capital ratios were not forward-looking
- ▶ Markets unable to distinguish weak from healthy banks
- ▶ Basel (2009) looked at stress testing practices – generally poor, but firms that were doing stress testing well fared better in the crisis
- ▶ Basel published principles to guide banks and supervisors
- ▶ Regulators started to use stress tests in earnest



US Did First Concurrent Stress Test

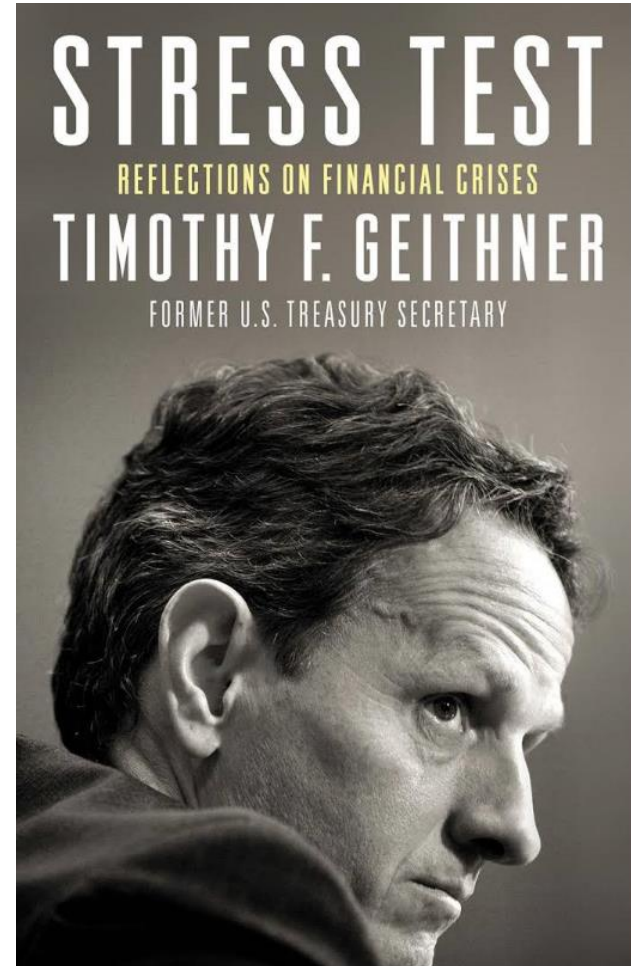


- ▶ The Supervisory Capital Assessment Programme (SCAP) was the first *concurrent* exercise.
- ▶ That is: all banks run the *same* scenario at the *same* time
- ▶ 10 of the 19 banks required to raise US\$75bn of capital within six months... which they did without government support.



Why Was the US Stress Test (SCAP) So Successful?

- ▶ Severe scenario
- ▶ Credible
- ▶ Well executed
- ▶ Good coverage
- ▶ Public disclosure
- ▶ Credible government backstop



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European Stress Tests Less Credible



- ▶ 2009 test
 - No bank's Tier 1 capital ratio falling under 6%.
 - Very little explanation about methodology.
- ▶ 2010 test
 - 7 of the 91 banks were required to raise just €3.5bn capital.
 - Undermined when Ireland asked for financial assistance from EU and IMF.
- ▶ 2011 test
 - Dexia (Belgium) and Bankia (Spain) passed the EBA 2011 stress test only to require significant restructuring within a few months.



