The PRA's IFRS 9 Review

A complete guide to tackling the challenges

Introduction

On April 15th 2019, a letter was sent from the PRA to CFOs of selected deposit-takers, providing an update and main thematic findings from written auditor reporting in relation to the implementation of Expected Credit Loss (ECL) models under IFRS 9.

A year on from the first implementation of IFRS 9 and there are clearly some recurrent themes emerging across the industry and a recognition of the need for the models to evolve, primarily to help address known weaknesses and promote consistency.

The PRA findings fall into the following 4 key areas:

- **Model & Data Limitations**
- **Multiple Economic Scenarios**
- **Significant Increase in Credit Risk**
- **Lifetime of an Exposure**

Here, we discuss the main points highlighted for each of these areas and make suggestions for how firms can begin to tackle the ongoing challenges in a way that satisfies regulatory requirements and fosters continuous improvement in risk management.

Model & Data Limitations 1/3

Supervisory Concern	PRA Findings	Jaywing Guidance
ECL estimates may not reflect the key risks associated with firms' portfolios because of limitations in data and models.	A pervasive issue was the weaknesses that exist in aspects of firms' controls and management information around new ECL models. In particular: controls around economic data and forecasts were noted as immature; limited independent testing had been performed to validate models used to calculate ECL; and sensitivity tools to inform oversight of provision adequacy were still being developed to assess the impact of alternative economic assumptions. At the time the reports were being prepared, firms were in the process of fixing data, model and control issues, and putting governance in place. In the questions we have asked for the 2018 (or 2018/2019) year-end reporting, we have asked auditors to share their assessment of the progress made to address data, model and control issues	• The Target Operating Model should ensure robust governance and controls are in place, to reduce the scope for error and maximise transparency of the IFRS 9 process. • As part of BAU, we would expect the development of automated and meaningful MI that enables a sufficient degree of stakeholder confidence around model inputs and outputs, prior to ECL numbers being signed off. • In terms of inputs, while firms have gone a long way to demonstrate lineage for internal data points, our experience would indeed suggest that the controls around external sources (e.g. economic indices or forecasts) are as yet less stringent. It is not uncommon for tactical solutions employed during the initial build to remain post-implementation, while such sources should be subject to the same assurance, particularly where any pre-processing occurs prior to the models being run. • To validate models, we recommend back-testing is done where possible on independent samples ideally covering a different time period. We recognise the difficulty of achieving this for economic models that require a long history of portfolio data for the purposes of both development and validation; in order to increase confidence that the models remain fit for purpose, we advocate the use of the latest performance data to serve as an 'Out-of-Time' sample within a periodically assessed performance monitoring framework. • In the absence of recent data on which to assess model performance under more severe economic conditions, sensitivity analysis should be routinely performed to evidence that the models are appropriately reactive to future scenarios. Comparing against portfolio performance in previous downturns can help provide a benchmark against which to assess the expected severity, although caution should be exercised around the comparability (for example, pro-active interest rate reductions suppressed the impact of the previous downturn on default rates).

Model & Data Limitations 2/3

Supervisory Concern	PRA Findings	Jaywing Guidance
	One example of where data issues were prevalent was that limited (if any) use was being made of up-to-date external customer level data for provisioning purposes. We saw some evidence that firms are monitoring indicators of a build-up of latent risks related to affordability. However, we remain concerned as to whether risks related to affordability and indebtedness are monitored sufficiently closely and are adequately provisioned. It is important that ECL models make sufficient use of up-to date external customer level data so they can detect and respond to changes in affordability and indebtedness since underwriting. The indicators we did see being used include: recent reductions in disposable income, customers falling into arrears with increased levels of indebtedness, anticipated interest rate rises and uncertainty arising from the UK's withdrawal from the EU.	• Many firms receive updated customer-level data on a continuous basis, so the question is whether the IFRS 9 models are sufficiently responsive to the latest view. • Where behavioural scores that directly utilise the latest Credit Bureau information on affordability and indebtedness drive the calibration of PD outputs, the model may be appropriately reactive. This assumes that sufficient weight is given to these external factors compared to internal information. • However, where either a more static view is retained or insufficient drivers of affordability and indebtedness contribute directly to behavioural scores, the models are likely to meet further challenge by Auditors. • In terms of assessing for Significant Increase in Credit Risk it may be that certain affordability and indebtedness triggers could take the form of qualitative indicators; this would be a simpler alternative for harnessing a more up-to-date view for stage allocation, however enhancing the core models should be the longer-term objective. • In terms of economic forecasts and/or the weightings assigned to them, it is important that the latest view is captured when the model is run, avoiding any material lag that could bring into question the validity of the resulting outputs.

