



***The Auditor's Response to the Risks of Material Misstatement
Posed by Estimates of Expected Credit Losses under IFRS 9***

Considerations for the Audit Committees of Systemically Important Banks

Global Public Policy Committee of representatives of the six largest accounting networks

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Introduction

Dear Chair of the Audit Committee,

The introduction of the requirement to estimate expected credit losses (“ECL”) under IFRS 9 *Financial Instruments* is perhaps the single most significant change in the history of financial reporting of banks. Investors, regulators, analysts, auditors and bank customers will take keen interest in this new and highly complex estimate. Given the importance of banks in global capital markets and the wider economy, it is of critical importance that participants in capital markets have confidence that banks are implementing IFRS 9¹ to a high standard, producing estimates upon which financial statement users can rely. To this end, bank management teams, audit committees and auditors all have crucial roles to play.

Banks are expected to design and implement high-quality policies, procedures, internal controls, systems and models in accordance with the accounting standard to enable bank management to exercise appropriate judgements when estimating expected credit losses. Banks should also provide transparent, neutral and informative disclosure in their financial statements to enable key stakeholders to understand and evaluate the judgements made by the bank in its estimation of ECL. Importantly, for these disclosures to be meaningful to users of the financial statements, disclosures about the estimate of ECL will likely need to discuss the uncertainty that is prevalent in the bank’s estimation process.

Audit Committees will also play an essential and unique role in ensuring that banks have high-quality estimates of ECL under IFRS 9 and that critical matters regarding those estimates are clearly communicated in the financial statements of banks. Audit committees have the responsibility to evaluate the effectiveness of the external auditor’s response to the assessed risks of material misstatement presented by the bank’s estimate of ECL.

The Global Public Policy Committee (“GPPC”) network firms, as auditors, also have a role to play. Auditors should design appropriate audit procedures to respond to the assessed risks of material misstatement presented by the degree of complexity, management judgement and estimation uncertainty (i.e. the susceptibility of the estimate to an inherent lack of precision) present in an estimate of ECL. This Paper illustrates that high-quality audit approaches, designed to respond to the risk of material misstatement presented by a bank’s estimate of ECL, likely will rely upon auditable, well-controlled, high-quality ECL estimation processes².

Auditors have a responsibility to objectively evaluate and challenge the reasonableness of accounting estimates with a risk of material misstatement and to stand back from such estimates at the account level and objectively evaluate and challenge the estimate in the broader context of the financial statements as a whole. Auditors should apply professional scepticism throughout the audit and, specifically, auditors

¹ Given the large number of jurisdictions which require, or permit, International Financial Reporting Standards (“IFRSs”), the Paper has been developed with IFRS-reporting banks in mind. It does not therefore reflect the recently finalised changes to US GAAP that introduce a similar, though distinct, expected credit loss model into US Generally Accepted Accounting Principles (“US GAAP”).

² In certain jurisdictions auditors will have specific reporting requirements related to internal controls. For example, auditors will report on the effectiveness of the internal controls for banks that are Securities and Exchange Commission (“SEC”) registrants, while auditors may also reference ECL in extended audit reports for public interest entities (PIEs) in many European jurisdictions.

should consider and evaluate how management has mitigated potential management bias in the estimate, and assess the transparency and completeness of management’s disclosures.

Banks will base their judgements in the estimation of ECL, and build their public disclosures, upon certain foundational elements:

- their accounting policies;
- operational procedures and systems of internal control;
- information systems and data; and
- estimation models.

Further, in fulfilling their governance responsibilities, audit committees will need to ensure that these foundational elements are fit for purpose and of high quality. Accordingly, these will be the key areas of focus for auditors when auditing the banks’ estimation of the ECL.

When read in conjunction with our previous paper, *“The implementation of IFRS 9 impairment requirements by banks” (GPPC, 2016)*, we believe this Paper will be helpful to banks’ management and audit committees as they implement the impairment requirements of IFRS 9. This Paper focuses on the audit committee’s role in assessing the effectiveness of the auditor’s response to risks of material misstatements presented by the estimate of ECL. In assessing the effectiveness of the auditor’s response to the risk of material misstatement presented by IFRS 9, the audit committee should:

- consider the appropriateness of the planned audit approach and any deviations from the proposed approach during the course of the audit; and
- evaluate the findings of the auditor in the context of their understanding of the bank’s processes, systems and controls.

This Paper is an effort to assist audit committees in their oversight of the bank’s auditors with regard to ECL and is addressed to the audit committees of systemically-important banks (“SIBs”) because of the relative importance of SIBs to capital markets and global financial stability. We expect these banks will consider the work of other international bodies on IFRS 9, such as the Basel Committee on Banking Supervision (“Basel Committee”)’s *Guidance on Credit risk and accounting for expected credit losses (“GCRAECL”)* (December 2015). However, while much of this Paper’s content will be relevant to the audit committees of other banks and financial institutions, this Paper does not specifically contemplate how the concepts herein would be applied to banks other than SIBs, and should not be applied to other banks without appropriate consideration of proportionality. The Paper focuses on SIBs’ lending activities, being their core activity, as opposed to investing in securities.

The GPPC and its member networks are not standard setting bodies and, accordingly, this Paper does not set nor amend accounting or auditing standards. That being said, the relevant auditing standards are written so as to be generally applicable to audits of entities of all sizes and, in the case of ISA 540³, to all accounting estimates. We acknowledge that banks’ ECL estimates present unique risks that require a tailored response. Appropriately addressing ECL estimates as part of the audit process includes addressing whether assumptions that underlie ECL estimates are well understood and sceptically assessed. This Paper, therefore, builds upon the requirements in ISA 540 by setting out audit responses consistent with

³ The guidance in ISAs 260, 315, and 330 should also be considered. Furthermore, this Paper makes frequent reference to ISA 540.

that standard that are responsive to the unique risks presented by estimates of ECL for material portfolios at SIBs. No statements in this Paper should be construed as requiring auditors to perform procedures that are either incremental to, or inconsistent with, the auditing standards. Rather, this Paper sets forth our views on ways in which the auditor might respond to the risks of material misstatement presented by estimates of ECL for material portfolios at SIBs that are consistent with the auditing standards.

Additionally, this Paper makes use of terms such as ‘experts’ and ‘specialists’, but does not intend to define any party as an ‘expert’ or ‘specialist’ under the auditing literature. The identification of experts and specialists under the auditing literature is context specific and requires the exercise of professional judgment by the auditor. Rather, these terms are used in this Paper in a more general sense in reference to individuals with particular expertise or knowledge that may be relevant to estimates of ECL under IFRS 9.

This Paper seeks to advance the objective of high-quality audit procedures over estimates of, and disclosures regarding, ECL in accordance with IFRS 9 and ISA 540 for material portfolios at SIBs. However, the GPPC networks do not anticipate the same level of sophistication of implementation for all entities and all portfolios, as there is no one size that fits all. Auditors may need to consider proportional application of the concepts in this Paper to banks other than SIBs, and certain portfolios within SIBs, based on their relative size and complexity.

This Paper was prepared at the same time as the IAASB was revising ISA 540 which has resulted in the issuance of an exposure draft (ED). There are some potentially significant changes proposed in the ISA 540 ED, and this Paper has to the extent possible reflected the proposed changes with that ED given the parallel drafting of the two documents and the fact that the consultation process to revise ISA 540 is incomplete⁴.

The Audit Committee’s oversight of the auditor

The risks of material misstatement related to the estimation of ECL under IFRS 9, are as a result of the:

- complexity of estimating expected losses;
- a higher number of inputs and assumptions, which are subject to judgement (e.g. the necessity to incorporate forward-looking data and assumptions into the ECL estimate that require potentially both expert and complex judgements);
- increased estimation uncertainty; and
- potential magnitude of the ECL estimate for SIBs

In evaluating the auditor’s planned audit approach and the auditor’s findings, audit committees should consider whether the auditor has the appropriate skills, knowledge and resources to address the risks presented by the ECL estimate of a SIB. This would involve assessing:

- Skills – auditors may need to involve appropriate experts in disciplines such as credit risk, modelling, economic forecasting and IT systems.

⁴ Where the Paper references ISA 540, it is in this context – understanding that extant ISA 540 is the only authoritative literature at the time this Paper was finalised, but contemplating, to the extent possible, the proposed changes in the ISA 540 ED. The completion of the IAASB’s project to revise ISA 540 may have implications for this Paper.

- Knowledge – in addition to the relevant accounting and financial reporting framework, auditors should be knowledgeable of and experienced in the banking industry and its unique risks.
- Resources – auditors should ensure they have access to appropriate tools and have sufficient staffing at appropriate levels to execute a high-quality audit in a timely fashion.

