Bank of England

Interconnectedness, Innovation and Unintended Consequences: What macroprudential policy can do to assess fragilities outside of the banking sector

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Outline

1) Increase in Bank Capital since the Global Financial Crisis

2) Risk Migration and Growth of Non-Banking Financial Intermediation (NBFI)

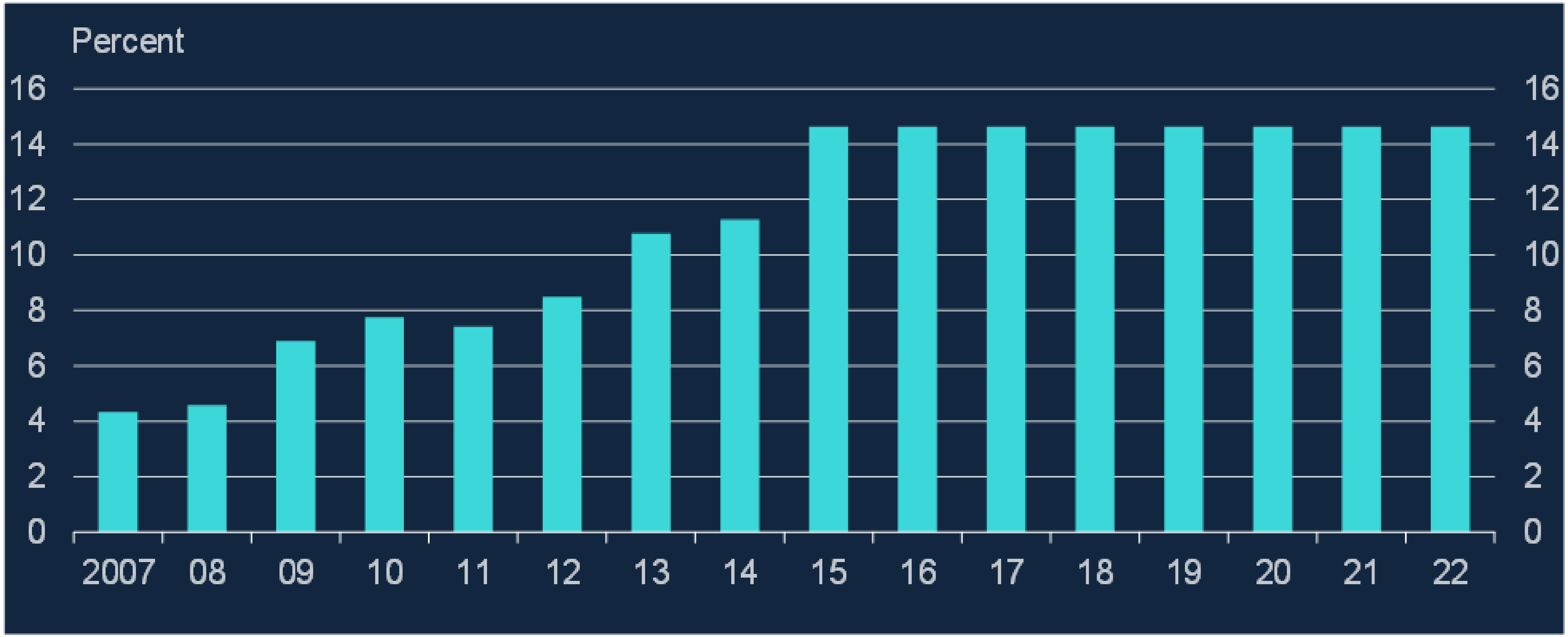
3) Framework for Identifying Risk Categories
 - Leverage, Liquidity, and Interconnections/Correlations

4) First of Its Kind "System-wide Exploratory Stress Scenario" (SWES)

