



# Regulatory and Risk management: Emerging trends in Credit Risk Models

Thursday 23<sup>rd</sup> June, 10:00 – 11:00am BST

*The virtual event will begin shortly.*



# Welcome and virtual event housekeeping

# GoToWebinar Housekeeping: Attendee Participation

Grant Thornton

**Regulatory and Emerging trends in ...**

Thursday 23<sup>rd</sup> June, 10:00 – 11:00a

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*The virtual event will begin shortly.*

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## Your Participation

### Join audio:

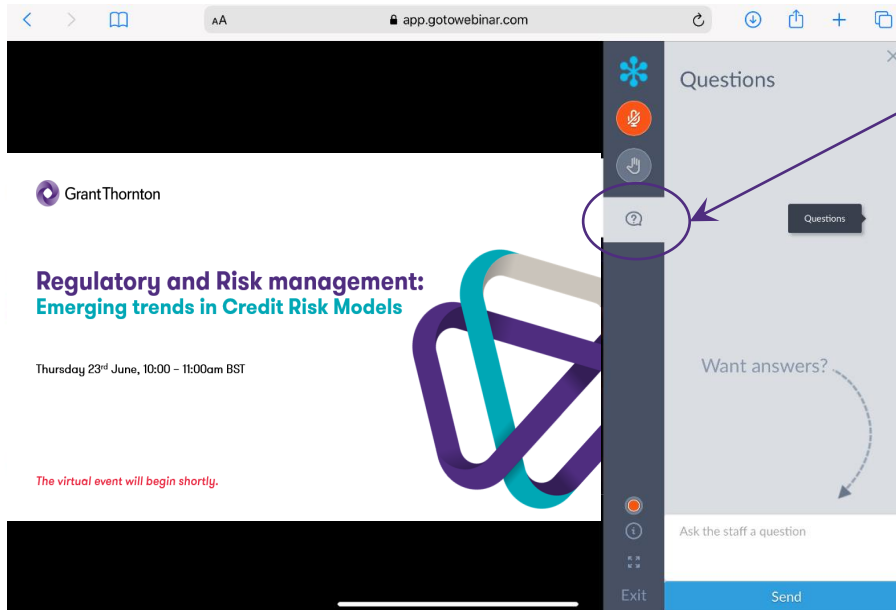
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### Note:

Today's presentation is being recorded and will be provided to all those registered for the event.

# GoToWebinar Housekeeping: Time for Questions



## Your Participation

- Please continue to submit your text questions and comments using the controls panel.

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# Agenda

- **Internal Ratings Based Approach (IRB)**
  - Role in RWA
  - Approach
  - EBA IRB main areas of interest
  - EBA Roadmap
  - EBA Credit Risk Benchmarking Exercise
  - IRB Post Crisis Reforms and Developments
- **IFRS 9 Expected Credit Loss**
  - Approach
  - Regulatory thematic feedback
- **Questions**

# Internal Ratings Based Approach IRB

# IRB and their role in RWA

**Table B: Risk-weighted assets by risk type (£ billions) <sup>(a)</sup>**

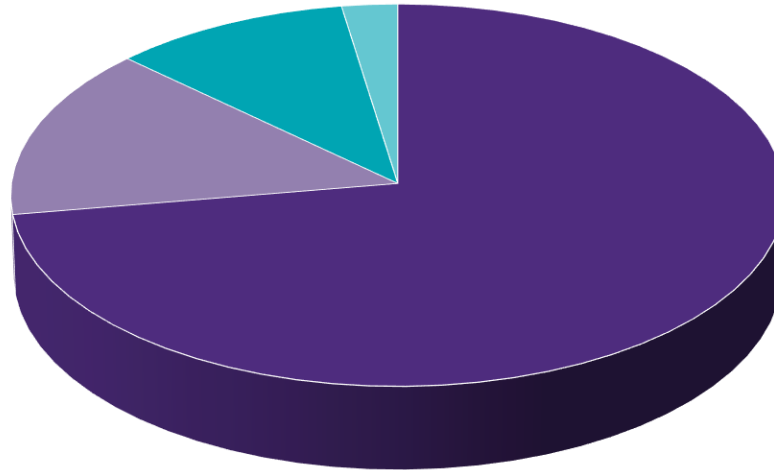
	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	One quarter	Four quarters
	Values (£ billions)					Change (per cent)	
<b>Total risk-weighted assets</b>	2,804	2,787	2,775	2,801	2,757	-1.6	-1.7
<b>Credit and counterparty risk</b>	2,027	2,018	2,012	2,032	1,979	-2.6	-2.4
<b>Market risk</b>	379	381	379	384	398	3.6	5.0
<b>Operational risk</b>	289	286	288	291	288	-1.0	-0.3
<b>Credit Valuation Adjustment</b>	77	75	69	72	68	-5.6	-11.7
<b>Other</b>	33	28	26	22	25	13.6	-24.2