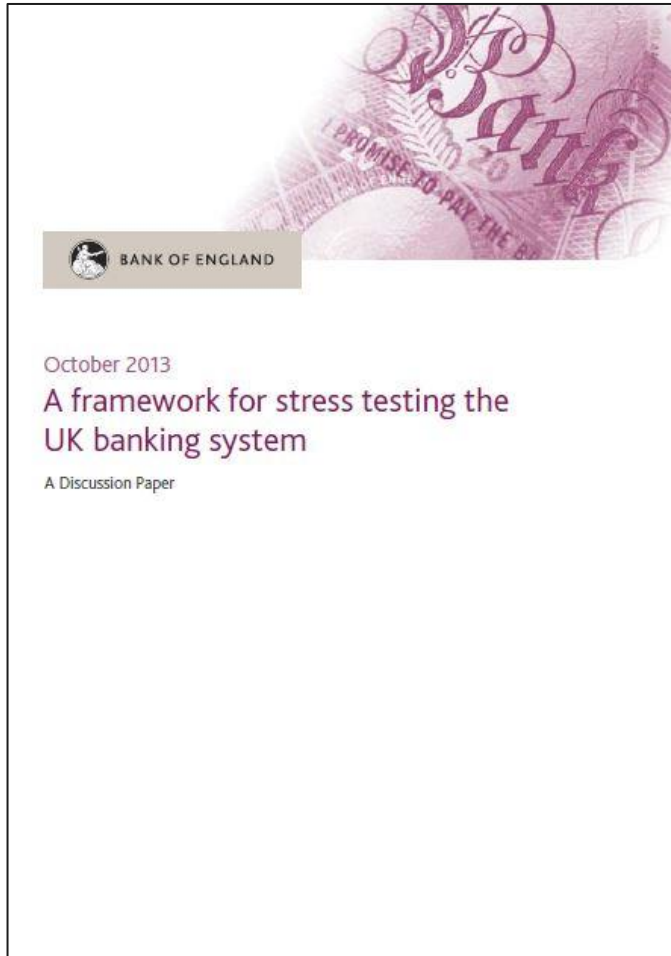
UK's First Concurrent Stress Test in 2014



- ▶ The Financial Policy Committee wanted regular stress tests introduced, to assess the adequacy of the UK financial system's capital.
- ▶ Plus other aims:
 - ▶ Macro/micro decisions on capital adequacy
 - ▶ Accountability device
 - ▶ Public confidence
 - ▶ Strengthen supervision
 - ▶ Improve risk/capital management
 - ▶ Better access to data
 - ▶ Strengthen market discipline



Regulator Has Many Design Issues to Decide...



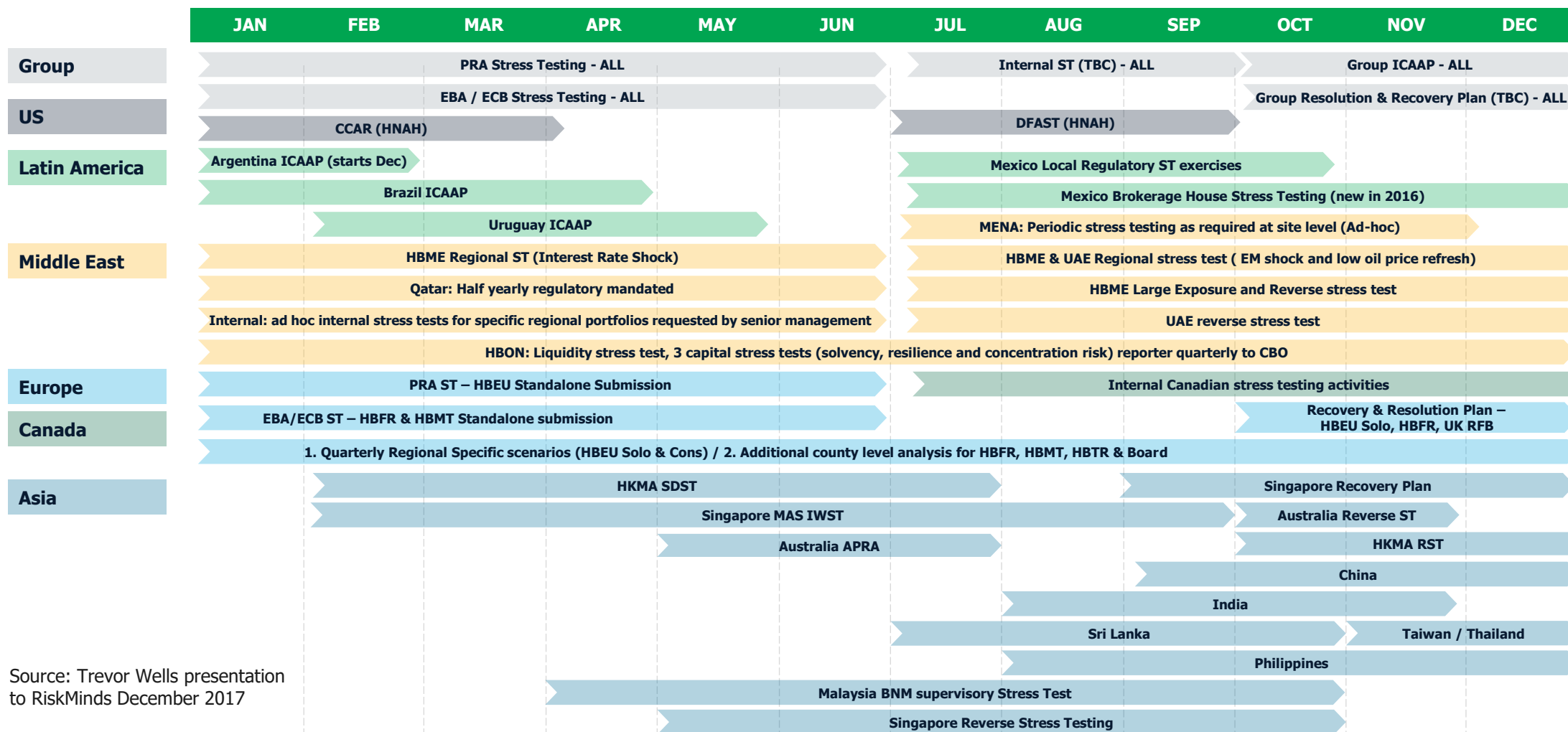
- ▶ Who does modelling?
- ▶ Scope of firms?
- ▶ How granular?
- ▶ What scenario, how severe?
- ▶ Pass rate?
- ▶ Disclosures?
- ▶ Asset quality reviews?
- ▶ Qualitative standards?

