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11 October 2022

Dear Chief Financial Officer,

Thematic feedback from the 2021/2022 round of written auditor reporting

This letter provides thematic feedback to both firms and auditors from our review of written auditor reports received in 2022, and further discussions with firms, auditors, and other global regulators, as well as thematic work by PRA staff.

Each year, we receive a written report from your auditors responding to our questions on issues of particular supervisory interest. We provide feedback on what we learn from those reports through a number of channels. The main thematic findings are briefly set out in this letter, with detail provided in the two annexes. The first annex covers thematic findings on IFRS 9 expected credit loss accounting (ECL). The second annex covers thematic findings on accounting for climate-related financial risks (climate risks). This letter also sets out observations on disclosure and benchmark reform.

The findings in this letter do not identify any particular firm or auditor. Supervisors will provide firm-specific feedback to firms and their auditors through continuous assessment meetings, regular auditor–supervisor bilateral meetings, and trilateral meetings involving supervisors, your auditors, and your audit committee chair.

Thematic findings on IFRS 9 expected credit losses

Our work in 2022 focused on progress made by firms to embed high-quality practices and lessons learned from how firms have responded to applying ECL in stress.

Our previous letters have explained the importance we attach to ECL being implemented well and in ways that achieve as much consistency of outcomes as is practicable. We have also made it clear that we expect firms' ECL methodologies to evolve for several years after initial implementation at the beginning of 2018, and that we expect the resources and budgets to be made available to enable that to happen.¹

The letter that I sent on 2 October 2019² put forward a direction for some of those changes by setting out our views on practices that would contribute to a high quality and more consistent implementation of ECL ('high quality practices'), and so reduce the risk that firms will recognise inappropriate levels of provisions. The letter I sent on 29 September 2021³ identified new areas brought to light by Covid-19 where we think further efforts are needed to develop new high quality practices to ensure that firms recognise changes in credit risk in a timely way.

To monitor progress, we asked for your auditors' views on the extent to which your firm has applied the high quality practices during 2021, and the quality of firms' processes around the new areas brought to light by Covid-19.

We were pleased to hear about the significant efforts made by firms to apply lessons from adapting ECL processes for Covid-19 to the current challenges that are posed by global inflationary pressures, exacerbated by steep rises in energy and other commodity prices, and disruption of supply chains. While we were encouraged to see

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- 1 November 2016: 'Implementation of IFRS 9 Financial Instruments': <https://www.bankofengland.co.uk/prudential-regulation/letter/2016/letter-from-sam-woods-implementation-of-ifrs-9-financial-instruments>; and August 2017: 'IFRS 9 Financial Instruments': <https://www.bankofengland.co.uk/prudential-regulation/letter/2017/letter-from-sam-woods-ifrs-9-financial-instruments>.
 - 2 October 2019: 'Written auditor reporting – thematic feedback from the 2018/2019 reporting period': <https://www.bankofengland.co.uk/prudential-regulation/letter/2019/written-auditor-reporting-thematic-feedback-from-the-2018-2019-reporting-period>.
 - 3 September 2021: 'Thematic feedback from the 2020/2021 round of written auditor reporting': <https://www.bankofengland.co.uk/prudential-regulation/letter/2021/september/written-auditor-reporting-2021>.

progress in key areas, our findings regarding the further progress needed to embed high quality practices are broadly similar to the prior year.

It is against that background that we set out below the main thematic findings:

Model risk

Model performance has continued to be impaired. This was in part due to challenges capturing an uncertain and unfamiliar economic outlook, but it was also due to long-standing limitations in firms' approaches. Effective oversight of model risk remains a priority. It will be important for firms to make progress to deliver on their strategic plans to address limitations in IFRS 9 models, and to closely monitor the performance of old and new models, and react to weaknesses identified. We foresee this will be supported by firms engaging with our consultation on the proposed 'model risk management principles for banks'.⁴

We continue to consider it crucial that firms make appropriate use of post model adjustments (PMAs)⁵ based on expert judgement, to ensure that provisions reflect actual credit risk expectations, and that those PMAs are the subject of high quality governance. This will be particularly important to respond to new challenges related to capturing the impact of inflationary pressures on vulnerable borrowers and their ability to afford their repayments. We continue to encourage firms to ensure PMAs are not released before the underlying issues leading to implausibly low modelled provision cover are addressed.

Economic scenarios

We continue to see limitations in firms' abilities to respond to events shortly before the reporting period ends, and to develop scenarios that explore vulnerabilities in specific sectors or segments. We continue to regard it as essential that firms develop capabilities to perform more comprehensive economic sensitivity analysis more quickly,

4 June 2022: CP6/22 – Model risk management principles for banks: <https://www.bankofengland.co.uk/prudential-regulation/publication/2022/june/model-risk-management-principles-for-banks>.

5 The term 'PMAs' refers to all model overlays, management overlays, model overrides, or any other adjustments made to model output where risks and uncertainties are not adequately reflected in existing models.

and improve their use of timely, granular, and comparable peer benchmarking data, to support robust governance.

Recovery strategies

We have seen firms making less progress adopting high quality practices for challenge of recovery strategies than in other areas of ECL. We also saw limited use of adjustments to loss given default (LGD) to reflect the elevated risk that past experience may not necessarily be a good predictor of future recovery rates. It will be important to challenge whether the recovery strategies that drive LGD are realistic and reflect future expectations and economic conditions.

Next steps on IFRS 9

Next steps are summarised below, with supporting detail provided in the first annex to this letter.

Embedding high quality practice: We continue to think that the challenges created by ongoing economic uncertainty give the high quality practices described in my 'Written auditor reporting – thematic feedback from the 2018/2019 reporting period' letter, even greater significance. Our expectations regarding the adoption of high quality practices are unchanged from that letter. To help firms identify improvements they can make, we have set out our views on the most significant gaps between observed practices and the high quality practices shared with you in 2019.

We have also set out new high quality practices on model risk and recovery strategies, to reflect learnings from applying ECL in stress. As part of the 2022/23 round of written auditor reporting, we have asked for your auditors' views on the extent to which you are applying these high quality practices, or have alternate processes in place that achieve the same results. We encourage you to engage with your auditors in carrying out this work by performing your own analysis and by making that analysis available to your auditors as part of the year-end audit.