Model & Data Limitations 3/3

Supervisory Concern	PRA Findings	Jaywing Guidance
Firms have had limited time to establish data availability and quality, to calibrate and back test models and to remediate model and data limitations. Model simplifications were used to implement ECL on time and where there were not enough data available to apply a more robust approach. Post model adjustments (PMAs) are being used to compensate for these limitations as well as to capture 'latent risks' not incorporated in models. Significant levels of PMAs may be consistent with firms not having fully-functioning core models. That raises the risk of bias in provisioning over time if modelling is not improved and the need for: (a) firms to have plans, over time, to reduce the need for PMAs by incorporating risks captured via PMAs into core models; and (b) strong governance around the amount of PMAs and the timing of their release.	The reliance on PMAs to address incomplete models or data limitations varies from firm to firm but in some cases is significant. PMAs were used to increase modelled provisions for retail mortgages and, to a lesser extent, credit cards. The more material PMAs used covered items such as refinancing risk, forbearance, affordability, indebtedness, expected lives and economic scenarios. In our 2018 (or 2018/2019) questions, we have asked auditors to share their assessment of the progress made to include these more material PMAs in core models as well as the completeness and adequacy of PMAs in place.	• We recognise that PMAs are symptomatic of weaknesses in the underlying models, and firms should aspire to minimise their use via model enhancements. • As an interim step, we recommend that any PMAs in place are assessed, ideally as part of periodic MI. • This should ideally include a view of ECL materiality, and an assessment of the work required to adequately capture the effects in the core models, both of which can be used to help prioritise remedial actions. • Where PMAs are deemed necessary to remain, even if only for a limited period, firms should ensure robust and transparent governance is in place, in anticipation of increased scrutiny from Auditors.

Multiple Economic Scenarios ¹/²

Supervisory Concern	PRA Findings	Jaywing Guidance
ECL estimates may be biased due to the selection of particular economic scenarios (whether optimistic or pessimistic), by the use of out-of-date economic scenarios or by using a number or range of scenarios that is too few or too narrow to capture the full extent of non-linearity.	Different approaches to modelling the impact of economic scenarios have been chosen. Industry practice is evolving around how to capture non-linearity. Approaches that are less robust, may result in provision levels that are biased, particularly if economic uncertainty increases.	• Ensuring the appropriate use of historical data to model future behaviour is possibly the biggest challenge posed by IFRS 9. • Using simple linear models on economic indices covering historical periods can yield unintuitive results; for example, the 2008 UK base rate decline was an effect rather than a cause of increased default rates. • More appropriate variable derivations can be applied to help ensure the models are appropriate on a forward-looking basis; for example, modelling interest rate indirectly via its impact on coverage ratio can provide a more realistic view of the likely impact of future base rate changes.
	We noted that provision cover was higher where realistic but severe downside scenarios had been considered, and lower where such high-impact, low-probability scenarios were missing from firms' analyses and more weight had been given to base case scenarios. Firms that had considered just one downside scenario were outliers in considering the effect of multiple economic scenarios .	• While the guidelines are non-prescriptive around the number of scenarios required, there is increased emphasis on an appropriate set of scenarios to be presented to the models. The key is to ensure the chosen scenarios adequately represent the range of possibilities that may affect the portfolio. • In particular, if alternative downside conditions have the potential to affect the portfolio in materially different ways, auditors may deem it necessary to cater for more than one downside scenario. • If multiple variants of a scenario are used to capture different trends in a particular indicator, due care should be taken to ensure the resulting scenario is realistic; for example, it is not logical to have two predominately identical scenarios with the only exception being that one has a flat interest rate and the other has an increasing interest rate. Any change to one economic factor is likely to have a knock-on impact on other indicators such as inflation or real wages. • We would recommend carrying out sensitivity analysis of your ECL models on a semi-regular basis to ensure that adding in another plausible scenario would not result in a material increase.