5) Conclusions and Applications beyond the UK

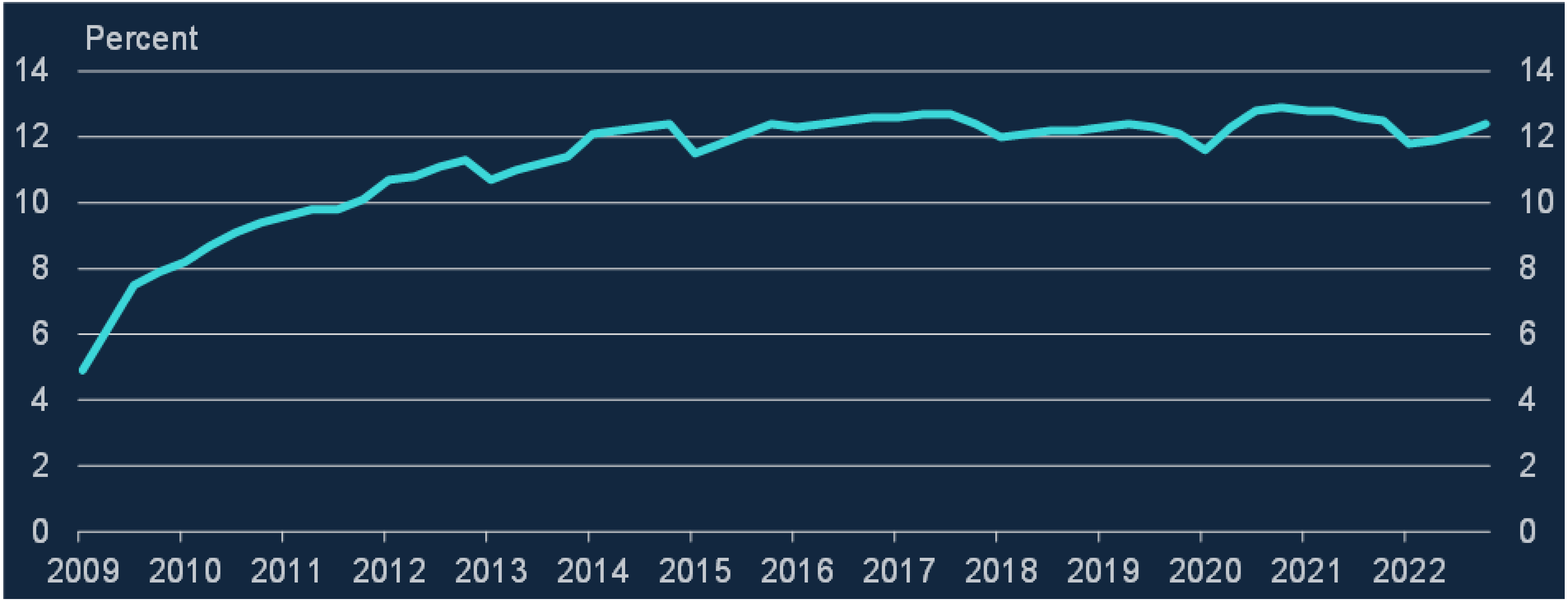
Increase in Bank Capital since the Global Financial Crisis

Chart 1: Aggregate CET1 capital ratio of major UK banks [a]



(a) The CET1 capital ratio is defined as CET1 capital expressed as a percentage of risk-weighted assets. Major UK banks are Barclays, HSBC, Lloyds Banking Group, Nationwide, NatWest Group, Santander UK, Standard Chartered and (from December 2020) Virgin Money. From 2011, data are CET1 capital ratios as reported by banks. Prior to 2011, data are Bank estimates of banks' CET1 ratios.

Chart 2: Aggregate common equity capital ratio for 23 banks in the 2023 US supervisory stress test



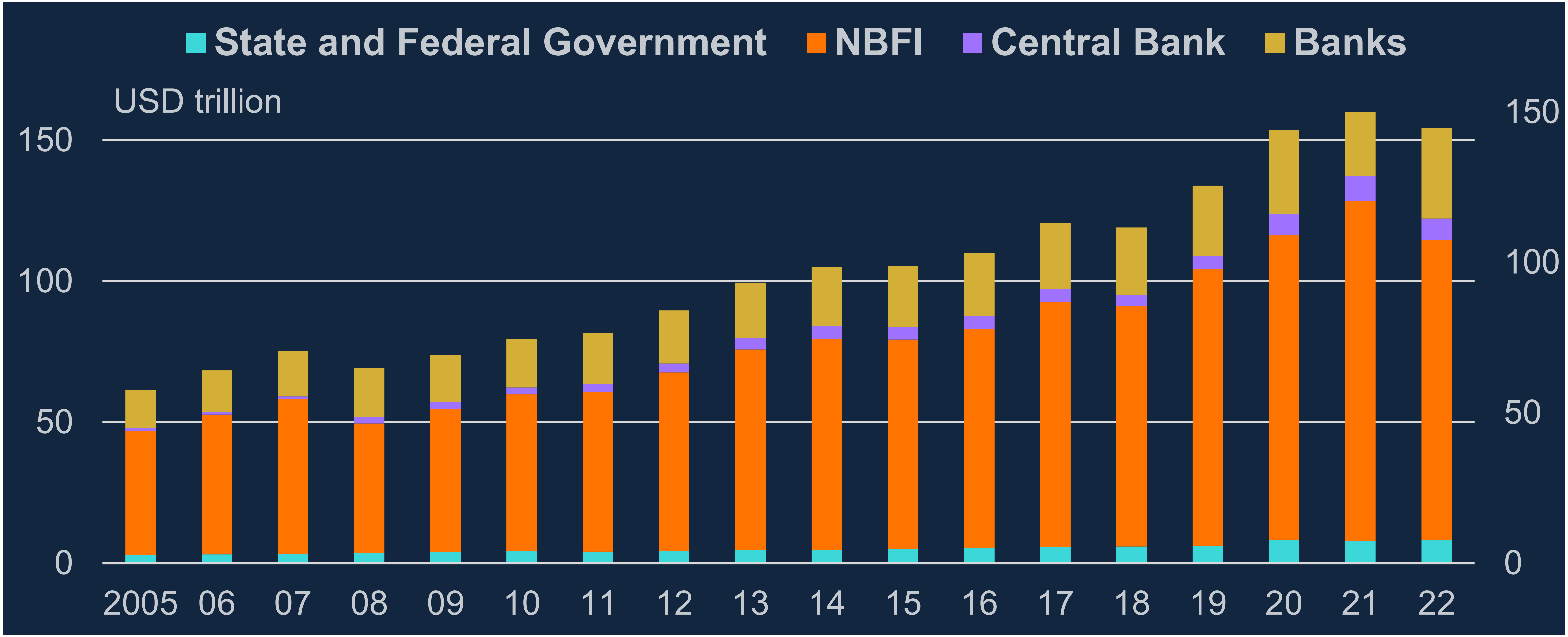
Source: US Federal Reserve, **Dodd-Frank Act Stress Test 2023: Supervisory Stress Test Results June 2023**