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Regulatory Stress Test Calendar



Source: Trevor Wells presentation to RiskMinds December 2017

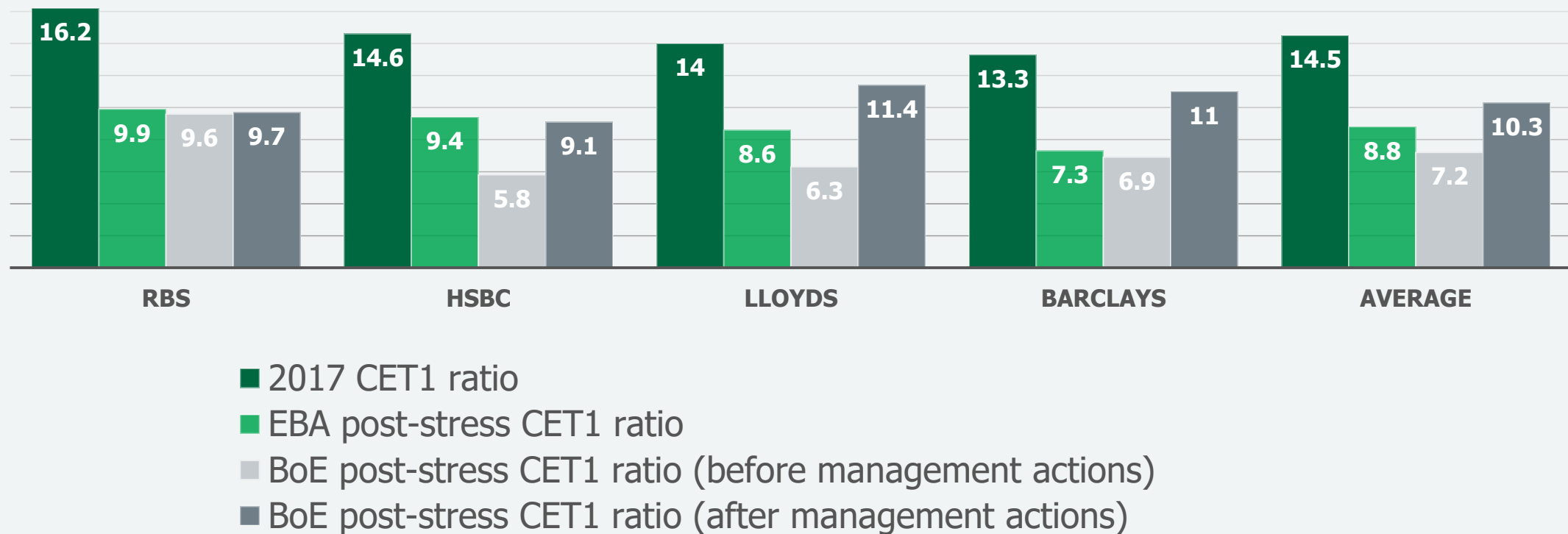
Basel Principles for Stress Testing (2018)