[Consistency: We are pleased with the progress made by firms to develop recommendations to bring about greater consistency in use of multiple economic scenarios. In 2023, we intend to discuss your firms' plans to make changes to your ECL approach that would result in improved consistency, and how firms can work together and with us to improve access to timely, granular, and comparable

peerbenchmarking data in times of stress. We will also discuss the next stage of work on consistency, including work to identify industry standard metrics around the effectiveness of different approaches to SICR.]

Accounting for climate risks

Our work in 2022 focused on actions taken by firms to prepare to capture the impact of climate risks on balance sheet valuations.

The letter I sent, 'Thematic feedback from the 2020/2021 round of written auditor reporting', dated 29 September 2021, explained the proper identification of risks of material misstatement is important to bank supervisors, as it impacts the extent of audit work performed that supervisors can make use of in reviewing firms' own risk assessments. To monitor actions taken by firms in 2021, we asked for auditors' views on how robust firms' risk assessments to capture the impact of climate risks on balance sheet valuations were.

We were pleased to see firms taking action to enhance their governance, data, and risk assessments in 2021. While the effects of climate risk on financial statements are attracting more attention, auditors did not identify specific risks of material misstatement related to climate change for your recent annual accounts. This was generally attributed to the longer time horizons attached to physical risks, and uncertainty over transition risks. It is against that background that we set out below the main thematic findings.

Firms were at different stages of preparation, particularly in relation to the capture of climate risk in ECL. Auditors noted a lack of reasonable and supportable data available to management about their exposure to climate risk, and available to auditors to substantiate the impact of climate risks on the balance sheets. Where data was available, firms' control environments around the quality of new data sources and use of proxies were immature.

Some firms appeared to be further progressed in identifying their future requirements for data and modelling, and considering how economic scenarios used in accounting estimates can be adapted to incorporate the impact of climate risks. We encourage all firms to have detailed plans for developing their capabilities to capture the impact of

climate risks on balance sheets to ensure that firms' accounting practices evolve in lock-step with improvements in risk monitoring.

Next steps on accounting for climate risks

To support robust planning and early action, we have set out our views on elements that would contribute to planning for the development of capabilities to capture the impact of climate risks on balance sheets over time. These 'key plan elements' are included in Annex 2 of this letter. The key plan elements have been developed using our written auditor reporting work and our own analysis. They are consistent with the broader expectations set out in Supervisory Statement (SS) 3/19 'Enhancing banks' and insurers' approaches to managing the financial risks from climate change'⁶ and the findings of the 2021 Climate Biennial Exploratory Scenario (CBES) exercise.⁷

We envisage that some of the plan elements will have progressed in 2022, while others will take several years to address. As part of the next round of written auditor reporting questions, we have asked for your auditors' views on the progress made in 2022 against these key plan elements to help us establish a baseline for future monitoring. We encourage you to engage with your auditors in carrying out this work by performing your own assessment against these key plan elements and by making that assessment available to your auditors as part of the year-end audit.

6 April 2019: <https://www.bankofengland.co.uk/prudential-regulation/publication/2019/enhancing-banks-and-insurers-approaches-to-managing-the-financial-risks-from-climate-change-ss>, and July 2020: 'Managing climate-related financial risk – thematic feedback from the PRA's review of firms' SS3/19 plans and clarifications of expectations': <https://www.bankofengland.co.uk/prudential-regulation/letter/2020/managing-the-financial-risks-from-climate-change>.

7 May 2022: Results of the 2021 Climate Biennial Exploratory Scenario (CBES): <https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario>.

Disclosure

You will be aware from our previous letters of the importance we attach to good market disclosures regarding ECL accounting⁸ and firms' exposures to, and management of, climate risks.

We welcome the third report by the Taskforce on Disclosures about Expected Credit Losses (the Taskforce),⁹ as well as the commitments made by firms to adopt the recommendations of the Taskforce through the UK Finance Disclosure Code (the Code). I would like to thank the members of the Taskforce for their dedicated work on ECL disclosures, and was pleased to see a high level of adoption has already been achieved for selected recommendations.

In 2023, we intend to engage with the signatories of the Code to explore opportunities for firms to work together, and with us, to identify ways to improve the link between firms' climate-related disclosures and the impact on their financial statements. I would welcome the support of signatories of the Code in helping to make this new initiative a success.

Benchmark reform

The transition away from Libor benchmarks remains a priority for us and the Bank of England (The Bank). We note that firms have largely completed the transition of sterling and other Libor benchmarks with a planned transition date as at 31 December 2021. However, many firms continue to place some reliance on time-limited synthetic Libor rates and exposures to these should be remediated as soon as practicable. Furthermore, firms need to transition exposures to USD Libor rates by end-June 2023.

We remind firms of the high quality practices on benchmark reform which we introduced in our letter 'Thematic feedback from the 2019/2020 round of written auditor

8 All referenced letters are available at: <https://www.bankofengland.co.uk/prudential-regulation/letter/2017/transition-disclosures-for-ifs9-financial-instruments>; and <https://www.bankofengland.co.uk/prudential-regulation/letter/2021/february/disclosures-ifs9>.

9 September 2022: 'Taskforce on Disclosures about Expected Credit Losses (DECL) updated guidance': <https://www.frc.org.uk/news/september-2022/taskforce-on-disclosures-about-expected-credit-los>.

reporting'.¹⁰ In particular, we think it will be important to ensure that firms' Libor projects are not prematurely dismantled or decentralised while significant exposures remain, and that firms have robust plans to transition their remaining Libor exposures, and to address issues such as embedding the use of risk free rates in valuation processes. Similar to last year, we found firms were making extensive use of manual processes to capture and aggregate Libor exposures. Where further data automation is not practical, we think it will be important that reliance on manual processes is subject to formalised and documented controls over data extraction, validation, and aggregation.

We will be publishing this letter on the PRA section of the Bank's website. If you have any questions concerning it, please get in touch with me by email and copy your usual supervisory contact.