Risk Migration and
Growth of Non-bank Financial Intermediation since the GFC

Chart 3: The NBFI sector has grown significantly since the Global Financial Crisis

Source: Financial Stability Board, **Global Monitoring Report on Non-Bank Financial Intermediation 2022**, 20 December 2022, Graph 1-1

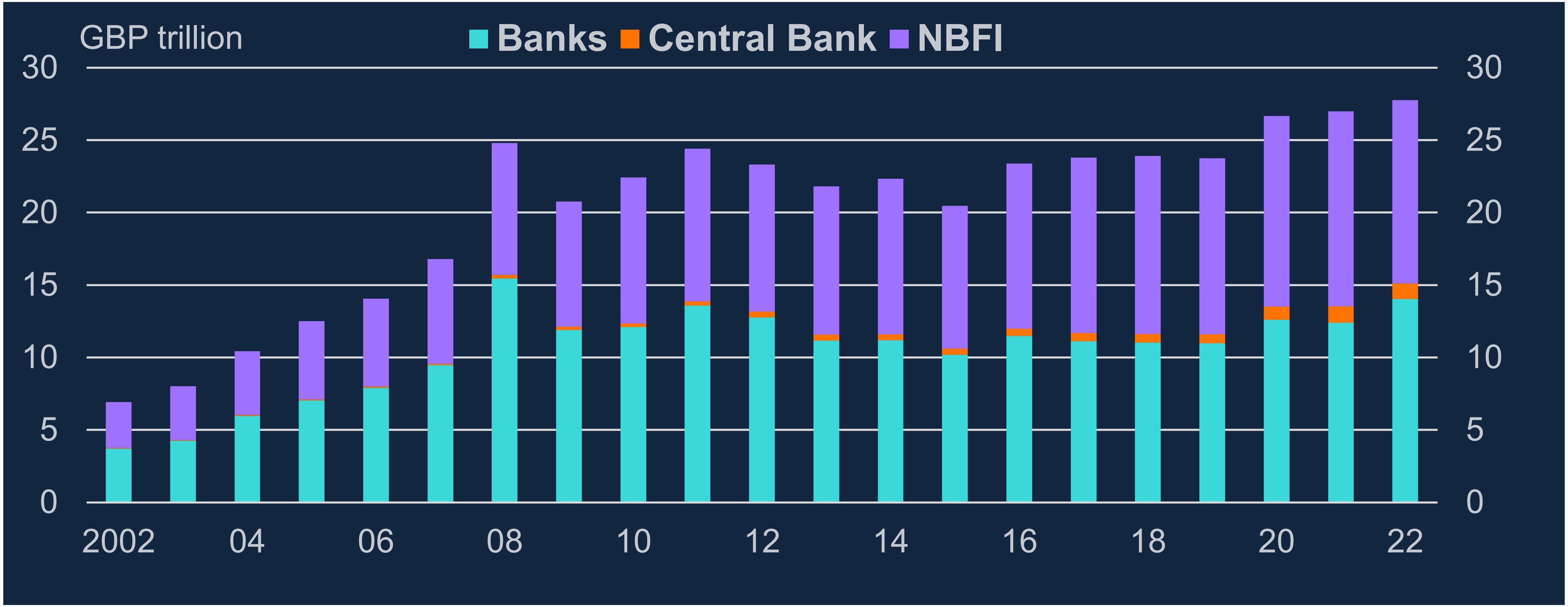
Chart 4: Breakdown of total financial assets in the United States [a]