(a) The categories of risk-weighted assets used are as defined in the reporting templates in the annexes to the Implementing Technical Standards (ITS) on Supervisory Reporting (Regulation (EU) No 573/2013).

Source: [Banking sector regulatory capital - 2021 Q4 | Bank of England](#)  
Published on 8 April 2022

# IRB and RWA

## RWA – UK banking sector – 2021Q4



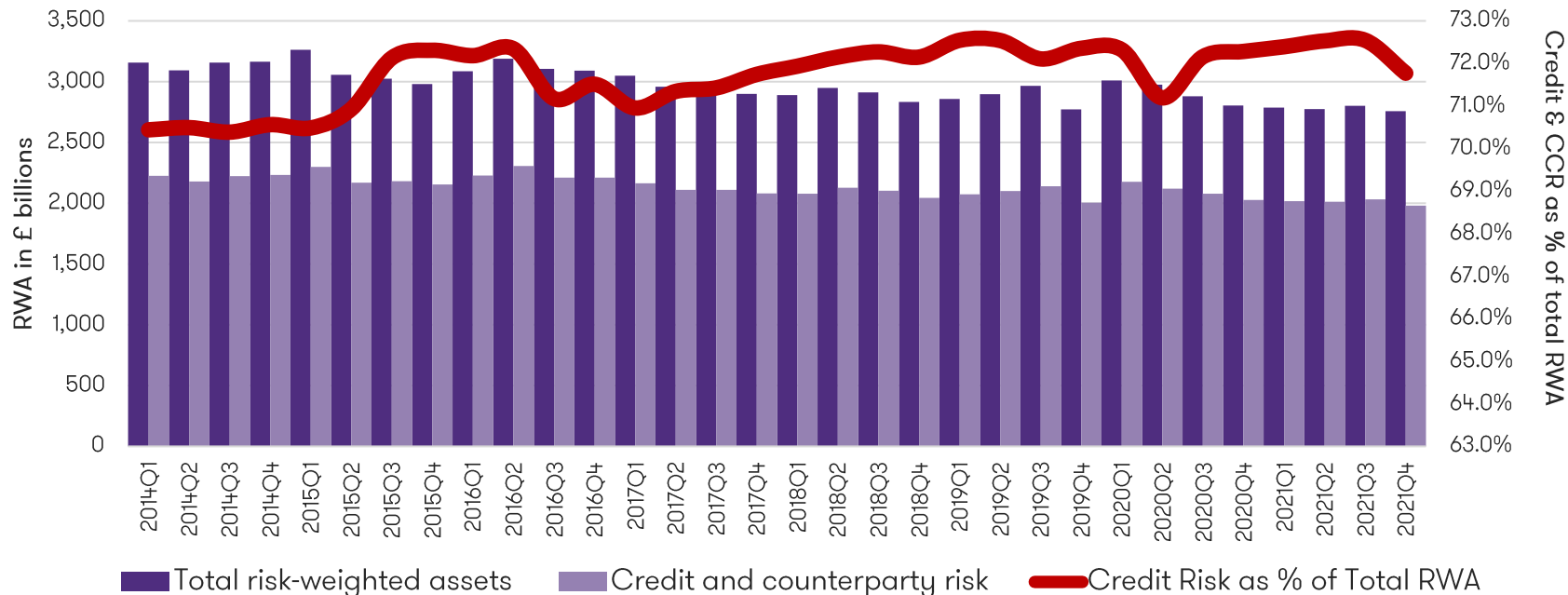
■ Credit and counterparty risk   ■ Market risk   ■ Operational risk   ■ Credit Valuation Adjustment