Multiple Economic Scenarios ²/²

Supervisory Concern	PRA Findings	Jaywing Guidance
	PMAs were used extensively where the output of core models was found to be implausibly low. In particular, PMAs were often used to capture low probability, high impact scenarios. In our 2018 questions we have asked auditors the progress firms have made to enhance models that have been found to produce implausible results.	• Rare scenarios, particularly those not previously seen, are especially difficult or even impossible to capture in the modelling process. • It is also more challenging to model and produce forecasts for niche predictors of portfolio-specific risks. • In such instances, a cleaner alternative to PMAs is to address expected changes by amending model parameters. For example, concerns around the diesel market for a motor portfolio could be addressed via a reduction in valuations of affected vehicles at the account-level. This would be less subjective than a PMA, increase transparency and promote stability as the portfolio evolves.
	As we have noted above, controls and governance around forecasts were said to be immature with reliance placed on senior committees to apply post model overlays to attempt to compensate for gaps in firms' main models, such as country and portfolio specific shocks. We have asked auditors in our 2018 questions about the progress firms have made to enhance governance.	

Significant Increase in Credit Risk

Supervisory Concern	PRA Findings	Jaywing Guidance
ECL may be biased due to use of lagging indicators or inaccurate proxy data in the assessments of whether significant increase in credit risk (SICR) has occurred. Approaches might not be appropriately – and from firm to firm, consistently – sensitive to changes in credit risk. A variety of approaches are in use and each has been calibrated in the context of gaps in historic data. These issues contribute to a high level of uncertainty about whether SICR has occurred and how ECL should be measured. As a result, approaches may be biased because there is no established market practice for how to assess the effectiveness of different SICR thresholds.	(1) Most firms use a relative threshold approach for all of their material portfolios. In some of the cases where firms were using different approaches, we noted that portfolios had a relatively low proportion of stage 2 exposures in comparison to peers. We have, in the 2018 questions, asked auditors what evidence they have seen that would support the hypothesis that these two facts are unrelated; (2) A broad range of thresholds for increases in probability of default (PD) are in use. We have asked auditors what potential there is for the use of high PD thresholds to introduce bias into ECL; (3) SICR criteria had been subject to limited validation, with validation metrics to monitor and recalibrate SICR thresholds on an ongoing basis being in development. We have asked auditors their views on the development of metrics used to validate and monitor the calibration of SICR criteria. We also encourage the use of back-testing to assess the effectiveness of SICR thresholds; (4) Some industry standard validation metrics are emerging, for example: the proportion of moves to stage 2 driven solely by back-stop or qualitative criteria; and the proportion of loans that spend little or no time in stage 2 before moving to stage 3. Both these metrics can be used to determine whether SICR thresholds are set too high or underlying PD models are not responding to changes in risk.	• We would generally expect a relative threshold to be applied, with due consideration of whether this should be segmented (for example, by risk grade) or subject to a minimum absolute change to guard against accounts that originated with very low credit risk being unduly allocated to Stage 2. • If it is deemed inappropriate or unfeasible to apply a relative threshold, an assessment should be made to support that a substantial proportion of accounts observed to carry a Significant Increase in Credit Risk are allocated to Stage 2 via other qualitative measures. • Auditors are likely to seek additional justification through back-testing, monitoring and validation to support the thresholds in place, particularly if they are deemed to be high (and hence allocate fewer accounts into Stage 2). • Back-testing is challenging given that firms may have difficulties in running the models retrospectively and may not have historical forecasts on which to base PD predictions. While it may be viable to apply some broad assumptions to enable this historically, the focus should be on continual improvement, i.e. developing a framework that can assess the suitability of threshold assumptions on an ongoing basis, considering the latest performance data. • Industry-standard validation metrics will continue to emerge, and it seems likely that the regulation will eventually standardise the criteria to facilitate a level playing field. Auditors will seek evidence that appropriate monitoring is in place to justify the thresholds in use; for example, that the time spent in Stage 2 before moving to Stage 3 is not unduly short for accounts that breach a given threshold.

