

Scenario design overview – HSBC

FRB Stress Test Modeling Symposium

◆ October 11, 2018



HSBC scenario design organization overview

Key responsibilities

Primary responsibilities

- CCAR BHC scenario design.
- CCAR global market shock scenario design.
- CCAR FRB scenario enrichment.
- CECL scenario design.

Additional responsibilities

- PRA /EBA stress testing US enrichment.
- IFRS9 scenario US enrichment.
- BAU stress testing

Team

Direct team

- Primarily comprised of economists, statisticians / econometricians.

Support teams

- HSBC group risk economics team (London).
- HSBC regional economic research teams (including the chief US economist).
- Credit and market risk analytics teams.
- Risk identification team.

Governance and tools

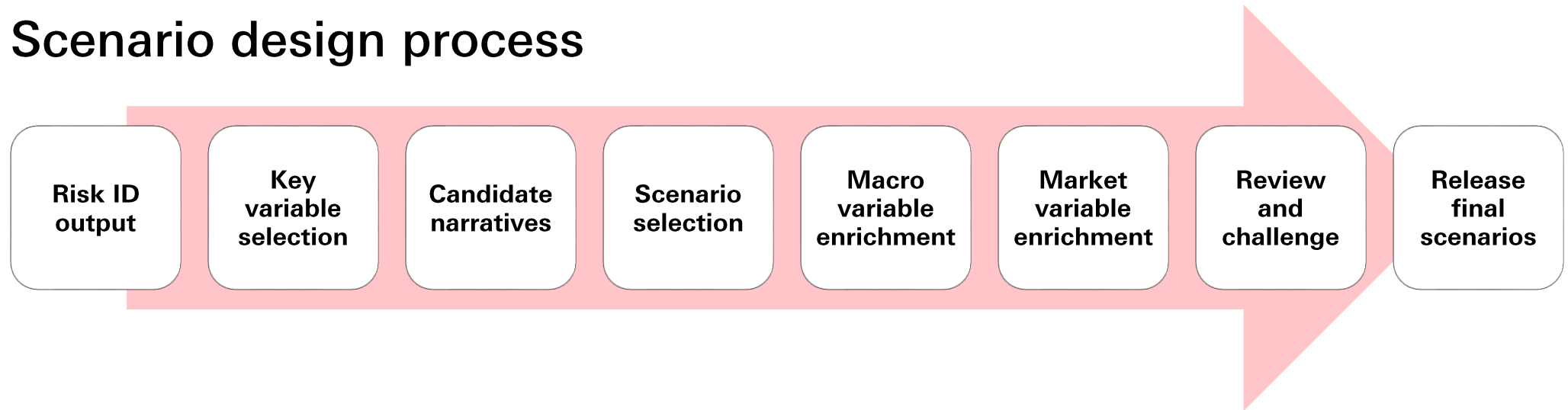
Governance process (3 LoD)

1. Governance committees (including CEO, CRO, CFO), SMEs, and board of directors.
2. Model risk management.
3. Internal audit.

Tools

- Economic research reports.
- Macroeconomic variable forecasting models:
 - Vendor models.
 - In-house models.

Scenario design process



Incorporating material risks in scenario narrative*

Step #	Steps	Example 1	Example 2
1	Risk ID	Housing price decline	Equity market decline
2	Impact	Mortgage loans, CRE/C&I loans, MBS portfolio, etc.	Trading and loan book, etc.
3	Key drivers	HPI, CREPI, MBS spread, etc.	Equity price, volatility, credit spreads, etc.
4	Variable calibration	Sharp drop in HPI and CREPI, MBS spread widens.	Equity price drop, spike in volatility, credit spreads widen.

* Illustrative examples not specific to HSBC

Additional CCAR specific activities within the team

Activity	Description	Examples
Deep-dive analysis	Business and senior management request further analysis on key variables, including rationale and historical context.	Trade war, 'Brexit', quantitative tightening.
New variable request	New macro and market variable request from model development teams.	New MEV models, existing model changes, credit or market analysis.
Risk ID capture assessment	Risk IDs not captured directly in scenario need separate assessment.	Other risks (e.g. natural disaster), model not capturing business risk.
Scenario impact analysis	Work with business to assess impact from changing scenarios.	Yield curve (FRB 2018 scenario).
Data / model changes	Vendor model updates. Data source changes.	Recalibration of MEV models and associated impact analysis.
Additional feedback	MRM, Review and challenge.	Candidate scenario selection, overlays, MEV model refit etc.
Miscellaneous		Scenario recalibration, production issues, etc.