Source: Federal Reserve Board (accessed via St Louis Fed's FRED database)

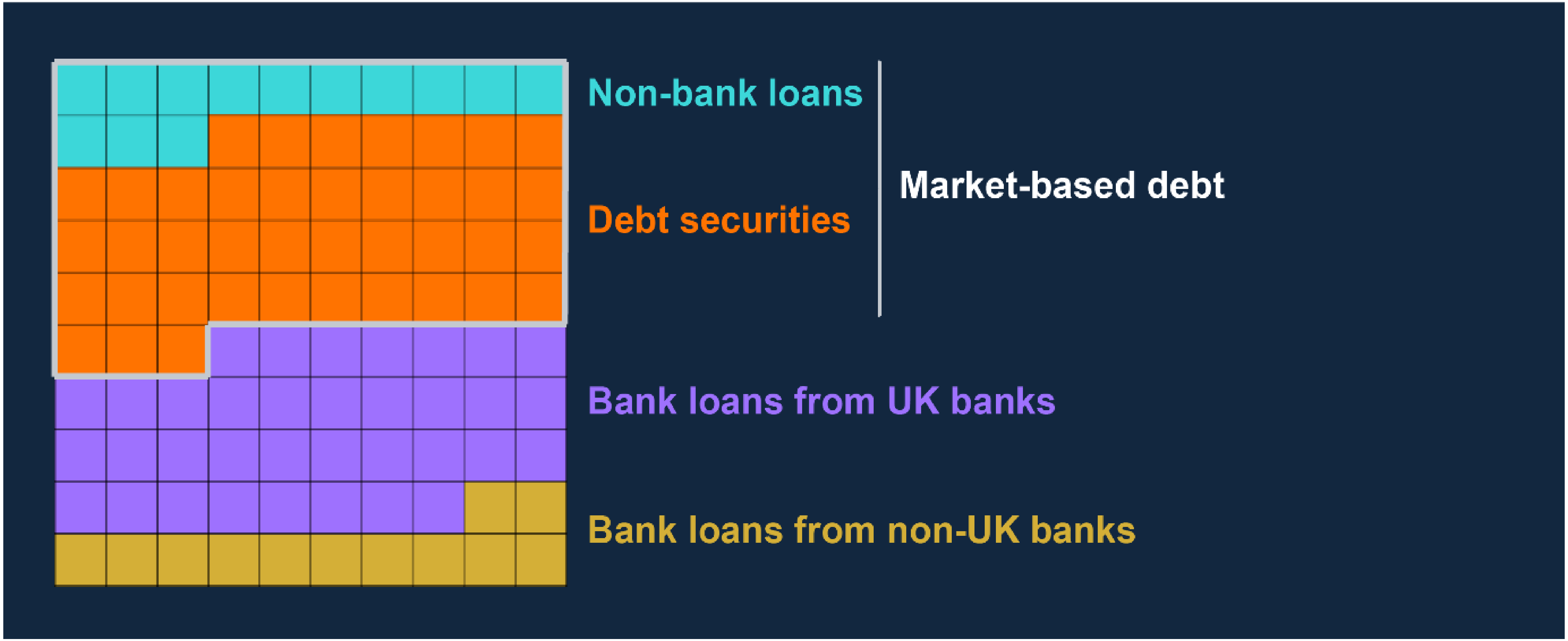
(a) NBFI includes mutual funds, ETFs, REITs and closed-end funds, insurance companies, pension funds, hedge funds, MMFs, security brokers / dealers and investment funds.