- ▶ Have clear objectives, effective governance
- ▶ Be used as a risk management tool to inform business decisions
- ▶ Cover material and relevant risks, be sufficiently severe
- ▶ Have sufficient resources
- ▶ Be supported by sufficiently granular data and robust IT systems
- ▶ Be based on fit for purpose models/methodologies
- ▶ Be reviewed and challenged
- ▶ Practices/findings should be communicated within and across jurisdictions



Comparing Stress Tests: EBA and BOE 2018

CET1 capital ratios: pre and post stress



Benefits vs. Costs

The benefits are substantial

- ▶ Forward-looking
- ▶ Insights on firms/the system
- ▶ Crisis management tool
- ▶ Market discipline
- ▶ Data quality improvements
- ▶ Improves public confidence

But so are the costs...



Costs of Multiple, Disparate Stress Tests

- ▶ Regulatory tests hard to compare
 - ▶ Publication standards differ across regulators – confuses investors
 - ▶ Crowds out banks' internal stress testing
 - ▶ Encourages a 'compliance' mindset
 - ▶ Firms discouraged from investing in robust, strategic IT architecture
- ▶ Can't achieve economies of scale in production of stress test outputs
 - ▶ Capital levels
 - Banks business models may not be taken into account
 - Diversification effects at Group not taken into account
 - Risk of double counting capital for micro/macro prudential purposes



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Future Direction?

- ▶ Encourage harmonization and coordination across regulators
- ▶ Develop approaches to address new risks, such as climate risk

A CODE OF PRACTICE FOR SUPERVISORY STRESS TESTS

Providing a Framework to Support
Greater Coordination and Harmonization

By Jo Paisley and Mark Carey, Co-Presidents

- ▶ Published in December 2018
- ▶ Kickstart dialogue between practitioners and regulators
- ▶ https://www.garp.org/#!/garp-risk-institute/supervisory_stress_tests

The Approach

- ▶ Assume we aspire to achieve the Basel Principles
- ▶ Code of Practice provides a framework for harmonisation