Estimation processes and systems of internal control

The bank's ability to support reasonable estimates of ECL will be dependent upon a robust system of internal control over the critical sources of information, processes and models upon which the bank's estimate of ECL is based. Estimates of ECL will be dependent upon the unique information, experience and perspective of each bank. Accordingly, key components of these estimates will be subjective in nature and susceptible to management bias. The bank's system of internal control should address:

- the completeness, accuracy, relevance and reliability of historical information, including information sourced from outside of the finance function or obtained from third party sources;
- the appropriateness of accounting policies, especially those requiring the exercise of judgment, such as when a credit exposure has experienced a significant increase in credit risk ("SICR");
- the development, maintenance and validation of models, including the appropriateness of any overlays;
- the development and selection of economic and other assumptions;
- the bank's overall review of the estimate and identifying and mitigating potential management bias; and
- the clarity and reasonableness of related ECL disclosures.

A bank's estimate of ECL must be supported with appropriate documentation, and without a robust system of internal control a SIB's estimate of ECL may be unsupported. Furthermore, the bank's system of internal controls should be in place during and after the transition to IFRS 9, to ensure that ECLs are estimated in a well-governed environment, with oversight by all 'three lines of defence'⁵.

As banks, regulators and auditors gain more experience with IFRS 9, new challenges and new insights may emerge. We expect that practices of banks will evolve, and that expectations of regulators and auditors may change. All concerned parties will need to stay abreast of developments and consider how they affect their respective responsibilities regarding the estimate of ECL.

Conclusion

We hope this Paper complements the work of other international organisations that have also produced guidance to raise the standard of implementation of accounting for expected credit losses and related disclosures. Of particular note are the Basel Committee's "GCRAECL", the Enhanced Disclosure Task Force ("EDTF")'s *Impact of Expected Credit Loss Approaches on Bank Risk Disclosures*, both published in 2015, and the International Auditing and Assurance Standard Board ("IAASB")'s *Project to Revise ISA 540 ("An Update on the Project and Initial Thinking on the Auditing Challenges Arising from the Adoption of Expected Credit Loss Models")*, published in March of 2016.

⁵ The Basel Committee, "Corporate Governance Principles for Banks", July 2015

Questions audit committees may wish to discuss

Below are some questions that audit committees may wish to discuss with the auditors (and with their prudential supervisors). These are further contemplated in detail in the rest of the Paper:

1. How has the auditor identified the key **sources of complexity, judgment and uncertainty** in the bank's estimate of ECL under IFRS 9? (Section 1)
2. How do the **skills, knowledge and resources of the audit team** align with the key sources of complexity, judgment and uncertainty that contribute to the risk of material misstatement in the bank's estimate of ECL under IFRS 9? (Section 1)
3. What is the auditor's assessment of the bank's **controls** over the key sources of complexity, judgment and uncertainty in the bank's estimate of ECL under IFRS 9 and how has that assessment informed the auditor's approach? (Section 3)
4. How has the auditor evaluated the relevance and reliability of **data sourced from different functions of the bank** (i.e. outside of the financial reporting function) and external sources? (Section 4)
5. Where the bank has made use of **proxies**⁶, how has the auditor evaluated and challenged the appropriateness of these proxies and the bank's plan (or lack thereof) to eliminate their use? (Section 2)
6. In its testing of **models**, what limitations did the auditor identify, and how did the auditor satisfy themselves that such limitations were appropriately addressed by management? (Section 5)
7. How has the auditor exercised professional scepticism in testing the bank's **key judgements and assumptions** (such as the selection of multiple, probability-weighted forward-looking economic scenarios and the determination of significant increases in credit risk) in the estimation of ECLs? (Section 6)
8. What are the auditor's views regarding the neutrality, clarity and comprehensibility of the **disclosures** regarding the bank's estimate of ECLs? (Section 7)
9. What process was undertaken by the auditor to **'stand back'** and consider, in the context of the financial statements as a whole, the presence of bias in the bank's estimate of, and disclosures regarding, ECLs? (Section 6)

⁶ Banks may make use of simplifications or utilise proxies in order to operationalise the estimate of ECL for the requirements of IFRS 9. For example, 1 year probability of default may be a reasonable proxy for lifetime probability of default.

About this Paper

The GPPC is the global forum of representatives from the six largest international accounting networks - BDO, Deloitte, EY, Grant Thornton, KPMG and PwC. Its public interest objective is to enhance quality in auditing and financial reporting.

The information contained in this Paper is of a non-specific nature. Further analysis will be needed in order for a bank to apply IFRSs to its own facts, circumstances and individual transactions. Further, understanding and application of IFRS may change as practice continues to develop. Banks are cautioned to read this publication in conjunction with the actual text of the accounting and auditing standards and implementation guidance issued, and to consult their professional advisers before concluding on accounting treatments for their own transactions.

Additionally, at the time of initial publication of this Paper, the International Auditing and Assurance Standards Board (IAASB)'s project to revise ISA 540⁷ is on-going. The two key objectives of IAASB's proposal in revising ISA 540 are to improve audit quality by making the existing requirements more robust, and also to emphasise the importance of the appropriate application of professional scepticism when auditing ECL and other estimates.

This Paper takes account of the concepts and guidance in ISA 540 and illustrates ways that may be appropriate to apply those concepts and guidance to the audit of expected credit loss estimations. Auditors and the audit committees should take care to read this Paper in conjunction with the final text of revised ISA 540. We may see fit in the future to revise this Paper to incorporate any subsequent developments in ISA 540.

For the avoidance of doubt, this Paper does not purport to in any way amend or interpret the requirements of IFRSs. The GPPC fully acknowledges that this is reserved for the International Accounting Standards Board ("IASB") and the IFRS Interpretations Committee. Similarly, The GPPC and its member networks are not standard setting bodies and, accordingly, this Paper does not set nor amend auditing standards. No statements in this Paper should be construed as requiring auditors to perform procedures that are either incremental to, or inconsistent with, the auditing standards.

⁷ International Standard on Auditing ("ISA") 540 "Auditing accounting estimates and related disclosures"

1. Fundamental concepts regarding audit responses to estimates of expected credit losses

1.1.1 When considering audit responses to estimates of ECL under IFRS 9, there are certain concepts that are essential and need to be emphasised. Understanding these concepts, discussed in detail below, is fundamental to the audit committee's ability to assess the effectiveness of the auditor's audit response to the risks posed by estimates of ECL. These concepts underpin many of the topics discussed later in this Paper.

1.2 Auditors' General Approach to Estimates

1.2.1 Accounting estimates, such as a bank's estimate of ECL, are susceptible to an inherent lack of precision in their measurement. The lack of precision in the measurement of an estimate may, in turn, present a risk of material misstatement to the financial statements. When the auditor determines that an estimate presents a risk of material misstatement, the auditor must obtain sufficient appropriate audit evidence about whether the estimate and its related disclosures are reasonable.

1.2.2 Estimates that present a risk of material misstatement will often have one or more of the following characteristics:

- complexity of the accounting framework or the estimation technique;
- the need for the use of judgment in determining the point estimate or range; and
- estimation uncertainty.

The auditor's responses to the risk of material misstatement presented by the estimate should be designed to address these characteristics. Estimates of ECL by SIBs are generally expected to have all three of these characteristics.

1.2.3 The auditor should identify components of an estimate that contribute most significantly to the risk of material misstatement and design audit procedures that are specific to those sources of risk. Which components of an estimate are the primary sources of risk will be specific to the particular circumstances in which the estimate is made. Therefore, no single set of audit procedures can be designed to address every bank's estimate of ECL. Rather, it is incumbent upon auditors to understand each bank's estimate of ECL, identify the sources of risk specific to that estimation approach, and design audit responses that are responsive to the sources of risk identified. The identification of sources of risk is further discussed in section 1.4.

1.2.4 In addition to the auditor's procedures designed specifically to respond to the components of the estimate that contribute most significantly to the risk of material misstatement, the auditor should also 'stand back' and evaluate the reasonableness of the estimate in the overall context of the financial statements and in light of the evidence obtained. In making this evaluation, the auditor exercises professional scepticism, being aware of the potential for management bias. The need to address management bias is discussed throughout this Paper.

1.3 Approach to Responding to the Risks of Material Misstatement Presented by ECL

1.3.1 When auditing estimates, including estimates of ECL, auditors typically have the following general approaches available to them:

- Auditing the bank's process to validate the reasonableness of the end result;
- Developing independent estimates; and
- Examination of subsequent events.