Yours sincerely



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10 October 2020: <https://www.bankofengland.co.uk/prudential-regulation/letter/2020/written-auditor-reporting-thematic-feedback-from-the-2019-2020-reporting-period>.

Annex 1

Thematic findings on IFRS 9 expected credit loss accounting (ECL)

1. In this annex, we set out our thematic findings from our review of written auditor reports received in 2022, as well as discussions with auditors, firms, and other regulators and thematic work by PRA staff, including the UK retail model review completed in 2022.
2. This annex is structured as follows for each area:
 - a description of the most significant gaps between practices observed, and the high quality practices described in my letter, published in October 2019, 'Written auditor reporting – thematic feedback from the 2018/2019 reporting period';
 - observations in the context of the current economic environment; and
 - for model risk and recovery strategies, we have identified additional practices that supplement our view on what would contribute to a high quality and more consistent application of ECL, reflecting learnings from applying ECL in stress - those practices are set out in grey boxes for ease of reference.
3. Our aim in providing this feedback is to encourage firms to identify improvements that can be made to risk monitoring and measurement, and to the management information used to inform challenge of ECL estimates. The high quality practices have been developed with the size, nature, and complexity of firms in scope of written auditor reporting particularly in mind. However, we think that the findings in this letter will also be helpful for firms applying IFRS 9 that are not within the scope of written auditor reporting.
4. As Sam Woods explained in his letters published on 25 November 2016, 'Implementation of IFRS 9 Financial Instruments', and 7 August 2017, 'IFRS 9 Financial Instruments', although it is not our role to set, interpret, or enforce accounting standards, we have an interest in how the standards are implemented, where the application of those accounting standards has an impact on our statutory objectives. We regard the effective implementation of ECL to be important in ensuring the safety and soundness of PRA-authorized firms. We will continue to work with firms to share concerns, facilitate cross-industry solutions, and promote high quality implementation.

Model risk

Progress embedding high quality practices

5. Focus on model risk management has continued. We saw firms putting in place work plans to better incorporate risks into models over time as part of the next generation of IFRS 9 models. As part of that work, we saw the development of sensitivity analysis capabilities for specific portfolios to support enhanced model oversight. However, we judged firms to have partially adopted the high quality practices. We also saw numerous instances of control deficiencies, indicating continued stretch in key modelling and validation teams.
6. On 21 June 2022, we set out, for consultation, proposed model risk management principles for banks¹¹ that are also relevant to models used for accounting purposes. Those proposals set out what we consider to be the core disciplines necessary for a sound model risk management framework across all model and risk types. The proposals are intended to complement, not supersede, the high quality practices set out in our letters to you on IFRS 9.
7. The most significant gaps we identified are similar to last year and were:
 - The scope of model testing and validation performed did not cover all material models and critical data used to calculate ECL, including new models and critical data introduced to calculate material PMAs.
 - As more recent loss experience becomes available to compare models against, we continue to see opportunities for firms to perform more frequent and detailed model back-testing across a broader set of models and segments, on both a pre and post-PMAs basis.
 - We see scope for improvement in how findings from model testing and validation are aggregated and reported to enable management to assess the overall direction and significance of model limitations.

11 CP6/22 – Model risk management principles for banks, June 2022:
<https://www.bankofengland.co.uk/prudential-regulation/publication/2022/june/model-risk-management-principles-for-banks>.

- We see scope for firms to improve documentation around key model limitations as part of ongoing model validation, as opposed to only considering limitations as part of model development. We continue to see opportunities for firms to enhance both the documentation of model simplifications and use of sensitivity analysis to reassess the impact of using different modelling assumptions and challenge completeness of PMAs.

Observations in the context of the current economic environment

8. Model performance has continued to be impaired. We continue to consider it critical for firms to make use of PMAs to ensure that provisions reflect actual credit risk expectations, and that those PMAs are the subject of high-quality governance.
9. While the nature and use of PMAs have changed over the last 12-months, PMAs continue to represent a significant portion of provision cover:
 - As at June 2021, around 22%¹² of balance sheet provisions comprise of PMAs on a weighted average basis (32% on a simple average basis); the range across firms varies from 6% to 76%. The most material PMAs were to suppress the modelled impact of an improved economic outlook to reflect the impact of past government-led support on arrears rates and credit utilisation.
 - As at June 2022, around 17% of balance sheet provisions comprise of PMAs on a weighted average basis (26% on a simple average basis); the range across firms varies from 6% to 45%. As most firms released most of their PMAs related to Covid-19, a significant portion of PMAs were aimed at capturing elements of economic uncertainty such as affordability, supply chain - and inflationary pressures.
10. We continue to encourage firms to ensure PMAs are not released before the underlying issues are addressed, by conducting root-cause analysis to identify the extent to which PMAs compensate for recurring risks and ongoing model limitations.

12 Based on PRA calculations and data. June 2021 and 2022 include all firms currently in scope of written auditor reporting.

11. We see firms facing new challenges to capture the impact of global inflationary pressures on borrowers. Models generally do not react to inflation as a key risk driver to capture expectations of deterioration in affordability and borrowers' ability to repay. For retail customers, a lack of granular, standardised and up-to-date data to capture current affordability increases the risk of reliance on lagging indicators or inaccurate proxies. We saw firms apply ad hoc processes to identify borrowers vulnerable to the rising cost of living, as well as sectors vulnerable to supply chain disruption, and to incorporate current inflationary pressures into credit scores. To respond to these new challenges, we encourage firms to consider whether their ECL estimates reflect vulnerabilities of specific sectors or segments, including using a broader set of data to identify borrowers currently facing affordability issues, and enhancing capabilities to quantify the associated risks, including analytical tools to capture expectations for future deterioration in affordability.