Source: [Banking sector regulatory capital - 2021 Q4 | Bank of England](#)  
Published on 8 April 2022



# IRB and RWA

## RWA – UK banking sector



Source: [Banking sector regulatory capital - 2021 Q4 | Bank of England](#)  
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# IRB approach

## Measuring Credit Risk

- Credit Risk is a major risk for financial institutions in RWA context
- Banks can use one of the two available approaches prescribed by regulators to measure the impact of credit risk in capital requirements
- The SA – Standardised Approach
  - SA approach assigns standardised risk weights to exposures
- The IRB approach – Internal Ratings-Based approach – which allows banks to use their internal rating systems for credit risk, subject to explicit approval from the competent authorities.

## Introduction of the IRB approach

- The IRB approach was introduced by CRD (Directives 2006/48/EC and 2006/49/EC of 14 June 2006).
- The regulations regarding IRB approach was enhanced by CRD IV/CRR
- The CRR introduced a number of mandates for the European Banking Authority (EBA) to develop technical standards and guidelines for IRB requirements.

## A-IRB & F-IRB

- For many of the asset classes, two broad IRB approaches are available:
- a Foundation IRB approach (F-IRB)
  - an Advanced IRB approach (A-IRB)

# EBA IRB main areas of interest

<p><b>Permission to use the IRB approach</b></p>	<p>Sets the details regarding the IRB approaches regarding:</p> <ul style="list-style-type: none"> <li>• Exposure classes</li> <li>• Methodology to assign a credit facility to exposure classes</li> <li>• The minimum requirement PRA should review before accepting an IRB approach</li> </ul>
<p><b>Calculation of RW Exposure</b></p>	<ul style="list-style-type: none"> <li>• Provides the treatment of RW by exposure class</li> </ul>
<p><b>Expected Loss amount</b></p>	<ul style="list-style-type: none"> <li>• Dealing with the calculation of Expected Loss amounts (EL)</li> </ul>
<p><b>PD, LGD and maturity</b></p>	<ul style="list-style-type: none"> <li>• Dealing with calculation requirements for these risk components</li> <li>• Provides the regulatory floors for PD, LGD and defaulted exposures</li> </ul>
<p><b>Exposure Value</b></p>	<ul style="list-style-type: none"> <li>• Dealing with calculating the Exposure Value for various types of exposures</li> </ul>
<p><b>Requirements for the IRB approach</b></p>	<p>Dealing with items such as:</p> <ul style="list-style-type: none"> <li>• General Principles, structure, documentation of Rating Systems</li> <li>• Use of models, Data, Governance &amp; Oversight, Risk management processes</li> <li>• Stress tests</li> <li>• Default of an Obligor</li> <li>• Requirements specific to PD, LGD &amp; CCF estimation</li> <li>• Validation of internal estimates</li> </ul>

# IRB EBA Roadmap

## EBA Guidelines



RTS on assessment methodology



RTS for the materiality threshold



Guidelines for the definition of default



Guidelines on PD and LGD estimation



RTS on economic downturn



Guidelines on LGD under downturn economic conditions



**IRB EBA Roadmap**

# EBA: Credit Risk Benchmark Exercise

<b>Variability on RWA</b>	<ul style="list-style-type: none"> <li>• General variability of RWA has decreased</li> <li>• The share of unexplained variability remained stable</li> </ul>
<b>Impact of COVID-19 on PDs</b>	<ul style="list-style-type: none"> <li>• There is heterogeneous impact on the IRB parameters, depending on the underlying loans and Banks' relevant processes</li> <li>• For LDP (Large Corp, Banks, Sov) where the review of the ratings is annual, the impact of the COVID-19 pandemic not visible in the IRB parameters</li> <li>• In automatised account scorings, which are applied more frequently the impact of the pandemic is more visible</li> </ul>
<b>Changes on average PD for HDP</b>	<ul style="list-style-type: none"> <li>• In High Default Portfolios (HDP) (Retail, Corporates, SME) a decrease in average PDs has been observed</li> <li>• This is attributed to re-calibrations for achieving compliance with the IRB roadmap</li> </ul>
<b>Changes on average PD in SME &amp; Retail portfolios</b>	<ul style="list-style-type: none"> <li>• For Retail SME portfolios the average PDs are lower than the previous year</li> <li>• This indicates the compensation of the public measures and moratoria towards these exposures</li> </ul>