1.3.2 Although some inputs of the ECL estimation process may be independently verified by the auditor, the institution-specific knowledge of the loan portfolio, the high volume of transactions and data needed, to estimate ECL, is likely to prohibit development of an independent estimate of the ECL itself. Estimates of ECL are built upon rigorous examination and analysis of historical loss data and its relationship to changes in credit risk factors, as well as the exercise of expert credit judgement. Such judgement is built upon the unique knowledge of each bank's risk function regarding its credit exposures, credit risk mitigation practices and how they may be affected by idiosyncratic events and conditions that cannot be easily captured by quantitative models (commonly referred to in the industry as 'overlays').

1.3.3 IFRS 9's forward-looking components rely specifically upon the bank's expectations of future economic conditions as at the reporting date, reflecting a point in time assessment. Banks are expected to consider reasonable and supportable forward-looking information that is available without undue cost or effort that is indicative of a significant increase in the credit risk in their portfolios since initial recognition, focusing on underlying drivers of this risk. Accordingly, it is possible that banks with identical portfolios of credit exposures may each have estimates of ECL that are reasonable, supportable and free from intentional bias that are made in accordance with IFRS 9, and yet may significantly differ from each other. This aspect of management's perspective in IFRS 9 further reduces the viability of the auditor's approach of developing an independent estimate in order to audit the ECL estimate.

1.3.4 While subsequent events should be considered by auditors, estimates of ECL normally cannot be supported by subsequent events alone, as the estimation is based on probability-weighted expectations derived from information available at the reporting date. Accordingly, events occurring after the reporting date and before the issuance of the financial statements normally will not provide the auditor with sufficient persuasive evidential matter on their own.

- 1.3.5 Accordingly, audit committees should expect auditors to audit the bank's process. When utilising the approach of auditing the bank's process, auditors evaluate the sources of risk of material misstatement, including complexity, extent of judgement by the bank, and the level of estimation uncertainty presented by different components of the bank's ECL estimation process and design appropriate audit responses to the related assessed risks of material misstatement.
- 1.3.6 When auditing the bank's process for estimating ECL, the auditor exercises professional scepticism when evaluating the persuasiveness of the bank's basis for and evidence supporting its judgements and assumptions. Taking the approach of auditing the bank's process does not preclude auditors from developing independent estimates or considering subsequent events when evaluating certain individual components (e.g. specific assumptions) of the bank's overall ECL estimation process.
- 1.3.7 Finally, while the auditor will likely audit the bank's process, the auditor still has a responsibility to stand back from the individual components of the estimation process and consider the estimate of ECL as a whole and in the context of the broader context of the financial statements for both reasonableness and bias. This may involve considering the directional consistency of changes in the ECL over time in light of changes in the loan portfolio and economic environment, considering peer information and regulatory views, and evaluating whether the bank's point estimate is consistently at the high or low end of the estimated range.

1.4 Assessing the Risk of Material Misstatement

- 1.4.1 Auditors should perform a risk assessment to ascertain the significance of the risk of material misstatement associated with the bank's estimate of ECL. The auditor's risk assessment includes an assessment of the estimation uncertainty in the estimate of ECL, as discussed in section 1.5. It is expected that for most banks, the estimate of ECL will present a risk of material misstatement that is not low.
- 1.4.2 Auditors should begin their risk assessment by gaining an understanding of the bank's estimation process and evaluating its consistency with the requirements of IFRS 9, including assessing the quality of the bank's accounting policies and where the bank has made simplifying assumptions. When the use of simplifying assumptions presents a risk of material misstatement, auditors should assess whether such simplifying assumptions are appropriate – and continue to be appropriate – in light of the bank's overall estimation process and after considering the changing environment and the risk profile of the portfolio.

Example of Simplifying Assumptions and Proxies

An example of a simplifying assumption that may be utilised by a bank, and may indicate a risk of material misstatement, is the use of annualised loan loss (or risk of default) data as a proxy for lifetime loss (or risk of default) data in the estimation of ECL. For instance, a bank may use a 1 year PD as a proxy for lifetime PD. The use of a 1 year PD would only be appropriate if the bank has assessed that the ECL estimated using a 1 year PD is materially consistent with the ECL estimated using a lifetime PD. The bank should document their assessment, and the auditor should evaluate this assessment, considering the impact on identifying significant increases in credit risk (i.e. 'staging') and the measurement of ECL in stage 1, stage 2, and stage 3.

Accordingly, for the 1 year PD to be a reasonable proxy for lifetime PD, the 1 year PD would need to:

- vary over the life of the loan in a manner generally consistent with a lifetime PD (the two 'PD curves' should be similar), and
- be similarly or more sensitive as the lifetime PD to forward looking indicators of credit risk.

- 1.4.3 Auditors should also obtain an understanding of the operation of the bank's estimation process, including its internal controls and the information systems used in the estimation process. This will include an assessment of the bank's general information technology environment and the bank's process for ensuring the completeness and accuracy of data used in the estimation process.
- 1.4.4 As noted above in section 1.2, auditors should identify the components of a bank's estimation approach that contribute to the risk of material misstatement in the bank's estimate of ECL, and design audit responses that are specific to the sources of risk identified. Methods of identifying components of the estimation approach that contribute to the risk of material misstatement include 'what could go wrong' analyses (as discussed further in section 3.3) and sensitivity analyses.
- 1.4.5 Inputs and assumptions to which the estimate of ECLs is particularly sensitive are components that contribute to the risk of material misstatement in the estimation process. Such inputs and assumptions may be found in quantitative models. For instance, the auditor may identify that small changes in the bank's forecast of a particular economic factor results in material changes to the ultimate estimate of ECLs. In such an instance, appropriately addressing the risk of material misstatement presented by such an estimate of ECLs includes focusing particular attention on the forecast of that factor. Additionally, auditors may identify inputs and assumptions of significance in un-modelled adjustments (overlays).

Using Sensitivity Analysis to Identify Sources of Risk of Material Misstatement

As each bank's portfolio and environment will be unique, so too will be their methodology for estimating ECL and the risks of material misstatement presented by the estimate. Auditors may use sensitivity analysis to identify to which components (i.e. inputs and assumptions) in a given methodology the estimate of ECL is particularly sensitive. The identified components will be among the key sources of risks of material misstatement.

Sensitivity analysis in the context of estimates of ECL should consider both (1) the measurement of ECL for loans in a given stage, and (2) the transition of loans between stages.

The following examples of potential sources of risk in ECL estimates are illustrative only and are not meant to establish expectations with regard to which components any particular ECL estimate may be sensitive:

- The estimate of ECL for portfolios of real estate loans may be primarily sensitive to changes in loan-to-value ratios due to the impact on LGD, while being less sensitive to other macroeconomic factors affecting primarily PD.
- For unsecured consumer loans, the primary driver of the ECL estimate may be the bank's 'triggers' for transitioning the loans between stages, emphasising the importance of critically evaluating forward looking indicators of increases in credit risk and the relative weighting of economic scenarios.
- For portfolios of short-term loans, the ECL estimate may be primarily driven by recent historical experience, raising the importance of data quality.

1.4.6 Finally, risks of material misstatement extend to the disclosures in the financial statements, as discussed in Section 7 of this Paper. Accordingly, in addition to assessing whether the disclosures include all disclosures specifically required in IFRS, the auditor should 'stand back' from the disclosures to check that they communicate the key assumptions made in the estimate of ECL and the credit risk in the bank's portfolios.

1.5 Estimation Uncertainty

1.5.1 All estimates have estimation uncertainty, and the degree of estimation uncertainty is one of the risk factors considered by auditors when evaluating risks of material misstatement posed by a particular estimate. Due to the forward-looking nature of the estimates of ECL, the risks related to estimation uncertainty take on enhanced importance, particularly with regard to disclosure. Understanding the level of estimation uncertainty and where the bank has placed its point estimate of ECL within that range of reasonably possible outcomes (including how the bank has ensured that its point estimate is not intentionally biased), is fundamental to the understanding of the estimate of ECL. Accordingly, audit committees should expect auditors to assess the efforts undertaken by the bank to understand the uncertainty in its estimate, the processes and controls in place to evaluate its point estimate for management bias (intentional or unintentional), and the quality of the bank's disclosures regarding that uncertainty. Therefore it is necessary that the banks have a well-controlled, well-documented process in place that

enables them to have a consistent and neutral approach to estimation uncertainty and the selection of the point estimate within the range of reasonably possible outcomes.