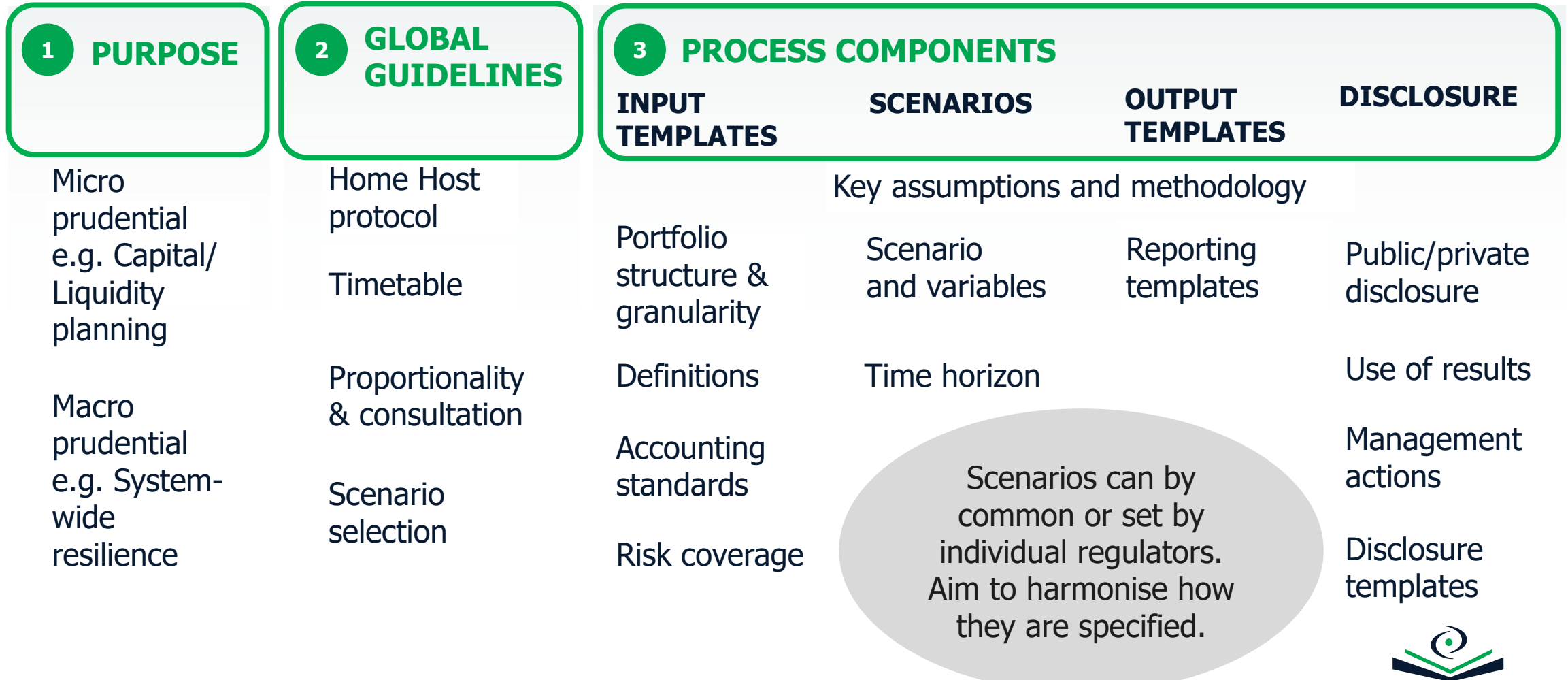
1 PURPOSE

2 GLOBAL GUIDELINES

3 PROCESS COMPONENTS

- ▶ Aim for the right level of harmonisation

Anatomy of a Supervisory Stress Test

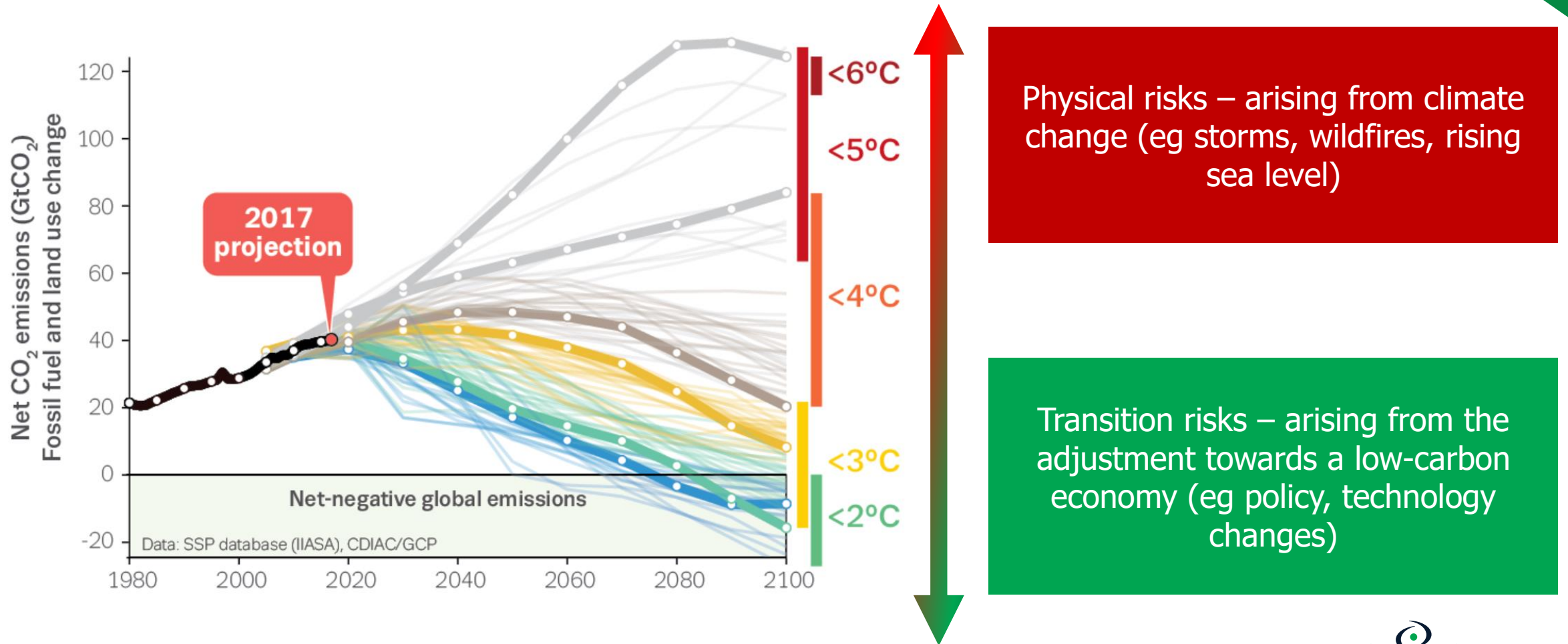


Climate risk

- ▶ Climate risk used to be viewed as purely an ESG issue
- ▶ Now increasingly seen as posing financial risks
- ▶ Pressure coming from: regulators, disclosures (e.g. TCFD), investors
- ▶ Scenario analysis is seen as a key tool
- ▶ But it is highly uncertain

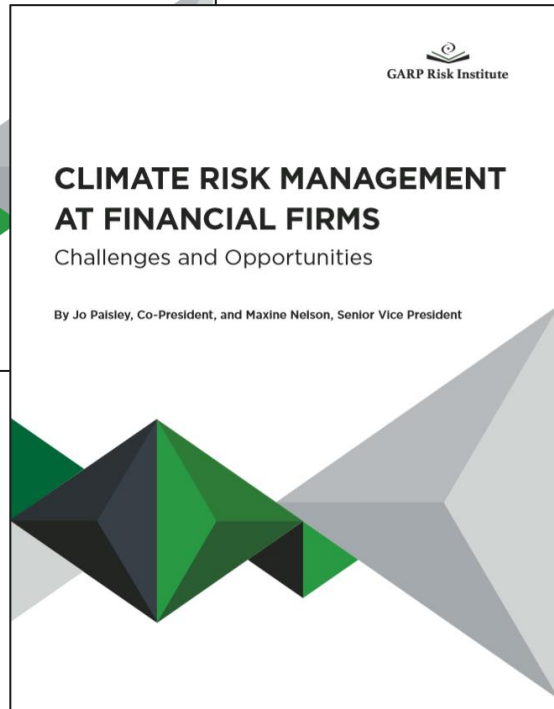


The Future is Highly Uncertain



Sources: Global Carbon Project (2017), based on [Bank of England](#) (2018)

GARP's Climate Publications



- ▶ [A Good Start But More Work To Do](#): a survey showing financial firms' uneven progress in creating core climate risk capabilities such as governance, strategy and scenario analysis.
- ▶ [Challenges and Opportunities](#): an overview on climate change itself, the evolving regulatory landscape, and how climate risk can be embedded into existing risk management frameworks.

Conclusions

- ▶ Some regulatory stress tests proved powerful as a crisis management tool.
- ▶ It is now the tool of choice for many regulators.
- ▶ Stress testing is a critical part of risk management
- ▶ It can aid market discipline and improve public confidence
- ▶ But has become fragmented
- ▶ GARP Code of Practice aims to encourage greater coordination and harmonization
- ▶ Need to develop approaches to new risks, such as climate risk
- ▶ GRI publications available: <https://www.garp.org/#!/garp-risk-institute>



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