# EBA: Post Crisis Reforms

Exposure Class	Existing methodology	New methodology
Retail	SA, A-IRB	No Change
Banks & other Financial Institutions	SA, F-IRB, A-IRB	SA, F-IRB
Corporates with consolidated revenues >€500m	SA, F-IRB, A-IRB	SA, F-IRB
Other Corporates	SA, F-IRB, A-IRB	No Change
Equities	SA, F-IRB, A-IRB	SA
Specialised Lending	SA, F-IRB, A-IRB, supervisory slotting	No Change

## Output Capital Floor

- 1 January 2025: 50%
- 1 January 2026: 55%
- 1 January 2027: 60%
- 1 January 2028: 65%
- 1 January 2029: 70%
- 1 January 2030: 72.5%

# EBA: Post Crisis Reforms

## Partial rollout of IRB approach

- Banks may be allowed to adopt a phased rollout of the IRB approach across an asset class.

## Exposure Classes

- New exposure class for regional governments and local authorities as well as public sector entities

## Revised Risk Parameters

- Elimination of the 1.06 IRB scaling factor
- Revised LGD Risk Parameter for Senior Unsecured Exposures to Corporates 40%
- Revised scope and calculation methods for the computation of own estimates of CCFs

## Specification of input floors

- IRB framework introduces minimum input values for PD and LGD
- PD min input is 0.05% – for Retail revolving facilities 0.10%
- Unsecured LGD floor for Corporates – 25%, Retail – 30% & 50%
- Secured LGD floor varying by collateral type

# PRA IRB developments

<p>Compliance with EBA IRB Guidelines &amp; IRB roadmap</p>	<p>Areas include:</p> <ul style="list-style-type: none"> <li>• LGD estimation in Downturn economic scenario</li> <li>• Application of the definition of default</li> <li>• Guidelines on PD and LGD estimation</li> </ul>
<p>Downturn LGD estimates</p>	<p>Updates and specific requirements for downturn LGD estimation:</p> <ul style="list-style-type: none"> <li>• Based on observed impact</li> <li>• Based on estimated impact</li> <li>• Adjustments on downturn LGD estimates</li> </ul>
<p>PPGD for UK residential mortgage exposures (Probability of Possession Given Default)</p>	<p>Areas include:</p> <ul style="list-style-type: none"> <li>• PPGD for UK residential mortgages to reflect economic downturn conditions</li> <li>• Where limited information is available, additional margin should be applied</li> <li>• In case of less sensitive PPGD models to changes in property values, the calibration of possession rates should reflect economic conditions</li> </ul>
<p>Discounting Cash flows</p>	<p>Updates regarding the Interest rates used for:</p> <ul style="list-style-type: none"> <li>• Minimum discount rate to estimate downturn LGD in-default</li> <li>• Long-run average LGD and in-default exposures to use SONIA</li> <li>• Recoveries that are recognised as a cash flow should not exceed the contractually recovery value</li> </ul>



# PRA IRB developments

## Adjustments to RWAs for UK Residential Mortgage Exposures

Adjustments include the following:

- IRB models to be appropriately conservative and capture all relevant risks.
- RWA floor of 10% on the exposure-weighted risk weight for all non-defaulted UK residential mortgage exposures.
- Post-model adjustments allowed in order to meet regulatory expectations

## LGD calibration in IRB approaches

Updates regarding:

- Calculating the economic loss for exposures returning to non-default status.
- Calculating the additional recovery cash flow
- Defining the moment of cure and the period of discounting

## Definition of Default & Probability of Default

Changes include:

- Compliance with EBA's Guidelines
- 90 Days Past Due (DPD) to be applied to all exposure classes
- Lower Materiality Threshold for unlikeliness to pay