- 1.5.2 The audit committee should understand that some level of uncertainty will always exist due to the nature of an estimate of ECL. In particular, the application of IFRS 9 necessitates that the bank considers predicting multiple future economic scenarios and the impact of those future economic scenarios on future credit losses. Predicting the future is inherently uncertain. In many cases, the bank may not be able, with current methods and techniques available, to reduce estimation uncertainty beyond certain limits. This only serves to underscore the importance of clear and sufficiently robust disclosures regarding estimation uncertainty in the bank's estimate of ECL.
- 1.5.3 When performing risk assessment procedures and related activities to obtain an understanding of the bank's operations and its environment, including its internal control, the auditor is expected to obtain an understanding of how the bank has addressed the estimation uncertainty related to ECL. In identifying and assessing risks of material misstatements in relation to the ECL estimate, the estimation uncertainty, including the extent to which the ECL estimate is sensitive to the selection of different methods or to variations in the assumptions and data used, will be considered by the auditor.

1.6 Implications for the Bank

- 1.6.1 Whilst the focus of this Paper is the audit committee's oversight of the external auditor, given that the auditor's general approach to auditing estimates of ECL will be to audit the bank's estimation process, the expectations of the auditor in this Paper will have implications for a bank's process for estimating ECL. The implications for banks in this Paper are consistent with, complimentary to, and build upon the implications for banks discussed in our previous paper, *The Implementation of IFRS 9 Impairment Requirements by Banks*.
- 1.6.2 In order for the auditor to successfully audit the bank's estimation process in accordance with the expectations in this Paper, it is essential that the bank first addresses the following matters:
- Selecting and documenting high quality accounting policies that conform with IFRS;
 - Establishing and maintaining an effective IT environment in which the expected credit loss estimation process operates; this should extend to all functional areas throughout the bank that provide data or other inputs to the estimation process;
 - Establishing controls to ensure the completeness and accuracy of data, and assess the relevance of these data to the estimate of ECLs;
 - Ensuring models are developed, maintained and validated to a high standard⁸;
 - Documenting the basis for significant judgements and assumptions in the ECL estimation process, and ensuring that such judgements are consistent with IFRS 9; and
 - Assessing whether disclosures regarding ECL are complete, clear and decision-useful, considering the work of the EDTF.

⁸ An example of such a standard is the Federal Reserve Board's SR-11 Guidance on Model Risk Management.

1.6.3 It is important to note that banks should have a well-controlled, well-documented, well-supported and repeatable process for estimating ECL. Banks without such robust, end-to-end internal controls over their full estimation process, may have estimates of ECL which, in the end, lack proper evidentiary support.

1.7 The Role of the Audit Committee

1.7.1 The audit committee of a bank is integral to the bank's corporate governance, particularly regarding the integrity of financial reporting – internal, external and statutory. The audit committee's role includes overseeing the financial reporting process and the effectiveness of the bank's internal and external auditors, ensuring bank senior management is taking necessary corrective actions in a timely manner to respond to auditor findings and overseeing the establishment of the bank's accounting policies and practices. These are the responsibilities of the audit committee and are essential to ensuring high quality financial reporting, including estimates of ECL consistent with the requirements and principles of IFRS 9.

1.7.2 The audit committee's oversight of the auditor is necessarily enabled by clear, open and robust communication with the auditor, as contemplated in the Basel Committee's *External Audits of Banks (2014)*. The exercise of the audit committee's oversight responsibilities includes communicating with the auditor both throughout the audit process and during other times of year as relevant matters arise.

1.7.3 An effective and regular two-way communication throughout the audit process between the auditor and those charged with governance is essential to the audit process.⁹ As part of their oversight responsibilities, the audit committee may leverage this communication to monitor the effectiveness and timeliness of the auditor's involvement and whether the auditor has appropriately challenged the critical judgements and decisions made by the bank. This may be especially important during the period leading up to the transition to IFRS 9.

1.7.4 To properly oversee the external auditor in the context of estimates of ECL, the audit committee will need to be reasonably knowledgeable of both:

- How the requirements of IFRS 9 relate to the bank's process for estimating ECL; and
- How auditors should, under the relevant audit guidance, be expected to respond to the risks presented by the bank's process for estimating ECL.

1.7.5 Reading our previous paper, *The Implementation of IFRS 9 Impairment Requirements by Banks*, will assist audit committees in evaluating the bank's implementation of its ECL estimation process against the requirements of IFRS 9.

⁹ The auditor should consider the requirements of ISA 540 in regard to communication with those charged with governance or management. ISA 540 includes a list of matters specific to the accounting estimates that the auditor may consider communicating to those charged with governance.

In addition to ensuring that the auditor has appropriate knowledge, competence and expertise with regard to both the banking industry and the particular requirements of IFRS 9, and that the auditor has appropriate resources to execute their audit plan given the complexity of estimates of ECL, the audit committee should:

- understand the significant risks identified by the auditor; and
- evaluate the findings of the auditor in the context of their understanding of the bank's processes, systems, and controls.

Accordingly, to assist the audit committee in evaluating the auditor's approach and evaluating the auditor's findings, the Paper is divided into the following sections correlating the major components of the bank's ECL estimation process:

- accounting policies
- processes and internal controls
- information systems
- models
- reasonable and supportable judgements
- financial statements disclosures

Finally, each of these sections in this Paper is organised as follows:

- Implications for the bank – focusing on how the audit committee's expectations for auditors related to the bank's processes and controls for estimating ECL.
- Implications for the auditor – focusing on how the auditor should consider each of the elements of the ECL estimation and financial reporting process addressed by each section.

The implications for the auditors are further organised by:

- Ensuring the auditor is sufficiently knowledgeable, including whether the auditor has appropriate expertise.
- Ensuring the auditor is evaluating the bank's judgements, including whether the auditor has demonstrated professional scepticism.
- Ensuring the auditor is testing for accuracy and consistency.
- Ensuring the auditor is assessing management bias.

2. Accounting policies

2.1.1 The accounting policies adopted by banks are the specific principles, conventions, rules and practices applied in preparing and presenting a bank's financial statements. In this Paper, accounting policies are described more broadly to capture both the underlying principles of the accounting standards as well as the judgements made by the bank in determining how these principles will be applied. It is the bank's responsibility to set appropriate policies to support their assertion that the bank's financial statements are, in all material respects, prepared in accordance with IFRS 9.

2.2 Implications for the bank

2.2.1 In respect of IFRS 9, the bank should ensure that its accounting policies are:

- complete;
- in accordance with the requirements of IFRS 9;
- reflective of the bank's learning and experience gained over time; and
- consistently applied and reflect their actual provisioning practices as implemented.

2.2.2 Complete accounting policies capture the applicable requirements of IFRS 9 and provide a sufficient level of detail so that users of the financial statements can identify the key decisions, judgements and interpretations made by the bank. Complete accounting policies enable mapping to the underlying principles of IFRS 9 and the identification of the processes and controls implemented by the bank to apply the standard. Clear and comprehensive documentation by the bank is an important element in ensuring completeness of its accounting policies.

2.2.3 Whilst IFRS 9 prescribes certain principles for determining ECL, it does not prescribe a single method for how such principles must be applied and, consequently, the bank is required to make complex judgements: for example, determining when a significant increase in credit risk occurs. Judgements, including those involving estimates and those that the bank has made in the process of applying the bank's accounting policies and that have the most significant effect on the amounts recognised in the financial statements, should adhere to the underlying principles of IFRS 9, be free from bias and be documented. Adherence to the requirements of IFRS 9 is achieved when decisions are grounded in the standard and supported with appropriate analyses which corroborate the bank's conclusions and appropriately take into account any contradictory information.

2.2.4 The bank should ensure that its policies are consistently applied by all individuals involved in its financial reporting process, including across different geographical locations, departments, operational functions and separate legal entities (e.g. subsidiaries) within the bank, and from one accounting period to the next. It is imperative that the bank build and embed a strong control and governance framework, which is both designed and operating effectively, and which continuously monitors, captures and approves any changes made to accounting policies over time and ensures that such policies remain fit for purpose.

- 2.2.5 Selecting appropriate accounting policies is not a one-time exercise. Rather, the bank will need periodically to reassess the appropriateness of its accounting policies for changes in its portfolio and for any other changes that may be relevant to its estimate of ECLs.
- 2.2.6 In many cases, national prudential regulators and other relevant bodies have expressed views on the implementation of IFRS 9 (GCRAECL and the IASB’s IFRS 9 Impairment Transition Group (“ITG”), for example). To the extent prudential regulatory views are consistent with the requirements of IFRS 9, banks may find it useful to take these views into consideration when designing and implementing their accounting policies for estimating ECL under IFRS 9.
- 2.2.7 Banks are expected to ensure their accounting policies are in compliance with IFRS 9 and clearly disclosed, as further detailed in Section 7 of this Paper.
- 2.2.8 In the period of transition to IFRS 9, banks may consider explaining the key concepts of the ECL model and, where some of these key concepts already exist in IAS 39, explain if and how they may differ under IFRS 9 and the impact of these differences as part of their accounting policy disclosures to enhance transparency of their implementation process. On an ongoing basis, banks are also required to provide relevant disclosures regarding the judgements, estimates and assumptions they made in deriving their ECL provision. The disclosures should be sufficiently granular so as to enable a reader to have a reasonable understanding of the bank’s judgements.