Our view on higher quality and more consistent practices

12. Addressing limitations in IFRS 9 models is an important area of focus for us. We understand that model changes will take time to develop and need more real data on which models can be trained. We also recognise the wider risks arising from the significant model change agenda at firms, and the need to closely monitor the performance of existing models and react to weaknesses identified.
13. We discussed firms' strategic plans for longer-term model redevelopment as part of the retail model reviews. In general, firms had plans to address model limitations identified pre-Covid-19, and to reduce time to run models and produce sensitivity analysis.
14. We identified limitations in governance over strategic plans. In particular, we saw limited evidence of central and senior oversight and challenge over whether planned changes gave sufficient priority to incorporating risks previously captured in PMAs, so that reliance on PMAs will be significantly reduced in future. We also saw a lack of monitoring of the adequacy of resource in modelling and validation teams to execute those plans on a timely basis, while maintaining the effectiveness of core model risk controls.

15. Strategic plans to address model limitations and enhance model capabilities are subject to regular oversight by a senior and cross-function committee. This includes effective challenge of the capacity of modelling and validation resource to deliver those plans, and the scope of plans to reduce reliance on PMAs in future.
16. Robust governance around use of Covid-19 data will be essential to ensure that model performance does not worsen due to recent data being incorporated too mechanically into models.
17. From our discussions with firms, we anticipate that decisions on use of pandemic data will be taken beyond 2022. Where firms had begun to take decisions on whether or not to use Covid-19 data in model redevelopment, firms had generally applied existing pre-pandemic approaches on a model-by-model basis. These involve decisions on inclusion of data from periods of stress being documented and justified, as part of model development, and subject to review and challenge as part of model validation.
18. While we saw examples of decision frameworks for use of Covid-19 data being discussed with senior committees, we see scope for firms to improve oversight of those decisions to ensure a consistently robust approach across the group, and use of analysis to consider the impact of using alternative development periods.
19. A clear framework is in place for decisions on whether to include or exclude data from periods of stress in model redevelopment, calibration, and validation, supported by regular monitoring of the aggregate impact on model performance of such decisions by risk committees.
20. Lack of segmentation in models and data to reflect sector specific risks was a common limitation in firms' ECL methodologies both throughout Covid-19, and in the context of more recent inflationary pressures.
21. We saw a lack of evidence of analysis and documentation to support the choice of segmentation in existing IFRS 9 models. Several firms had only one segment per product, in particular for unsecured portfolios. Examples of better practice included consideration of key drivers of risk as segments; such as product type and borrower characteristics. This partly reflects that ECL is still a relatively new concept, and some firms are still using their 'first generation' models where model documentation

is over five years old. We think more rigorous analysis as part of future model redevelopments will be important to challenge whether the level of granularity is likely to differentiate vulnerable sectors and higher risk retail segments, where data is available.

22. Model redevelopments will take time. In the meantime, we see scope for firms to enhance monitoring and validation of existing models, to consider model performance for high-risk segments, including use of sector-level back-testing.

23. Granular analysis of sectoral risks and other high risk indicators is used to support the choice of model segmentation and documented as part of model development, and regularly reassessed as part of model validation.

24. Given inherent limitations in models, we think that firms' capabilities to do sectoral risk analysis quickly and accurately will play an important role in assessing the impact of inflationary pressures on borrower affordability, as well as preparing for future emerging risks such as climate risks.

25. To compensate for lack of segmentation in models and data, firms have generally relied on ad hoc, manually intensive processes and proxy data that sit outside firms' normal controls to identify and assess sector or segment risks.

26. We encourage firms to identify ways to improve and embed the identification and assessment of vulnerable sectors and high risk retail segments into their business as usual controls around model risk, in particular where models include limited segmentation. Better practice we have seen includes: enhancing annual credit file reviews to require an assessment of the impact of sectoral risks on individual customers' viability; and regular collective sector-level monitoring to inform the need to adjust risk ratings or increase provision coverage for all exposures in a specific sector.

27. Capabilities and processes to support timely identification and granular analysis of vulnerable sectors and high risk retail segments in stress are regularly reviewed to identify enhancements that can be made.

28. Timely and granular sector-level analysis is regularly used to challenge whether ECL captures the key risks relevant to vulnerable sectors and high risk retail segments, aligned to those risks being monitored by key risk committees.

29. Firms' model risk controls operated with varying degrees of disruption through Covid-19. This placed increased pressure on governance to challenge the use of PMAs. Several firms did not perform planned independent validation or model monitoring through Covid-19. In some cases, there was a clear rationale, for example, due to a lack of payment history from customers on support schemes. However, in general, it was unclear to us whether the extent of deviations from the model risk framework were being monitored or root causes understood.
30. We saw better examples of firms improving processes to support model risk frameworks operating in a future stress. For example, automating collation of model monitoring results and reducing lead times for sensitivity analysis, to allow for outputs to feed into governance at an earlier stage.
31. The extent of deviations from the model risk management framework are regularly monitored, and root cause analysis used, to identify enhancements that can be made to support key controls operating effectively in stress.
32. Auditors' reports highlighted the importance of management understanding the model operating boundaries under which model performance is expected to be acceptable, in order to inform the use of PMAs when models are operating outside these boundaries. For example, when base case or downside economic scenarios move outside of those used in model development, as occurred at the onset of Covid-19, and more recently in the context of global inflationary pressures.
33. While we have seen progress by some firms, in line with the proposals in PRA Consultation Paper 6/22 'Model risk management principles for banks', we encourage firms to formalise the process to determine model operating boundaries as part of IFRS 9 model development, and to increase their use in model monitoring to inform the use of PMAs. Examples of good practice included incorporation of operating boundaries in model documentation and as part of the indicators used to inform model red, amber and green (RAG) status, and considering operating boundaries in the context of the full range of scenarios used to calculate ECL, including severe downside scenarios.

34. Model operating boundaries under which model performance is expected to be acceptable are clearly defined and used to help identify model performance issues in a timely manner, in order to challenge the completeness of PMAs.