## Retirement Interest Only (RIO) mortgages

Sets the requirements for RIO mortgages regarding:

- Existing exposures to be converted to RIO mortgages as distress restructuring
- Defaulted IO mortgage to return to non-defaulted status
- Conditions for IRB models to be used for RIO mortgages

# IFRS 9 Expected Credit Losses

# Overview: IFRS 9

The International Accounting Standards Board (IASB) issued International Financial Reporting Standard 9 – Financial Instruments (IFRS 9)

- IFRS 9 based on an Expected Credit Loss (ECL) framework for recognition of Impairment
- Forward-looking approach taking into account past, current and forecast information
- Aim is to be responsive to changes in credit risk for timely recognition of expected credit losses.

Prior to IFRS 9, the standard was based on an Incurred Loss framework

- Recognised credit losses only when evidence of a loss was apparent.

# Three stages for asset performance

## Stage 1: Performing

12-month expected  
credit losses

- Covers financial instruments that **have not deteriorated significantly** in credit quality since initial recognition

## Stage 2: Under-performing

Lifetime expected  
credit losses

- Covers financial instruments for which there has been a **Significant increase in Credit risk** since initial recognition

## Stage 3: Non-performing/ Credit-impaired

Lifetime expected  
credit losses

# Key judgements and estimates

Determining whether there has been a significant increase in credit risk (SICR) since initial recognition

- Change in credit risk over the life of the instrument
- Risk of default occurring
- Maturity profile of financial instrument.
- Consider reasonable and supportable information, e.g. borrower-specific indicators, external market indicators, incorporation of forward-looking estimates.

Determining Expected Credit Losses

- Estimation of probability of default, recovery rates and loss given default
- Assessment of whether a collective or individual assessment is needed for portfolios of shared risk characteristics
- Choice of economic scenarios and probability weighting of scenarios
- Discounting of expected cash flows using the effective interest rate.
- Assessment of any Post-Model Adjustments (PMAs).

# Disclosures

The adoption of IFRS 9 Financial Instruments has led to changes in the accounting treatment of financial instruments.

The IFRS 9 ECL impairment model has impacted the size and nature of a firm's impairment provisions, hence the balance sheet and profit and loss accounts.

Effective disclosure is therefore key to:

- Consistent and transparent communication to key stakeholders, such as investors and regulators.
- Aiding understanding by users of the firm's financial statements, given significant management judgements involved, inherent modelling complexities and its potential to increase earnings volatility compared to the previous incurred loss accounting standard.

# PRA thematic feedback: Written Auditor Reports

Successive thematic reviews have reiterated the systemic importance of effective implementation of ECL to:

- Ensure financial soundness across firms.
- Achieve consistency of ECL outcomes as far as practicable for comparability of financial reporting of credit exposures. Click to add text
- Facilitate good ECL disclosures so that investors and other users of the firm's financial reports can understand the ECL and inherent credit risks.

Anticipate the thematic findings also relevant to firms not within the scope of written auditor reporting.

Aim is to identify improvements in risk monitoring, measurement and in the management information used to challenge ECL estimates.

# PRA thematic feedback: Key themes

## Areas with the most significant gaps:

- Model Risk
- Economic scenarios
- Recovery strategies
- Significant increase in credit risk (SICR)