2.3 Implications for the auditor

- 2.3.1 In order to assess the appropriateness of the bank’s IFRS 9 accounting policies and perform an effective, high quality audit of the bank’s estimate of ECL, the auditor should:
- have sufficient knowledge of the requirements of IFRS 9;
 - evaluate and challenge the appropriateness of the judgements made by the bank;
 - perform audit procedures to obtain evidence that accounting policies have been accurately and consistently applied; and
 - assess whether the bank has taken appropriate action to mitigate the risk of management bias.
- 2.3.2 The auditor, based on their understanding of the requirements of the accounting standard and the bank’s unique context, shall evaluate whether the bank’s accounting policies are a faithful representation of (1) the requirements of the standard, and (2) how a bank has implemented the standard.

Sufficient knowledge

- 2.3.3 IFRS 9 requires extensive and complex judgements to be made, in particular in relation to estimating ECL. The auditor is expected to have sufficient knowledge of the standard to evaluate whether the accounting policies selected by the bank are:

- complete and in accordance with the requirements of IFRS 9, and
- appropriate in the bank's unique context.

In obtaining this knowledge, the auditor should:

- understand the requirements of IFRS 9;
- identify areas of judgements (e.g. assessment of 'significant increase in credit risk'; the number, selection and probability weighting of forward looking economic scenarios) where banks will be required to make decisions in applying the requirements of the standard;
- evaluate whether decisions made are consistent with the underlying principles of the standard; and
- where necessary, engage appropriate audit experts and/or discuss with the bank's experts (e.g. credit risk experts) to assess decisions in the context of reasonable market conventions in the circumstances.

2.3.4 As part of assessing whether the accounting policies are complete, the auditor should identify the judgements which need to be made in applying the underlying principles of the standard. Assessing the compliance of those accounting policies includes obtaining an understanding of the implementation options considered by the bank and the reasons behind the conclusions reached, including evidence that may corroborate or contradict those conclusions. In executing such procedures, the auditor may require specialised skill or knowledge to understand how the requirements of IFRS 9 might apply to specific functions within the bank and what alternative, but compliant approaches or judgements might be practical or possible.

2.3.5 As noted above, banks may consider the views on the implementation of IFRS 9 expressed by national prudential regulators and other relevant bodies when such views are consistent with the requirements of IFRS 9. Similarly, auditors may find it useful to take these views into consideration when evaluating the appropriateness of the bank's accounting policies.

Evaluating judgements

2.3.6 Once the auditor has obtained sufficient knowledge of the requirements of IFRS 9, the auditor should evaluate and challenge the judgements made by the bank in adopting accounting policies under IFRS 9. This will include understanding and evaluating the:

- bank's interpretation of the requirements of the standard;
- key decisions and judgements made in selecting the bank's accounting policies; and
- processes and controls which support the bank's assertion surrounding completeness, compliance and the consistent application of such accounting policies.

2.3.7 The auditor should expect to receive accounting policies which are documented in sufficient detail as well as the bank's documentation of their analysis and rationale for selecting these policies. Reading these documents enables the auditor to understand how the bank considered whether the policies are complete and compliant, and provide evidence as to the process undertaken, including the involvement of experts. The auditor should read these documents,

and involve experts if, due to the complexity of the estimate, the auditor does not possess the appropriate skills or knowledge to evaluate the policies adopted. The auditor should exercise professional scepticism by challenging the selection and application of accounting policies, including any simplifications or proxies applied.

- 2.3.8 Regarding the use of simplifications and proxies, the auditor should evaluate the bank's evidence which supports whether the simplification or proxy materially complies with the requirements of IFRS 9. Further, for simplifications or proxies that present a risk of material misstatement, the bank's policies should include consideration of how the bank will assess the appropriateness of the simplification or proxy both initially and also on an ongoing basis. Assessing the appropriateness of the simplification or proxy includes evaluating the simplification or proxy at set period intervals and also having controls in place to identify indicators between intervals which indicate that the simplification or proxy is no longer appropriate.

Assessing the Appropriateness SICR 'Triggers'

Banks may make use of simplifications or utilise proxies in order to operationalise the estimate of ECL for the requirements of IFRS 9. Banks should have processes to evaluate the appropriateness of their simplifications and proxies both initially and on an ongoing basis.

One place where banks may commonly utilise a proxy is by using defined criteria to assess whether a loan has experienced a significant increase in credit risk. Such criteria are commonly referred to as 'triggers'.

IFRS 9 states that a loan should be determined to have experienced a significant increase in credit risk and transitioned from stage 1 to stage 2 no later than when a loan's payments are 30 days past due. Banks should, therefore, establish triggers that are sufficiently forward looking so as to identify a significant increase in credit risk *before* a loan reaches 30 days past due.

Supporting the appropriateness of the bank's triggers includes evaluating the triggers both at initial selection and on an ongoing basis. In order to support the bank's initial selection of its triggers, the bank may consider utilising a retrospective analysis to determine whether the selected triggers would historically have identified a significant increase in credit risk before loans reached 30 days past due. Additionally, monitoring whether the triggers continue to identify significant increases in credit risk before loans reach 30 days past due includes establishing controls, such as thresholds regarding the maximum number of loans that could reach 30 days past due before the triggers would be considered ineffective.

The auditor may consider testing the operating effectiveness of the bank's controls. In situations where the triggers are determined to be no longer appropriate, the bank should perform alternate procedures to ensure that its loans are in the appropriate stage at the reporting date, and the auditor should critically evaluate the bank's analysis.

- 2.3.9 Some accounting policies for which the auditor will likely design specific procedures include both (1) the definition of default and (2) the determination of significant increases in credit risk.

- 2.3.10 Not all definitions of default may be consistent with the principles of IFRS 9. IFRS 9 requires that the bank defines default in accordance with its credit risk management, taking into account qualitative indicators where appropriate. For example under IFRS 9 a breach of loan covenants may indicate default, however under Basel framework there may not be a default until it is unlikely that the borrower will be able to repay the loan in full without a recourse action. The auditor should evaluate whether the definition of default used for the bank's estimate of ECL (for both assessing whether there is a significant increase in credit risk and calculating ECL) results in a probability of default that reflects the bank's current view of the future and is unbiased.
- 2.3.11 Auditors should evaluate and challenge the bank's determination of what constitutes a significant increase in credit risk, which in many instances will be operationalised via 'triggers', by testing those triggers against historical performance to ensure that the selected trigger is timely and forward-looking rather than simply capturing known incurred losses. This may be accomplished, for instance, by back-testing the trigger against historical data to see to what extent a significant increase in credit risk is identified before the loans in question hit the 30-day past due 'backstop' in IFRS 9.

Testing for accuracy and consistency

- 2.3.12 Once appropriateness of the accounting policies has been established, the auditor should assess whether the accounting policies have been accurately and consistently applied by the various operational functions of the bank involved in determining the estimation of ECL, and from one accounting period to the next. This testing is influenced by the auditor's understanding of the control environment and the processes in place to communicate accounting policy choices, and the process used to ensure consistency in their application.

Assessing for management bias

- 2.3.13 IFRS 9 is complex and includes a number of interdependent decisions. As a result, while accounting policies may be evaluated individually, it will also be important for the auditor to 'stand back' and assess whether the accounting policies on an overall basis are in accordance with the requirements of IFRS 9 and the bank has taken the appropriate action to mitigate the risk of management bias in selecting accounting policies. Evidence to support this may include the corroboration of policy choices across various functions within the bank. The bank should consider for disclosure, as part of its accounting policies, those areas where it has applied a simplified modelling approach or used proxies as a result of data limitations or other practical constraints. Disclosure of such simplifications, if judged to have a potentially material impact on the estimate of ECL, may be integral to providing the user of the financial statements with an understanding of the bank's estimation process. Where such simplifications or proxies have been selected, the auditor's evaluation of such simplifications or proxies includes obtaining an understanding of and evaluating the bank's process for assessing the appropriateness of these judgements on an ongoing basis, both individually and considering the significance of their cumulative effect. Auditors should also consider communicating and discussing these short-cuts or proxies and their impact with the audit committee and those charged with governance.