Economic scenarios

Progress embedding high quality practices

35. Firms' approaches to selecting economic scenarios were largely unchanged in 2021. We welcome progress made to enhance sensitivity analysis capabilities. However, we still judged firms to have only partially adopted the high quality practices relating to economic scenarios. The most significant gaps we identified are similar to last year and were:

- We continue to encourage all firms to develop the capability to perform more comprehensive economic sensitivity analysis more quickly, and embed greater use of sensitivity analysis as part of business as usual governance. As capabilities improve, we also see scope for firms to run separate sensitivity analysis for different portfolios or segments to allow management to focus on the most impactful assumptions, which are likely to differ by portfolio. This analysis is particularly relevant where firms' scenarios are designed to capture a generic stress at the macroeconomic level, rather than to explore vulnerabilities in specific sectors or segments.
- We continue to encourage firms to increase the level of rigour around the use of benchmarking data as part of the control framework around multiple economic scenarios. We continue to welcome firms making use of industry benchmarking to challenge the reasonability of their scenarios. However, as differences still tended not to be aggregated or monitored in terms of the impact on ECL, it was not always apparent whether firms were aware of how material these differences were.
- We continue to encourage firms to explore the limitations in their overall approach to capturing economic uncertainty for the purpose of identifying enhancements that can reduce reliance on PMAs over time. Issues we have seen firms identify include whether their approach generates too narrow a range of scenarios (with distribution too close to the base); and whether use of historical information to generate downside scenarios might omit risks relevant to

the current economic outlook, for example rising inflation. Some firms have taken steps to address these issues by introducing additional scenarios to reflect a more severe, but plausible, forward-looking view of potential volatility.

However, we encourage firms to consider ways to capture such scenarios earlier in their reporting process.

- We continue to see a lack of internal challenge around whether the downside scenarios used to calculate ECL are sufficiently severe to fully capture the non-linear effects of economic uncertainty. This is particularly relevant in the context of weightings for severe downside having risen well above 10%, and as high as 35%, for some firms at June 2022.

Observations in the context of the current economic environment

36. Firms continue to consider multiple economic scenarios differently. While it is hard to make direct comparisons, the ECL impact of multiple economic scenarios continues to vary across firms. Based on PRA calculations, as at June 2022, for the firms in scope of written auditor reporting:

- the use of multiple economic scenarios increased the 100% weighted base case relative to the reported ECL by 15% on a simple average basis, with the range across firms varying from 2% to 59%; and
- applying a 100% weight to the most severe downside scenario would have increased reported ECL by 51% on a simple average basis, with the range across firms varying from 16% to 131%.

37. It has become increasingly apparent through Covid-19 and in the context of the current global inflationary pressures, that firms' ECL scenarios are generally designed to capture the severity of a generic shock at the macroeconomic level, rather than shocks intended to explore vulnerabilities in specific sectors or segments. For example, whether inflationary pressures may have greater impact on certain sectors and those impacts may persist for a longer time. In part, this reflects that ECL models tend to be calibrated on high level economic inputs, such as country level gross domestic product.

38. In addition, the use of statistical approaches based on historical data to generate scenarios increases the risk that some firms' approaches will not explore tail risks

associated with higher inflation and/or rising interest rates, as higher inflation and/or rising interest rates have not been seen in recent history. This increases the importance of firms using sensitivity analysis to explore the potential impact of additional, more severe shocks to vulnerable sectors or segments to inform the use of PMAs.

39. We are pleased with the progress made by firms participating in the consistency work to develop initial recommendations to bring about greater consistency in the use of multiple economic scenarios. We hope that this work will help firms to address a number of issues including:

- improvements to reduce reliance on late adjustments to scenarios or probability weights;
- aligning definitions for what base case and severe downside scenarios represent;
- consensus on the minimum number of downside scenarios to capture non-linearity, and processes to identify the need to consider additional, more severe scenarios; and
- enhancing the range of quantitative analysis used to support effective challenge of probability weights.

40. In 2023, we intend to discuss [your firm's plans to make changes to your ECL approach that would result in improved consistency, and] how firms can work together and with us to improve access to timely, granular, and comparable peer benchmarking data in times of stress. [To allow firms to focus on this work,] we have not added to or changed our high quality practices for multiple economic scenarios.

Recovery strategies

Progress embedding high quality practices

41. Consistent with last year, firms are generally less progressed in adopting the high quality practices relating to recovery strategies used in estimating loss given default (LGD) than in other areas of ECL. The most significant gaps we identified are similar to last year and were:

- Firms continue to lack tools to monitor the ECL impact of changing recovery strategy at a portfolio level, including for more vulnerable sectors where there is

uncertainty over which recovery strategies will apply or how effective those strategies will be in the current environment.

- Alternative recovery strategies were typically only considered for individually assessed wholesale exposures above a certain threshold. Only one firm explicitly incorporated the likelihood of recovery strategy failure by including it as a specific downside scenario in their manual LGD assessments, which we regard as good practice.
- Our concern remains that without the tools and processes above being in place, changes or failure in recovery strategy will be reflected in ECL with a lag and only after they occur.
- We continued to see weaknesses in processes to support a clear link between economic scenarios and probability weights used to calculate LGD and those used for other components of ECL.
- We continued to see a lack of checks to ensure consistency between the forecasts of borrower cash flows determined by risk managers on a case-by-case basis, and group economic scenarios. We also saw a lack of challenge around the thresholds applied, below which multiple economic scenarios were either not specifically considered, or were only considered through a simplified approach.
- Extensive use of simplification has been made to incorporate economic scenarios and weightings into LGD models and individual assessments across both retail and wholesale portfolios. Simplifications were typically supported by the assumption that LGD should not be particularly sensitive to the economic cycle. However, we saw limited evidence to support or challenge these assumptions.
- We continue to see limitations in the level of review and challenge of LGD models, including a lack of model validation and monitoring.
- We continue to see a lack of reviews to consider the need to adjust modelled provisions when accounts are downgraded and moved to more active management to identify systematic model and data limitations.

Observations in the context of the current economic environment

42. Recent default experience has been limited. We saw limited use of adjustments to LGD to reflect the elevated risk that past experience may not necessarily be a good predictor of future recovery rates. It will be important to challenge whether the recovery strategies that drive LGD are realistic and reflect future expectations and economic conditions.

Our view on higher quality and more consistent practices

43. We saw limited evidence of firms having processes to consider whether historical recovery experience is consistent with future expectations. We also saw limited evidence of engagement between risk departments and work-out teams to challenge whether LGDs are consistent with the forward strategy for working with customers, including consideration of the likelihood of forbearance.