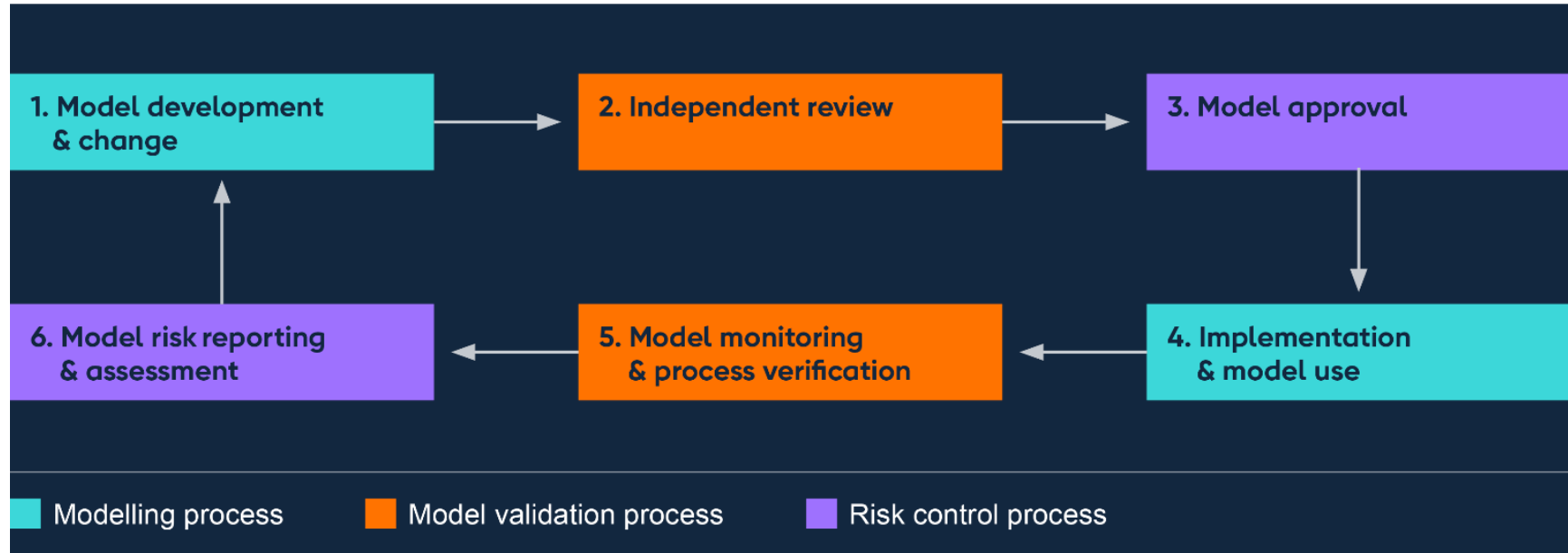
## Considerations for firms:

- More frequent model back-testing and recalibration to monitor model performance issues and limitations.
- More sector analysis to differentiate vulnerable sectors and detect emerging risks, eg climate change.
- More agile controls to adopt enhanced oversight, validation and data reviews during periods of stress.
- Define boundaries of model operation and develop early alert metrics to flag approaching limits.
- Greater use of sensitivity analysis to support robust governance and more comparable disclosures.
- Proactive monitoring of adequacy of collections.
- Consider recovery rate and strategy for higher risk sectors.
- Leverage customer behavioural data, e.g. indebtedness, to identify SICR indicators.



# PRA Consultation Paper | CP6/22- June 2022

Sequence of modelling-validation-control activities:



Source: PRA Consultation Paper | CP6/22- June 2022

# Questions

# Contact us



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# Grant Thornton's upcoming events

Please email [FSGEvents@uk.gt.com](mailto:FSGEvents@uk.gt.com) for more information

Event	Date/Time	Description	Registration link
<b>Webinar:</b> Machine Learning and its application in Financial Industry	<b>Wednesday 29 June</b> 10.00 am–11.00 am	What is machine learning? And what does artificial intelligence mean for work? Join us to understand its benefits and risks, and get insight on how it may evolve, including potential regulation.	<a href="https://bit.ly/3NDvxE2">https://bit.ly/3NDvxE2</a>
<b>Event:</b> The financial services NED network: Leadership	<b>Tuesday 13 September</b> 12:00 pm–14:00 pm	The value of NEDs' leadership and independent insight is rising. Join our financial services NED network forum for an insightful lunch and get guidance on understanding and leveraging your leadership style.	<a href="https://bit.ly/3PAyCGY">https://bit.ly/3PAyCGY</a>
<b>Webinar:</b> Consumer Duty CPD Technical Update Programme	<b>Wednesday 23 September</b> 10:00–11:15 am	Join our technical update for insights on the FCA's new Consumer Duty, due to come into force in 2023. You'll get a preview of how this will impact your firm and practical guidance on meeting the FCA's expectations.	<a href="https://bit.ly/3Ni2YM8">https://bit.ly/3Ni2YM8</a>



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