Chart 5: Total financial assets in the UK



Source: Bank of England and Office for National Statistics

Chart 6: Composition of the current stock of UK corporate debt



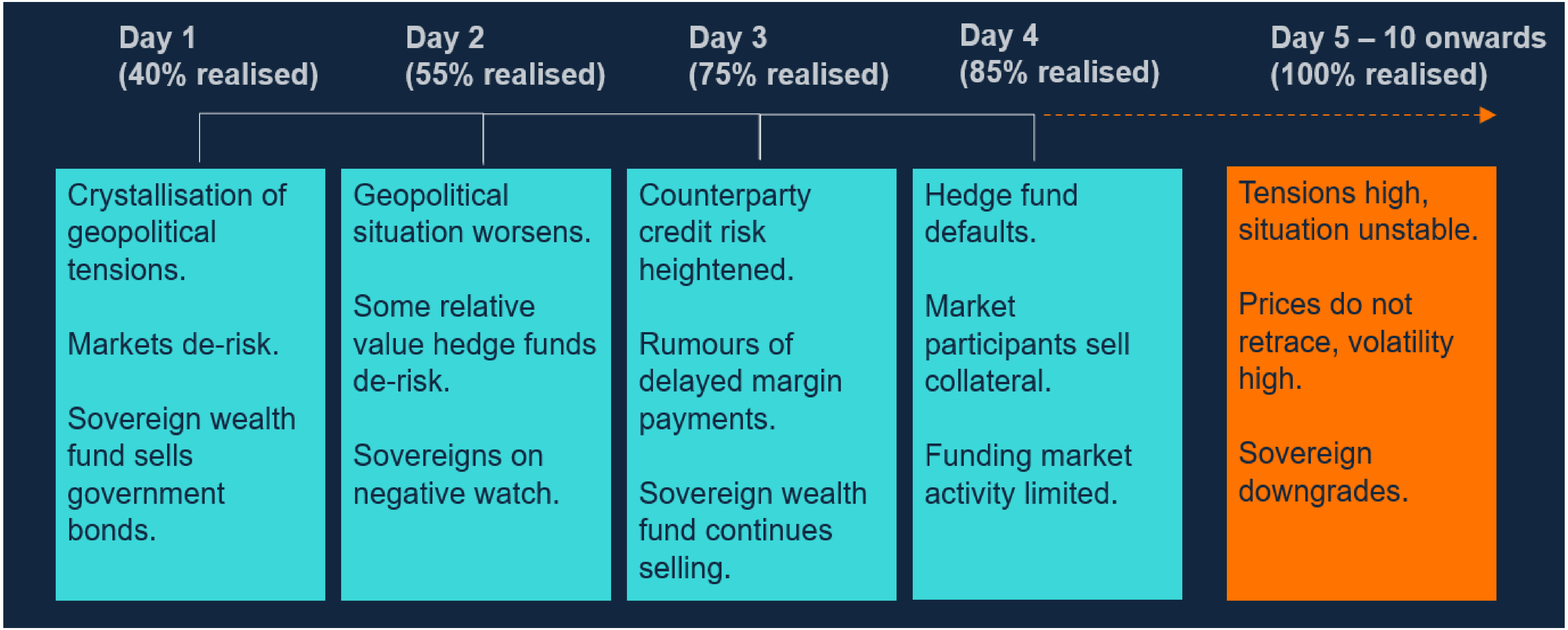
Sources: Bank of England, Bayes CRE Lending Report (Bayes Business School (formerly Cass)), Deloitte, Eikon from Refinitiv, Financing and Leasing Association, firm public disclosures, LCD a part of PitchBook, ONS, Peer-to-Peer Finance Association and Bank calculations.

System-Wide Exploratory Stress Scenario (SWES)