3. Procedures and internal control

- 3.1.1 Given the heightened role of judgement in the estimation of ECL, in order to fulfil their governance responsibility, audit committees will have to satisfy themselves that they understand the system of controls over the bank's processes and significant assumptions. It will also be important to understand the audit procedures performed by the auditor to challenge the bank's judgements made in the ECL estimate.
- 3.1.2 Reasonable and supportable estimates of ECL will be dependent upon a robust system of internal controls over the critical sources of information, processes and models upon which the bank's estimate of ECL is based.
- 3.1.3 Due to the nature of the ECL estimate, an auditor may not be able to obtain sufficient appropriate evidence from performing only substantive procedures. In such cases, the auditor is expected to perform tests of the operating effectiveness of the relevant controls. We believe the auditor will generally test the design and operating effectiveness of key controls related to the estimation of ECL at SIBs.

3.2 Implications for the bank

- 3.2.1 IFRS 9 requires historical loss data to be augmented with consideration of forward-looking information across multiple economic scenarios for both the purposes of assessing whether credit exposures have experienced a significant increase in credit risk (i.e. 'staging') and estimating ECL. Because of this, the bank will likely require credit risk information that has not historically been tracked or maintained, or is available but was not previously used for financial reporting purposes, to determine the estimate of ECL. In the latter case, the data may currently not be subject to the same rigorous governance and controls normally associated with information used for financial reporting. Appropriate governance and controls will be required for these sizeable additional data sets used for the estimation of ECL.
- 3.2.2 Gaps in historical credit risk data are expected to make transition to IFRS 9 challenging for banks. Some of the scenarios in which this challenge could arise are when data was not historically tracked or maintained or cases where the bank has loan portfolios that are material but there is limited cumulative loss experience up to the reporting date.
- 3.2.3 For example, consider a scenario where a new loan product is launched near the end of the credit cycle or the portfolio has grown materially to the current reporting date. In such scenarios, it is likely that the bank would have to supplement its own historical loss data with information from other sources available in the market. This externally sourced data should be subject to the same rigorous internal control checks as the internally generated data, as well as being assessed for relevance, reliability, appropriateness and completeness. The above situation may be more complicated when there are no comparable products in the market with a longer history than the bank's own. In such a scenario, the bank will have to use their expert credit judgement. The bank will also need to document the basis for arriving at these estimates and ensure repeatability of the estimation process.

3.2.4 The bank's appropriate exercise of expert credit judgment is critical to the ECL estimation process, whether in the form of individual loan reviews, assigning credit risk grades, identifying key drivers of credit risk for a given portfolio, or evaluating whether there has been a significant increase in credit risk in a particular portfolio. These judgments should be well documented, supported, and subject to appropriate review in the context of an effective system of internal control.

3.3 Implications for the auditor

3.3.1 Auditors will have to obtain an understanding of the bank's procedures and related internal controls in order to identify, and respond with appropriate procedures, to the risks of material misstatement posed by the estimate of ECL. Furthermore, the auditor should objectively consider whether sufficient and appropriate audit evidence can be obtained without testing the operating effectiveness of relevant controls.

3.3.2 In designing its audit approach of the bank's estimation of ECL, the auditor should consider whether the bank's internal controls address:

- the completeness, accuracy, relevance and reliability of historical information, including information sourced from outside the finance function or obtained from third party sources;
- the appropriateness of accounting policies, including those regarding when a credit exposure has experienced a significant increase in credit risk;
- the development, maintenance and validation of models, including the appropriateness of any overlays; and
- the bank's overall review of the estimate, including controls designed to identify and mitigate potential management bias.

3.3.3 ECL estimation models require the use of macro-economic forecasts that may be sourced from third-parties. In such cases the auditor may consider the selection and source of the information and whether testing controls over such third party inputs is necessary. Such controls should include considerations of completeness and accuracy, the bank's evaluation of expertise of the source and the relevance of the forecast to the bank's portfolio.

3.3.4 For overlays on quantitative models used in the estimate of ECL, the auditor should assess the impact of the overlay and consider and challenge whether the overlays are valid in nature, directionally consistent and sufficient in magnitude. In their evaluation and challenge of the bank's overlays, auditors may consider evaluating whether the bank's controls over the establishment of overlays are sufficiently precise to prevent or detect a material misstatement and consider testing such controls. The bank's controls should result in documentation regarding how the bank determined that the overlay is necessary, directionally consistent with changes in credit risk and sufficient but not excessive.

- 3.3.5 Should the auditor identify deficiencies in internal control regarding either the implementation or ongoing estimation of ECL under IFRS 9, the auditor may, in jurisdictions where they are not otherwise required to report directly on the operating effectiveness of internal controls, consider whether such findings should be discussed as part of a Key Audit Matter (“KAM”) related to the estimate of ECL in the ‘Independent Auditor’s Report’.

Sufficient knowledge

- 3.3.6 In order to appropriately understand the bank’s controls over the estimate of ECL, evaluate the design effectiveness of controls, and test their operating effectiveness, the auditor should understand the bank’s estimation methodology (for instance, in terms of probability of default (“PD”), loss given default (“LGD”) and exposure at default (“EAD”), discounting engines or overlay approaches based on adjusted historical loss rates).
- 3.3.7 The auditor should evaluate whether there is a need for experts to be included on the engagement team to understand and evaluate the bank’s controls over the estimate of ECL. The audit team would be expected to have knowledge in a variety of areas including credit risk, modelling, economic forecasting and IT systems. Some of these such as the auditing of forward-looking economic information across multiple scenarios will be new for the auditors. Therefore, additional engagement team members with the right skills, or relevant experts may need to be added to ensure the team has the right complement of skills.

Evaluate judgements

- 3.3.8 The auditor should pay particular attention to controls over more judgemental components of the ECL estimation process, including identification of key drivers of credit losses, the sensitivity of ECL estimation to certain inputs, the selection of forward-looking economic scenarios and the selection of forward-looking indicators of significant increases in credit risk. The auditor should evaluate and consider for testing the bank’s controls over the selection of appropriate forward-looking factors that are relevant to the inputs to the ECL estimation. Examples of controls over the selection of such forward-looking factors include evaluation of the selection of key drivers of credit losses and evaluation of the selection of forward-looking indicators of significant increase in credit risk.
- 3.3.9 The evaluation of both the design and operating effectiveness of controls over judgments, includes ensuring that the bank has not only followed every step of their ECL estimation process, but has also stood back from that process and considered whether its output is reasonable in the context of their overall loan portfolio and their financial statements taken as a whole. The auditor should ensure the bank has such a process and that they critically evaluate it.
- 3.3.10 The auditor’s risk assessment procedures includes scrutinising the bank’s judgements about whether controls are necessary over certain components of the ECL estimation process and whether such controls are sufficient. It is particularly important that the auditor utilise appropriate skills, knowledge and expertise during the planning phase of the audit to evaluate whether the bank’s system of controls is designed effectively. The auditor may perform a ‘what

could go wrong' analysis to identify those components of, and inputs to, the ECL estimation process for which controls should be established and then consider if the bank's controls appropriately address the risks identified in such an analysis.

- 3.3.11 Those areas identified by the auditor during the 'what could go wrong' analysis are also likely to be those areas in the ECL estimation process that are subject to greater complexity, judgment and uncertainty and thus contribute to the risk of material misstatement. In this way, such a risk-based analysis should be ongoing throughout the audit process and help link together the planning, performing and concluding phases of the audit.

Testing for accuracy and consistency

- 3.3.12 The auditor should evaluate the completeness, accuracy, relevance and reliability of the data, both internal and external, used in the ECL estimation methodology, and may test the bank's controls in order to perform the evaluation. Evaluating the relevance and reliability of data used in the bank's ECL estimation methodology upon transition to IFRS 9 includes paying particular attention to data derived from internal sources that have not historically been subject to the same rigour of controls as other information used for financial reporting purposes, as is further discussed in section 4 of this Paper on Systems.

- 3.3.13 The auditor should evaluate and consider for testing, the bank's controls over staging for loan portfolios subject to IFRS 9 impairment modelling. This should include assessing whether the historical and forward-looking information the bank uses to make its staging assessment is accurate and appropriate.

- 3.3.14 The auditor should assess whether the development, maintenance and validation of the models, as discussed in Section 5 of this Paper on Models, used in the ECL estimation process are appropriate under IFRS 9 and these models are consistently applied year on year.

Assessing for management bias

- 3.3.15 The bank is expected to implement controls to identify and mitigate the potential for management bias in:

- key judgments, such as constructing or selecting and weighting future economic scenarios, including the selection of sources of forward-looking information and determining when a significant increase in credit risk has occurred;
- not considering information in the current period obtained that may be contradictory; and
- the consistency of information used for IFRS 9 with that used for organisational budgeting and risk management purposes.

- 3.3.16 The auditor's consideration of how the bank has addressed the potential for management bias in their estimation process plays an important role in determining how to test the estimate of ECL, including whether to test the controls around the estimation process. The auditor should

assess the bank's process for addressing the risk of bias with an understanding that bias may result either in an overstatement or understatement of the estimate of ECL.