44. Examples of how firms could challenge historical recovery experience include benchmarking LGD assumptions for downside scenarios to those used for stress testing, to reflect challenges recovering collateral in stress and to consider whether collateral values or business valuations in certain industries might be subject to additional haircuts relative to past loss experience.

45. Work-out teams have a formal role in challenge of LGD metrics for vulnerable sectors and high risk retail segments.

46. Challenge of LGD metrics includes consideration of the need to remove bias towards historical recovery experience to better reflect future expectations and economic conditions.

47. LGD models are not calibrated to fully differentiate recovery strategies for customers in vulnerable sectors. Firms generally perform loan-level assessments of alternative recovery strategies only for relatively few larger loans above set size thresholds. These thresholds are not designed to reflect the riskiness of the sector the customer is in.

48. Thresholds used to determine when multiple recovery outcomes are used to calculate LGD are regularly reassessed to ensure that they are sensitive to sectoral risks and updated for changes in those high risk sectors that are monitored.

Significant increase in credit risk (SICR)

Progress embedding high quality practices in 2021

49. We saw some progress made to formalise processes relating to monitoring and validation of SICR thresholds. However, we judged firms to have partially adopted the high quality practices relating to SICR. The most significant gaps we identified are similar to those identified last year and were:

- Industry standard validation metrics are yet to emerge. There remain differences across firms in the metrics being considered as part of their routine monitoring of SICR criteria, as well as the principles used to construct those metrics. We continue to believe that wider use of industry standard metrics are a good first step towards benchmarking the effectiveness of different approaches to SICR across firms. In addition, further progress is needed to embed clear monitoring thresholds, and escalation processes when thresholds are breached, based on a sound understanding of the expected level for the metrics being used.
- Consistent with last year, not all firms used qualitative SICR indicators to capture risks not otherwise captured in loan-level probability of default (PD) by core models. In wholesale, some firms include all loans on watchlists in stage 2, while others include a proportion of loans on watchlists in stage 1. In retail, better practice continues to include leveraging existing customer behavioural data (for example, change in income, debt to income, deposit data, employment status) to identify 'high risk' indicators, including over-indebtedness and negative affordability, and to monitor at a portfolio level. Other qualitative indicators considered for retail loans include forbearance, use of payday loans, and interest-only-loans approaching maturity without a confirmed repayment vehicle.
- Further progress is needed to embed business-as-usual approaches for the use of collective assessments. We consider that collective assessments are crucial to capture risks that are hard to assess at a loan level, such as affordability, and to challenge the need to move pools of higher risk loans to stage 2 in order to reflect the impact of emerging risks and sectoral or regional conditions. Examples of emerging risks include global inflationary pressures and climate risk.

Observations in the context of the current economic environment

50. A wide range of SICR approaches and thresholds continue to be in use. As at 30 June 2022, for the firms in scope of written auditor reporting, the proportion of loans in stage 2 varied across firms, from 1% to 11%¹³ of retail mortgages; from 7% to 40% of credit card balances; and from 3% to 25% of corporate loans. Some of these differences will reflect differences in portfolios and result from differences in assumptions made about future economic conditions. However, we remain concerned that the use of a wide range of SICR approaches and thresholds may mean that approaches do not all respond in a sufficiently similar way to changes in risk as economic conditions change.
51. We welcome progress made by firms participating in the consistency work to come up with recommendations to bring about greater consistency of SICR approaches. As part of that work, we encourage firms to work together, and with us, to identify industry standard metrics that can be used as part of the control framework around the effectiveness of different approaches to SICR.

13 Based on PRA calculations and data.

Annex 2

Thematic findings on accounting for climate risk

1. In this annex, we set out our thematic findings on accounting for climate risk within financial reporting. These findings were developed through review of written auditor reports received in 2022, as well as discussions with auditors and firms, and thematic work by PRA staff. These findings are consistent with the findings of the 2021 Climate Biennial Exploratory Scenario (CBES) exercise.¹⁴
2. The annex sets out a brief description of the supervisory concerns behind the question we asked auditors. For four key areas, we have set out the range of practice observed and our views on elements that would contribute to robust planning for the development of capabilities to capture the impact of climate risks on balance sheets over time. Those 'key plan elements' are set out in grey boxes below for ease of reference.
3. Our aim in providing this feedback is to encourage firms to identify improvements that can be made to the quality of financial reporting risk assessments and the extent to which firms consider climate risk in their accounting valuations.
4. The key plan elements have been developed with the size, nature, and complexity of firms in scope of written auditor reporting particularly in mind. However, we think that the findings in this annex will be helpful for firms applying IFRS that are not in scope of written auditor reporting. The key plan elements are consistent with existing supervisory expectations¹⁵ and the findings of the CBES.

14 Results of the 2021 Climate Biennial Exploratory Scenario (CBES), May 2022: <https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario>.

15 Including: SS3/19 'Enhancing banks' and insurers' approaches to managing the financial risks from climate change', April 2019: <https://www.bankofengland.co.uk/prudential-regulation/publication/2019/enhancing-banks-and-insurers-approaches-to-managing-the-financial-risks-from-climate-change-ss>; and July 2020: 'Managing climate-related financial risk – thematic feedback from the PRA's review of firms' SS3/19 plans and clarifications of expectations': <https://www.bankofengland.co.uk/prudential-regulation/letter/2020/managing-the-financial-risks-from-climate-change>.

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5. We have an interest in firms being well prepared for the impact of climate change on their accounting practices, and increased focus on climate risk by external auditors. We consider the timely incorporation of climate risk in accounting valuations to be important in ensuring the safety and soundness of PRA-authorised firms,¹⁶ so we will continue to work with firms to share concerns, facilitate cross-industry solutions, and promote high quality implementation of accounting standards.

Supervisory concerns behind the question we asked auditors

6. Firms' risk assessment processes may not capture the impact of climate risks on the valuation of assets and liabilities, in particular the impact on loans measured at amortised cost. This could have implications for financial reporting and, as a consequence, regulatory capital.
7. Risks of material misstatement may not be identified by auditors, limiting the extent of work that supervisors can make use of to review firms' own risk assessments.
8. Firms may not have robust and executable plans to enhance their climate risk monitoring and measurement capabilities with sufficient urgency to ensure that climate risk is captured and reported in a timely way.