Figure 1: Day by day timeline of the hypothetical SWES scenario

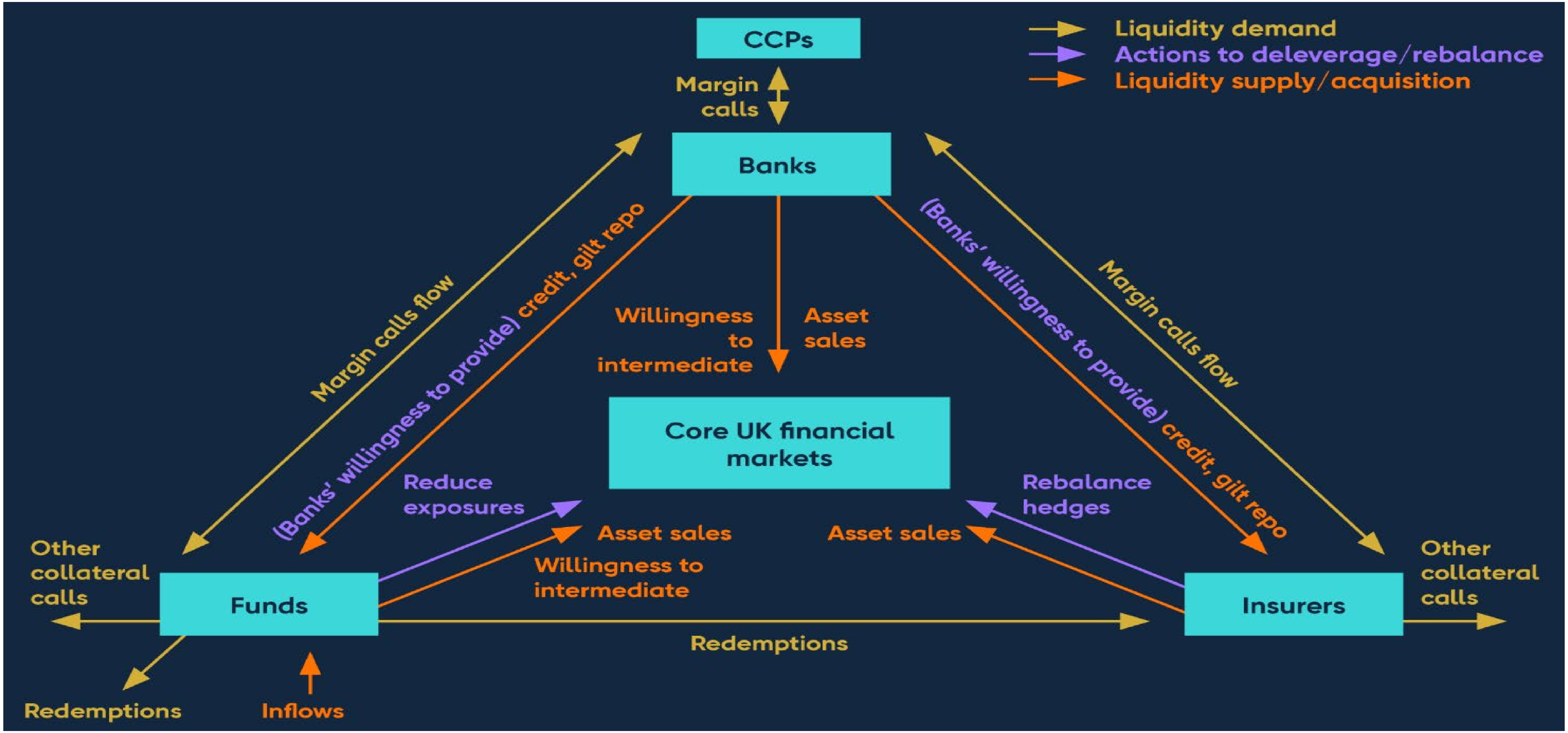
The scenario escalates from an initial crystallisation of geopolitical tensions.

Timeline of key events in the hypothetical SWES scenario.



Source: Bank of England

Figure 2: The key transmission channels the SWES will investigate



Source: Bank of England

Summary and Conclusions

1) Regulators and supervisors must be sensitive to both intended and unintended consequences of bank regulation changes

- Risks rarely disappear but tend to migrate into the ‘shadows’

2) Technological innovation brings in new non-bank players and potentially alters behavior, e.g., faster and more correlated actions

3) Hence, macropru should not just “look under the lamppost” but should try to shed light into the ‘shadows’ since the greatest dangers are often what you cannot see, e.g., icebergs

Summary and Conclusions (continued)

4) The System-wide Exploratory Stress Scenario (SWES) is the first of its kind exercise that I hope will

- Generate new data
- Expose data gaps and clarify what we most need to know, hence set priorities for future data gathering
- Shed light on fragile interconnections, risk concentrations, and correlations in stress to further our understanding of transmission mechanisms that can amplify shocks
- Thus, make the whole system more resilient to help
  - Protect taxpayers by being pro-active to reduce risks
  - Reduce the calls on central banks to intervene to stabilize the system

Summary and Conclusions (continued)

5) I hope that the SWES can provide a model for the FSOC, OFR, and the Fed as well as they try to determine what to designate as “systemically important”

6) I also hope the SWES can provide a roadmap for global exercises that can improve our understanding of cross-border fragilities and channels of transmission