- 3.3.17 The bank should explicitly consider, and document, its consideration as to whether and how it has mitigated the risk of bias in its estimate in part by performing a review by key management. To address the risk of management bias in the estimate of ECL, the auditor should identify and consider testing the review by key management as a control. The auditor should verify that such a management review as a control is sufficiently precise and direct and that the bank has maintained sufficient documentation to evidence the performance and effectiveness of these controls. As noted above in paragraph 3.3.9, management should 'stand back' from the components of the estimation process and evaluate whether its output is reasonable in the context of their overall loan portfolio and their financial statements taken as a whole.

4. Information systems

4.1.1 Given the new and complex requirements associated with the impairment of financial instruments under IFRS 9, it is very likely that banks will either need to develop new Information Systems (“IS”) internally as part of their implementation of IFRS 9 or substantially configure off-the shelf packages. The information systems will need to capture, house and enable analysis of the data that is needed both to estimate ECL and to prepare the disclosures required by the consequential amendments to IFRS 7. The bank may wish to review the IFRS 9 and IFRS 7 information systems interface to help ensure that data that flow through the process are both accurate and complete.

4.2 Implications for the bank

4.2.1 As an initial step, the bank will have to have a robust governance process over information systems development and implementation. This means that the entity will need to have:

- a defined process in place over the testing of any parts of the information systems before they form part of the live environment;
- determined who is to have access to the environment once it is live so that unauthorised changes cannot be effected; and
- reassessed access, for example when employees of the bank change.

4.2.2 The information systems will frequently have automated controls embedded within them. The objective of these controls will be to ensure:

- the completeness and accuracy of data transfers; and
- the reliability of the information systems’ processing logic

An example of such logic may be a loan or a portfolio of loans moving from Stage 1 to Stage 2 (or vice versa) when the bank’s definition of what constitutes a significant increase in credit risk has been met. Manual controls will need to be designed and implemented in those instances where automated controls do not exist.

Examples of Manual Controls in the Absence of Automated Controls

Certain banks may not incorporate logic in their information systems that move a loan from stage 1 to stage 2 when the definition of what constitutes a significant increase in credit risk has been met. This would result in the need for a manual control to be in place to identify all those loans. This may take the form of a credit file review for large corporate loans or assessment of qualitative factors that management are aware of in relation to residential mortgages, such as property prices.

The auditor should understand and evaluate the manual control that management has designed and implemented, and also validate it by testing a sample of instances so as to obtain sufficient appropriate audit evidence that the control is operating effectively.

- 4.2.3 Banks may make use of spreadsheets (end user computing) for certain aspects of ECL estimation in sophisticated, core portfolios and more widely in non-core portfolios and / or jurisdictions. In either instance, the bank will need to design and implement controls over the reliability of these 'off the system' solutions.
- 4.2.4 It is likely that banks will refine their processes and controls over time. Accordingly, a process will need to be in place that identifies the need for, and governs subsequent, changes post the information system going live. Examples of such changes may include capturing more and richer data as it becomes available or automating processes that had previously been largely manual.
- 4.2.5 It is likely that loan-level data may reside in information systems which pre-date those information systems developed specifically for IFRS 9; however, the ability to automatically interface these systems into those information systems developed for IFRS 9 may not exist. Stronger control environments are those that incorporate a greater degree of straight-through processing between information systems, resulting in a more limited need for manual intervention. Consequently, the control environment of banks that are able to overcome the challenge of automatically accessing the historical data that is required to estimate ECL will be stronger as a result.
- 4.2.6 We expect that the bank would have initiated the development of information systems processes and controls before transitioning to IFRS 9. As mentioned above, it is envisaged that the bank will likely have a plan for ongoing refinement of IFRS 9 information systems processes and controls. This could address the need for manual intervention in terms of data-flows diminishing as processes are automated. This could also include the bank's remediation plan for primary controls that are deficient, in terms of either their design or operation, so that the need for mitigating controls decreases over time. Such a plan could inform the auditor's identification of potential sources of risk that should be addressed during the course of the audit. The auditor should consider reading this plan as part of their planning and risk assessment procedures to identify those areas in which mitigating controls will be needed and additional effort may be required by the auditor, with alternative audit procedures being designed as a result.

4.3 Implications for the auditor

- 4.3.1 The above considerations will inevitably have an impact on how the auditor plans their approach to gain sufficient and appropriate audit evidence over the design, implementation and operations of IFRS 9 information systems. It will also determine the nature and quality of the Information Produced by the Entity ("IPE") and how the auditor plans to obtain audit evidence of its completeness and accuracy.

- 4.3.2 When evaluating IFRS 9 information systems as part of the audit, it is envisaged that the auditor will make use of experts (given the volume and complexity of information systems and associated control activities and also the possibility of performing data analytics and other computer-assisted auditing techniques). The auditor will need to plan and direct the work of such experts, and evaluate the output of their work, determining the implications for the audit.
- 4.3.3 In the years immediately following implementation of IFRS 9, it may be that there will be more usage of manual spreadsheets maintained outside of the core IT systems. Auditors should design specific procedures to address the completeness, accuracy, and data transfer considerations of such spreadsheets, as well as understand the bank's plan to bring the processes run on those spreadsheets into the typically better controlled environment of the core IT system.

Sufficient knowledge

- 4.3.4 The key aspects of a typical audit approach plan over information systems that is used in estimating ECL under IFRS 9 are as follows:
- determining the population of information systems to test;
 - the planning of audit testing over the information systems identified and associated controls; and
 - the planning of audit testing over interfaces between information systems.
- 4.3.5 The auditor should identify information systems that have an impact on the audit by understanding the process of transactions that are subject to the impairment requirements of IFRS 9. This can be achieved by following transactions through from their inception, to ECL being estimated and this ECL then being captured in the general ledger. It also extends to identifying those information systems that are used by the bank in the preparation of associated IFRS 7 disclosures.
- 4.3.6 When the auditor decides to respond to the risks of material misstatement presented by the bank's estimate of ECL by testing the operating effectiveness of internal controls, the relevant Information Technology General Controls ("ITGCs") over the applications used in estimating expected credit losses under IFRS 9 should be tested and evaluated in the same manner as those over non-IFRS 9 applications. All information systems exist within an IT general control environment. This control environment is built upon foundational controls upon which the information systems rely and these controls are known as ITGCs. Examples of ITGCs include those over logical access and programme change management. The auditor should therefore evaluate and consider for testing the bank's controls over logical access to the applications used in estimating expected credit losses, as well as those over change management, to obtain evidence that the ITGCs are designed, implemented and operating effectively. In relation to impairment under IFRS 9, this should also extend to the governance over the validation of and subsequent changes to models that are included in information systems.

- 4.3.7 Some manual controls may also be computer-dependent as they rely, to a degree, on information systems. The considerations for identifying the information systems that they are dependent on, IPE and relevant ITGCs as outlined in this sub-section will also apply to these computer dependent controls. The auditor should factor this in to their audit planning and testing.
- 4.3.8 The considerations relating to data transfers differ in terms of whether the transfer is automated or manual and whether the auditor has determined it necessary to test the operating effectiveness of controls. Given the nature of IFRS 9 and the sophistication likely needed by banks in implementing its requirements for material portfolios, it is likely that a controls-based approach will need to be adopted that will require significant testing of automated controls.
- 4.3.9 If the data transfer is automated, the auditor will typically engage their IT experts to assist with the testing of the design, implementation and operating effectiveness of controls over the interface.
- 4.3.10 If the data transfer is not automated, then the auditor should evaluate and consider for testing the design, implementation and operating effectiveness of controls the bank has in place to ensure that data transfers are complete and accurate. Controls over source data may take the form of a reconciliation; for instance, between the loan underwriting and monitoring systems.
- 4.3.11 If the auditor cannot rely on the bank's computer dependent and / or manual controls that are in place to ensure the completeness and accuracy of the data transfer, then the auditor should design and implement substantive procedures to test the data transfer.

Evaluating judgements

- 4.3.12 Judgements exercised by the bank may not always be explicitly documented matters (such as overlays or the selection of economic scenarios), but may also be embedded in models and the information systems that implement those models. The auditor should consider whether there are judgements that are embedded and, if so, evaluate and challenge the appropriateness of such judgements.

Examples of Judgements Embedded in Models

Information systems can be used to house the models that are used in estimating ECL. These information systems can therefore have judgements embedded in them. An example of such judgement is the forecasting of EADs for revolving credit facilities through a Monte Carlo simulation that uses observed draw down and repayment history and loss data. Another example is determining probability weightings via reference to expected value analysis in light of the relationship between key risk drivers of credit exposures.