Governance and financial reporting risk assessments

Range of practice observed

9. We saw progress incorporating climate risk into firms' overarching governance frameworks, and to assign responsibilities for climate risk in financial reporting at a senior level. However, we saw more limited progress to factor climate risks into existing financial reporting processes and governance.
10. While firms' understanding of climate risks relevant to their balance sheets and future performance improved, all firms were at early stages of developing capabilities to quantify the impact of climate risk. Firms' climate risk assessments for

16 Although it is not the PRA's role to set, interpret, or enforce accounting standards, where the application of accounting standards has an impact on our statutory objectives we have an interest in how they are implemented.

financial reporting were often qualitative in nature. This is consistent with scenario analysis being still in its infancy and the existence of notable data gaps.

11. Progress was most evident in ECL, where we saw the most examples of firms using quantitative analysis in risk assessments, including the outputs of the CBES.
12. We saw audit committees give attention to assessments of the impact of climate risk on financial statements. While these assessments did not identify material risks of balance sheet misstatement, they tended to rely on qualitative analysis. As data and modelling improve, we see scope for audit committees to be provided with more robust and detailed quantitative analysis to support challenge of balance sheet items most impacted by climate risk.
13. Auditors made clear that data and modelling improvements are likely to take a number of years. However, we saw limited evidence of management information to support oversight of plans to develop capabilities to capture climate risk in financial statements, or to help understand the extent of limitations and uncertainty in climate models and data.

Key elements to consider in plans to develop climate capabilities

14. Embedding governance and allocation of responsibilities within the financial reporting function to ensure timely capture of climate risks as part of SS3/19 integration of climate in governance structures.
15. Increasing use of quantitative analysis in climate risk assessments to support strategic decision making for financial reporting, including use of climate scenario analysis.
16. Embedding quantitative analysis on the impact of climate risk on balance sheet valuations into regular reporting to the audit committee, including use of sensitivity analysis, to support key decisions.
17. Developing management information to oversee plans to enhance data and models needed to factor climate risk into balance sheet valuations.
18. Developing management information to assess the overall significance and implications of limitations in data and models used to quantify the impact of climate

risk on balance sheet valuations, including reporting of findings from second and third line testing.

Controls to support use of a higher volume of forward-looking climate-related data in financial reporting

Range of practice observed

19. Quality and availability of climate-related data was a pervasive issue, and meant firms were only partially able to quantify the impacts of climate risk on balance sheets. A clear area of focus for 2022 and beyond is work on closing data gaps as more relevant and higher quality data becomes available, recognising improvements are likely to take a number of years.
20. Auditors noted fragmented approaches to data collection. We saw examples of auditors challenging if firms were making full use of the data available to, and used by, the wider business to justify financial reporting risk assessments. We also saw examples of auditors calling out outliers making very limited use of quantitative analysis for the audit team to challenge. Better practice included firms setting up dedicated climate data and analytics teams to source, manage and enhance data for use in financial reporting.
21. We gained only limited insights on controls over climate-related data, as auditors generally did not do controls testing specifically relating to climate risk. We saw examples of wider audit testing considering the completeness and accuracy of certain climate-related data, for example data used to assess physical risks to mortgage collateral and transition risks for corporates. We also saw evidence of data collected on a 'best efforts' basis being subject to limited, manual controls that are less sophisticated than those typically used for financial reporting. We think that closer coordination between firms' finance teams and climate risk experts will be important as new data and models come into scope of financial reporting controls and audit.
22. We saw good examples of the use of 'best available' proxy data to enable more granular quantitative analysis. For example, postcode data as a proxy for flood risk, assumptions for missing or stale EPC ratings and borrower-level carbon emissions, and the use of borrower outreach and questionnaires to assess climate

vulnerabilities. Some auditors raised concerns that data from counterparties may be inaccurate or incomparable, and hard to verify. Where data gaps exist, we support the use of contingency data solutions using appropriately conservative assumptions, judgements and proxies. However, firms will need to develop longer-term solutions for financial reporting purposes. We did not see evidence of firms setting longer-term data quality targets, for example around use of proxies, to focus efforts to improve data quality.

Key elements to consider in plans to develop climate capabilities

23. Developing a centralised process to source, manage, and enhance the data needed to factor climate risk into balance sheet valuations.
24. Improving controls over the data needed to factor climate risk into balance sheet valuations, including increasing the level of automation.
25. Monitoring of quality of the data needed to factor climate risk into balance sheet valuations, including setting risk appetite and targets for reducing use of proxies and unverified data over time.

Capabilities to quantify the impact of climate risks on expected credit losses (ECL)

26. We welcome progress by auditors and firms to identify the loan portfolios and segments that could be most impacted by climate risk, as well as to perform targeted analysis to consider the impact of climate risks on assumptions used to estimate ECL.
27. We did not see firms adjust their ECL methodologies or calculations. Instead, efforts focused on analysis to challenge provision adequacy against sector-specific risks. The nature and depth of analysis differed across firms and across portfolios, with some firms making less use of quantitative analysis for apparently similar portfolios.
28. In corporate lending, we saw some evidence of investment in training to help risk functions identify and assess potential climate risks. However, we saw limited evidence of firms updating their guidance or frameworks to consistently capture climate risk in loan-level credit reviews. Examples of better practice we saw included:

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- Factoring climate risk into existing credit risk monitoring processes for the most impacted assets, including loan level assessments of climate vulnerabilities by risk and workout teams. Two firms set guidance around climate risk assessments for the majority of their wholesale book, while a third had plans to monitor the percentage of exposures subject to an individual climate risk assessment in the last 12 months by sector.
 - Analysis of borrower emissions levels that do not meet internal targets set for new lending, to help identify borrowers that may struggle to repay or refinance in future.
 - Sector deep-dives to review a sample of individual exposures to inform adjustments to individual credit ratings. These tended to use data on emissions levels and borrower transition plans from financial statements and client surveys.
29. Auditors noted opportunities for these initial assessments to be further developed, including where assessments tend to rely on unverified client surveys, or were qualitative in nature. We also saw auditors challenging the scope of analysis performed and the completeness of identification of vulnerable loan portfolios. Some auditors noted scope to increase the level of review and oversight by second line teams.
30. For retail lending, while climate risk modelling is at an early stage, we saw firms using analytical tools to assess the severity of specific climate risks. Better practice included:
- Analysis of impact on property prices. For example, post code level assessments to challenge whether collateral may fall in value, or become inaccessible or uninsurable under different scenarios. These tended to rely on third-party data and models to map postcodes to high-risk areas, rather than in-house models.
 - Analysis of impact on borrower income. For example, collective assessments to consider costs to bring properties up to a threshold EPC rating. We saw examples of auditors encouraging better practice for addressing gaps in EPC data, for example inferring ratings from similar or neighbouring properties.
31. While CBES results were generally used to support risk assessments, we saw limited evidence of climate scenario analysis being used in ECL calculations. In

some cases, this meant ECL calculations did not explore a range of outcomes, such as the potential for changes to current government policies or net zero targets.

Better practice we saw included:

- Comparison of IFRS 9 and CBES scenarios, to assess whether macroeconomic variables used to calculate ECL reflect climate risks.
- Analysis of how CBES losses transform into ECL losses, including rationalising the different assumptions used and considering the ECL impact of applying indicative weights to CBES scenarios.

32. We saw limited evidence of analysis by firms to consider climate-related risk drivers in SICR assessments. We saw good examples of auditors performing sensitivity analysis of the impact of moving borrowers in higher risk sectors into stage 2.

33. For both retail and corporate books, analysis tended to focus on the impact of specific risks in isolation on either PD or LGD. We see scope for use of more sophisticated analysis to be developed to understand how a variety of factors would impact both PD and LGD, or to consider secondary impacts such as interactions with energy prices or insurance costs.

34. We were pleased to see auditors had used their own analytical tools and climate experts to challenge managements' conclusions. We saw examples of auditors challenging why firms had performed very limited quantitative analysis, given the data available to the wider business, and challenging why the implied impacts of climate were so small relative to the size of loan books. We saw additional analysis performed by auditors using data from management, such as using postcode data to assess exposures to retail borrowers in regions with dependencies on fossil fuel industries.

35. Auditors' written reports made clear that much work still needs to be done to fully quantify the impact of climate risk on ECL, and that improvements are likely to take a number of years and be dependent on access to reasonable and supportable data. Areas for improvement in firms' processes raised by auditors have informed our views below. These focused on the development of quantitative analysis to support governance, improvement of segmental analysis and modelling capabilities,

and factoring climate risks into existing loan-level processes, such as individual stage 3 assessments or SICR criteria.

Key elements to consider in plans to develop climate capabilities

36. Identifying the climate-related risk drivers that could influence ECL for loan portfolios that have the highest sensitivity to climate risk.
37. Increasing use of quantitative analysis on the impact of climate-related risk drivers on ECL and SICR at a portfolio level, to support challenge of the ECL calculation or inform use of PMAs.
38. Identifying the requirements for data and models, and implementing the changes necessary, to factor climate-related risk drivers into loan-level ECL estimates.
39. Identifying how economic scenarios and weightings used for ECL calculations should be adapted to incorporate climate-related risk drivers.
40. Enhancing review and monitoring by second line risk teams of how models and scenarios used to calculate ECL incorporate climate-related risk drivers.

Capabilities to quantify the impact of climate risks on balance sheets and financial performance

Range of practice observed

41. We saw firms tending to use qualitative analysis to identify the balance sheet line items most impacted by climate risks, beyond loans at amortised cost. We see scope to improve how climate risk is factored into the valuation of these most impacted line items. Areas where auditors' responses focused included:

- The link between firms' plans and targets to measure and manage climate risks, and longer-term profit forecasts that drive the valuation of deferred tax and intangible assets, as well as going concern assessments. Practice varies across firms, from climate risks not being explicitly factored into corporate plans due to lack of data, to the use of adjustments to capture the costs of climate risks based on internal stress tests. Better practice included more granular analysis of risks and opportunities posed to key business lines. For example, comparing available data on borrowers' emission levels and EPC ratings against internal

targets, although auditors noted these assessments tended to be subject to limited second line challenge.

- The fair value of long-dated, illiquid 'level 3' financial instruments to counterparties exposed to climate risk. We generally did not see firms raising valuation adjustments for climate risks not captured in models. Where we did see such adjustments, the auditor noted a lack of supporting evidence, implying a lack of documented policies to ensure robust assessments were available to support auditor challenge.

42. As firms did not identify material balance sheet impacts, we generally did not see firms revise accounting policies to specifically address climate risks for existing products. We think that this should continue to be monitored.

43. Most firms are now offering loan products with Environmental, Social and Governance 'ESG' features, such as sustainability-linked loans where interest rates depend on meeting certain climate targets. We saw firms develop accounting policies for these new products. While most firms applied amortised cost accounting, we see scope for inconsistent accounting practices to develop that may make it harder for supervisors to understand how these new products will affect firms' future profit and capital forecasts. We intend to watch developments closely, in light of the ongoing review by the International Accounting Standards Board of sustainability-linked loans.

44. Some, but not all, auditor reports quantified firms' exposure to sustainability-linked loans and noted that the size of rate adjustments were generally limited, for example less than 5bps. We encourage firms to track their exposure to instruments with ESG features to understand the potential impact on future profitability. We also encourage firms to consider how these features interact with credit risk measurement. For example, whether the likelihood of a climate target being missed is relevant for assessing borrowers' ability to repay.

Key elements to consider in plans to develop climate capabilities

45. Increasing use of quantitative analysis of the potential impact of climate risk on balance sheet valuations to support robust valuation processes.

46. Enhancing monitoring and controls over processes used to factor climate risk into balance sheet valuations.
47. Ensuring climate risk is sufficiently considered in accounting policies for new and existing products, including tracking exposure to instruments with climate-linked terms.