Annex – Further details of SWES scenario

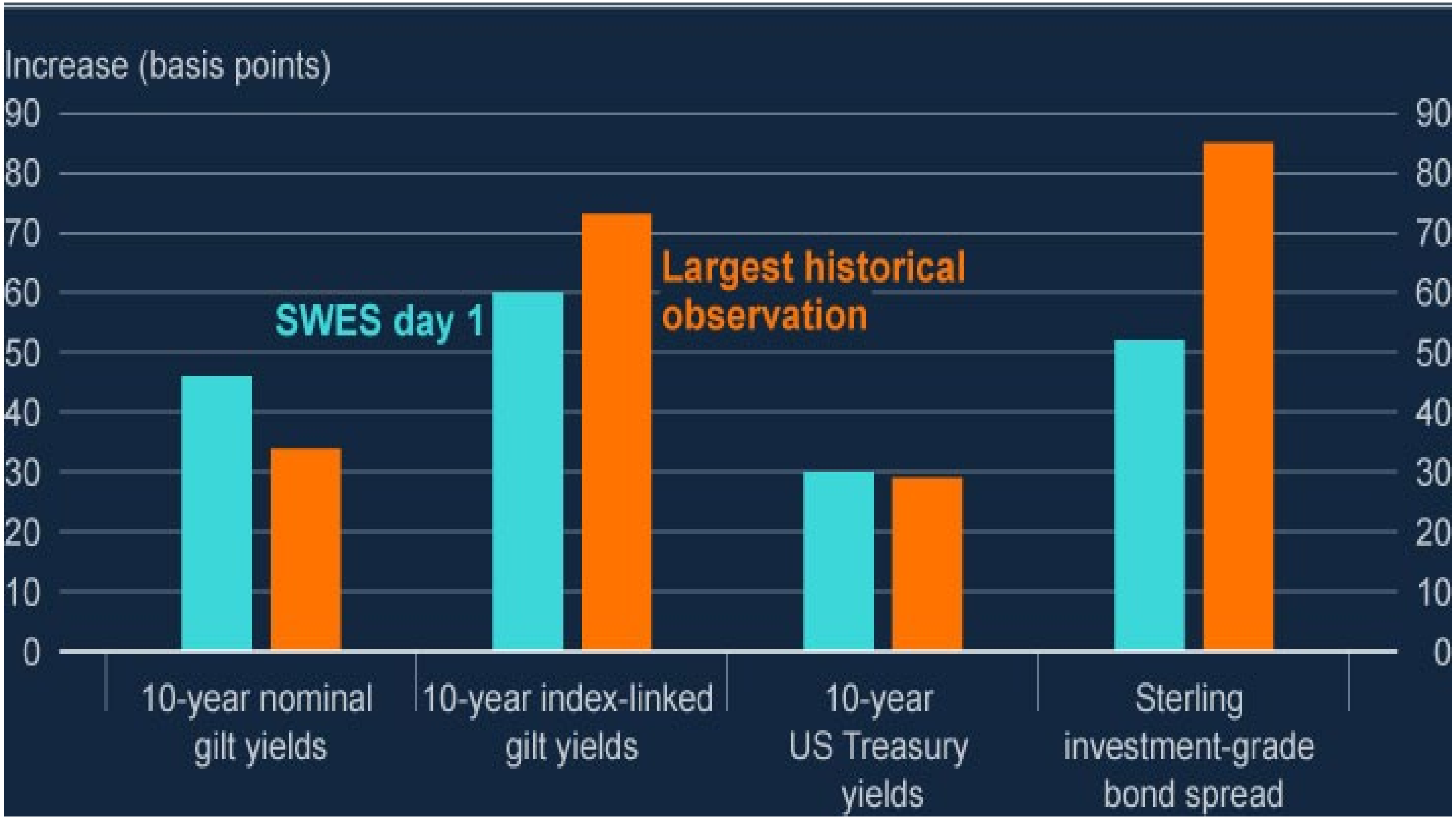
Table A: Comparison of shock severity

	SWES scenario	'Dash for cash'	LDI event	Largest historical observation	ACS 2022 [a]
10-year nominal gilt yields	115 basis points	50 basis points	133 basis points	133 basis points	95 basis points
10-year index-linked gilt yields	150 basis points	79 basis points	170 basis points	170 basis points	N/A
10-year US Treasury yields	75 basis points	20 basis points	35 basis points	76 basis points	90 basis points
Sterling investment-grade corporate bond spread	130 basis points	132 basis points	14 basis points	132 basis points	60 basis points
Equities (global)	-15%	-25%	-7%	-27%	-21%

Source: Bank of England

[a] ACS 2022 refers to the scenario used in the Bank of England's stress test of the UK banking system. Further details, including the results, can be found **here.**

Chart A: Day 1 moves of selected SWES variables compared to the largest historical observations(a)



Sources: Bank of England, Bloomberg Finance L.P, Board of Governors of the Federal Reserve System (US) and Bank calculations.

(a) The gilt yield, US Treasury yield, corporate bond, and equity back data start from 1 January 2000. Repo rate back data start from 1 July 2016. The back data for all gilt yields includes September 2022, when yields peaked unusually sharply.

Chart B: Evolution of 10-year gilt yields (left) and gilt repo rates (right) over the 10-day horizon encompassed in the price paths, compared to the dash for cash and LDI episodes(a)

Sources: Bank of England and Bank calculations.