Lifetime of an Exposure 1/2

Supervisory Concern	PRA Findings	Jaywing Guidance
ECL estimates may be biased by use of assumptions and policies that determine the lifetime over which ECL is measured or exposure at default. This is particularly true for revolving facilities with retail and corporate customers managed on a collective basis.	Approaches to determining lives differed across retail and corporate portfolios and from firm to firm. Lives based on credit review dates were shorter. We have asked auditors whether they consider there is a minimum standard of effectiveness for credit reviews used to determine product lifetimes.	• For amortising products, lifetime is typically defined as the remaining term (assuming any material chance of closure is captured elsewhere in the modelling). As revolving products have no fixed end date, lifetime must be determined by analysis. This will typically consist of considering historical evidence of how long until the customer closes the accounts, how long until defaults occur, and at what frequency the account is reviewed and renewed.

Lifetime of an Exposure 2/2

Supervisory Concern	PRA Findings	Jaywing Guidance
ECL may be biased by unduly short lifetimes for revolving products where: - Lives are based on the lender's cancelation rights, credit review dates if the review is not substantive, or fixed time periods. - Aggressive interpretations are made that result in de-recognition criteria being frequently met causing existing exposures to be replaced by new exposures even where no substantive change to lending terms has occurred - Lives or exposure at default are based on inappropriate assumptions about customer behaviour where experience data is missing, including the time it takes for defaults to emerge, how quickly customers will repay or how customers will respond to changes in interest rates.	The range of modelled lives for credit cards was broad, from three to ten years. We noted that: - Lives appear to be sensitive to how cumulative default rates are calculated, which seemed to differ between firms. - Modelled lives were cut short at the point when substantially all defaults occur. Inconsistent use was made of PMAs to capture losses out to the point where all defaults are expected to have occurred.	• Estimating lifetime based on historical experience is difficult due to the lack of experience data. Often this is extrapolated from a relatively short window. • Due to this problem, in our experience firms often rely too much on credit review dates. The concern of the PRA and auditors is that whilst in theory the facility could be cancelled at this date, in practice the process may not be robust and very few facilities are withdrawn. Hence relying on these dates will lead to too little ECL. • We recommend firmly challenging and justifying the assumptions made in both the data extrapolation approach and the credit review date . • Further, we recommend sensitivity analysis of the impact of a longer lifetime on discounted ECL. In our experience, the materiality of a longer lifetime is often smaller than initially assumed once it has been discounted at the high EIRs often seen on revolving products.
	De-recognition criteria differ with more aggressive approaches allowing for de-recognition even where lending terms do not substantively change. We asked auditors how frequently de-recognition criteria are being met in practice to see if this differs across firms.	• Firms should periodically assess and actively challenge whether lending terms do substantively change when an account is deemed to be de-recognised. We would strongly recommend having a policy in place as to what can be classed as a substantial change in terms to ensure the decision is made consistently and reduce the burden on reassessment each time the credit policy changes. • Any significant changes to the criteria may necessitate retrospective changes to the data feeding the lifetime calculations

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