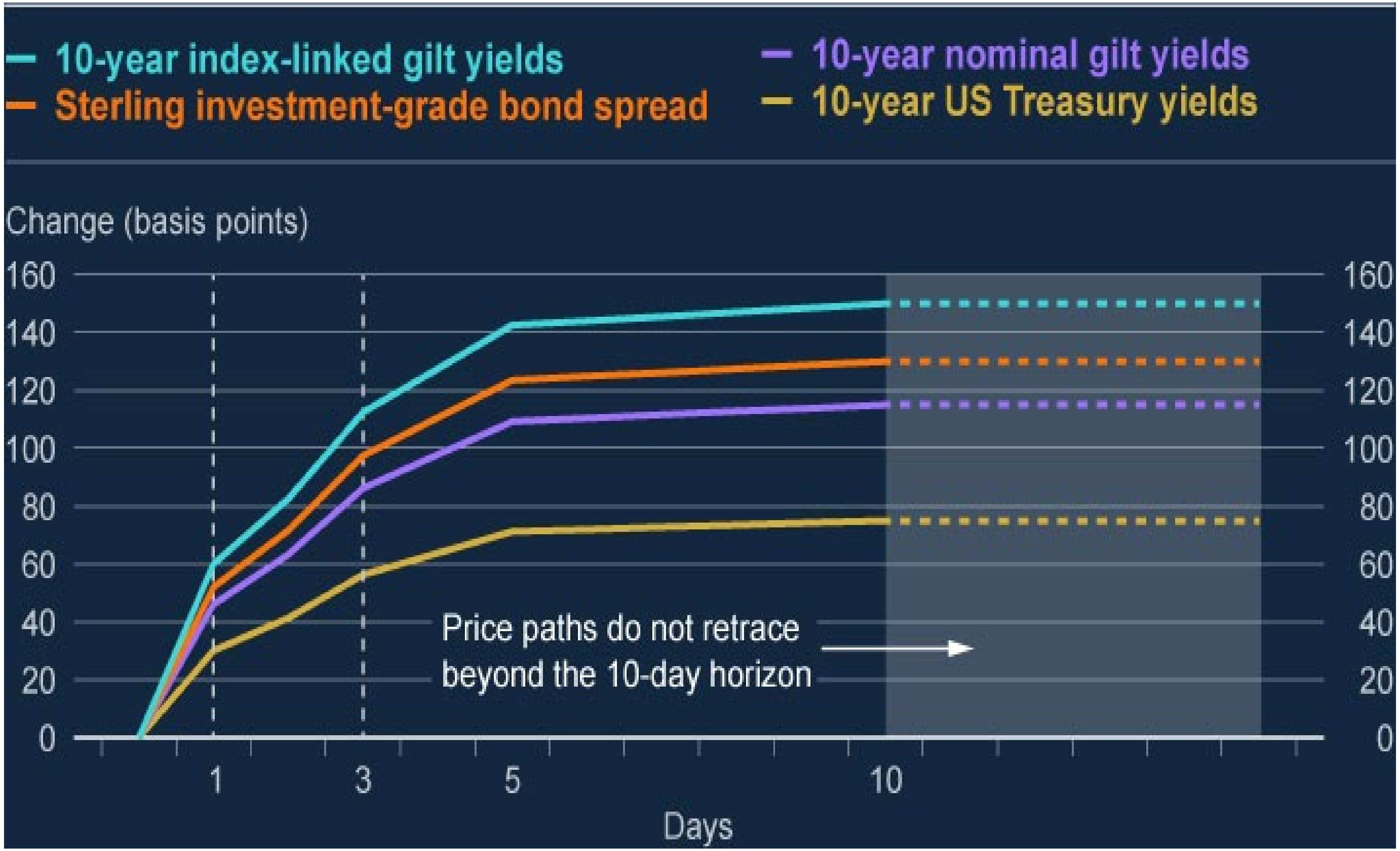
(a) For comparison we have charted daily moves relative to 10 days before 19 March 2020 and 27 September 2022 for the dash for cash and LDI series respectively.

Chart C: Evolution of 10-year US Treasury yields (left) and sterling investment-grade corporate bond spreads (right) over the 10-day horizon encompassed in the price paths, compared to the dash for cash and LDI episodes[(a)]

Sources: Bloomberg Finance L.P, Board of Governors of the Federal Reserve System (US) and Bank calculations.

(a) For comparison we have charted daily moves relative to 10 days before 19 March 2020 and 27 September 2022 for the dash for cash and LDI series respectively.

Chart D: Evolution of 10-year nominal gilt yields, 10-year index-linked gilt yields, 10-year US Treasury yields, and sterling investment-grade corporate bond spreads



Sources: Bank of England, Bloomberg Finance L.P, Board of Governors of the Federal Reserve System (US) and Bank calculations.