The judgements that are embedded in the bank's information systems should be subject to the same governance and model validation process as the models themselves. Auditing the models includes understanding and validating the design and operating effectiveness of the controls that are in place over these processes as well as evaluating the actual judgements themselves.

4.3.13 The auditor considers the strength of the general IT control environment in developing their audit plan. Factors that are indicative of a strong IT general control environment are outlined above. When ITGCs are designed and operating effectively, the auditor may be able to place reliance on the automated controls that are configured within the information systems.

Testing for accuracy and consistency

4.3.14 Information system shortcomings may be addressed by the auditor by testing the mitigating controls over the deficiencies identified. For example, a system may have limited straight through processing and rely heavily on manual controls to ensure completeness and accuracy. Another example is that of the core model only being able to estimate the ECL under one economic scenario; other economic scenarios may be layered on top of this as an overlay in another information system.

4.3.15 Information system shortcomings may result in the modification of the audit approach. If the bank's controls cannot be relied upon, then the auditor should consider whether it is possible to design and execute a substantive audit approach. As indicated in the Introduction Section to this Paper, in many cases the auditor may not be able to develop an independent estimate. Such circumstances should be brought to the attention of those charged with governance.

Assessing for management bias

4.3.16 The auditor should evaluate whether their work regarding the IT systems indicate possible bias on part of the bank's management. Such indicators may include indication of intervention in the information systems or management override of the internal controls governing the information systems.

5. Models

5.1.1 IFRS 9 does not prescribe the use of a specific method to estimate ECL and there are various methods that can be used to adhere to the requirements of IFRS 9, such as PD models, discounting engines, overlay approaches or credit rating scores. The models applied to different products and / or across different businesses will depend on the availability of data, the sophistication of the credit risk management systems and the characteristics of the loans in the portfolio.

5.1.2 In order to determine if the bank's estimation of ECL is appropriate, the audit committee, in its assessment of the audit work performed, should assess the following elements:

- policies and governance over model design, build and validation;
- ongoing model review;
- forward-looking data; and
- model adjustments and overlays.

5.2 Implications for the bank

5.2.1 An overarching governance framework over the model validation process should be established to ensure that the models are able to continue to generate accurate, consistent and predictive estimates. Policies and procedures relating to the model should outline roles and responsibilities, clearly and formally, for both:

- model development; and
- the model validation to ensure the accuracy and consistency of the model, its processes and the estimation of all relevant components, both at the outset of model usage and on an ongoing basis.

5.2.2 Model inputs consist of information, data sources and underlying assumptions that are used to develop and subsequently to operate the model. These inputs must be relevant, reliable and appropriate in the context of the applicable financial reporting framework. This entails the close monitoring of key model assumptions against actual portfolio behaviour to ensure that the model serves its intended purpose and that key model changes over time are documented with comprehensive explanations and justification.

5.2.3 There are a number of variables that affects the manner in which the forward-looking aspects of IFRS 9 are taken into account, such as the number of scenarios and the probability weighting assigned to each, obtaining and aggregation of macro-economic projections and the alignment of the maturity of the projections with the maturity of the relevant exposures.

5.2.4 Adjustment of models based on expert judgement may be justified for specific aspects of a portfolio that have not been modelled or for macro-economic situations that did not exist for the sample used to build and calibrate the model. Most specifically, these adjustments can be used to:

- remedy imperfections in the models for which adjustments are expected;
 - consider events close to the reporting date which time does not allow to be included in the formal model;
 - take specific business considerations into account where appropriate; and
 - integrate non-modelled risk factors.
- 5.2.5 Banks should provide clear and understandable disclosures in regards to their modelling techniques for determining credit risk measures such as PD, LGD and EAD where applicable. These disclosures may include the types of inputs used and the relevant assumptions and judgements made (including the definition of default and how a significant increase in credit risk is determined), the level of estimation uncertainty involved and, in particular, how this uncertainty has been addressed. It is also important for users to be able to understand the sensitivity of the ECL provision to these underlying factors of the model. These disclosures should be considered not only in the year of implementation but also in subsequent years.
- 5.2.6 It is anticipated that some banks may use their existing models as a starting point, in which case they should consider disclosing the extent to which they rely on these models and how they have been modified to ensure compliance with IFRS 9. For example, banks using the Basel advanced internal-rating based model as a starting point may explain how they modified their discount factors (e.g. weighted average cost of capital versus effective interest rate) to be in line with IFRS 9 and the associated impact of this modification. Disclosure of any significant overlays adjusting the model outputs and the rationale behind these adjustments will also improve the transparency.

5.3 Implications for the auditor

- 5.3.1 When taking the general approach of auditing the bank's ECL estimation process, the auditor will test the bank's models, including examining the completeness, accuracy and relevance of inputs and assessing the reasonableness of assumptions. Additionally, the auditor's assessment of the appropriateness of the bank's models includes understanding and evaluating the appropriateness of the model governance framework and the safeguards against management bias. An appropriate model governance framework results in adequate model documentation, including the intended applications, known limitations and key parameters of the model, data requirements and assumptions, the results of any validation performed and any adjustments made to the output of the model. Given the importance of the use of models to the determination of the ECL, the auditor may find it more efficient and effective to audit management's process (sometimes referred to as 'auditing through the model').
- 5.3.2 The auditor should assess whether the bank's policies and governance framework establishes standards that include how the bank determined to select the drivers of credit losses it forecasts and links to ECL (that is, the level of 'discriminatory power' of those drivers of credit risk), sensitivity analysis, back-testing thresholds and any other relevant validation standards, for each individual model applied or components thereof if appropriate. The assessment of the model's performance may include techniques such as stress testing, back-testing and benchmarking.

Model performance should be evaluated with the most appropriate technique, selected based on the model's unique characteristics. Where performance thresholds are significantly breached, the auditor should evaluate the bank's remedial action, including potentially, model re-development or re-calibration.

- 5.3.3 Having taken into account the increased demand for clear and sufficiently granular disclosures from various stakeholders, auditors may consider standing back and assessing whether, based on their understanding of the model and the underlying assumptions, bank's disclosures facilitate understanding the bank's approach to estimating ECL and highlight the differences from previous allowance estimate approaches.

Sufficient knowledge

- 5.3.4 In order to assess the relevance and appropriateness of the models used by the bank, the auditor should be sufficiently knowledgeable in sound modelling concepts, as well as the business aspects of the bank subject to modelling (such as credit risk, the nature of the portfolios, or the bank's economic environment). In order to obtain sufficient knowledge, auditors may need to involve an appropriate expert.
- 5.3.5 The auditor should assess the extent to which, and in what respect, experts should be involved in performing the audit procedures to ensure a robust challenge of the bank's models.
- 5.3.6 The auditor should assess any deficiencies in model design that are identified in terms of their impact on the audit work.
- 5.3.7 The auditor is also expected to consider whether any disagreements with regards to model design were encountered.

Evaluating judgements

- 5.3.8 The development and use of complex models inherently involves the exercise of judgement, including the selection of modelling techniques, the identification of key inputs to the models, and the calibration of the model. The auditor should identify where the bank has exercised such judgements in the development and use of its models and develop procedures to challenge and evaluate these judgements. Such procedures may include testing the bank's controls over such judgements as well as performing independent substantive testing or determining the impact of an alternative estimate based on the auditor's judgement.
- 5.3.9 The auditor should assess whether the bank has a process for validation of the model, including whether the model is validated prior to its initial use and revalidated at regular intervals to determine whether it remains suitable for its intended use. The entity's validation process may include evaluation of:

- the model's theoretical or conceptual soundness, including the appropriateness and consistency of the model's assumptions;
 - the model's mathematical integrity and model output, including the completeness and accuracy of the model's data; and
 - the continued appropriateness of the model via an ongoing performance review.
- 5.3.10 The auditor should also enquire with the internal auditor whether there is an independent assessment of the model governance and control process and evaluate such an assessment.
- 5.3.11 The auditor should assess:
- the documentation and process implemented for the definition of the scenario(s) adopted in connection with the calculation of ECL;
 - historical data supporting the relationships between the macroeconomic variables and the resulting credit losses used to model the forward-looking estimates;
 - whether the model appropriately captures when a significant increase in credit risk has occurred and duly impacts the measurement of the ECL; and
 - governance implemented to ensure uniform use of forward-looking data (e.g. forecast trend in GDP) for all the estimates are appropriate. This governance process should ensure that predicted factors are internally consistent, and that, taken together, they create a future economic scenario that is reasonable on the whole. That is, if two or more predicted factors are linked, the predicted factors should move together according to that relationship. For example, in an environment where interest rates are expected to fall the bank should likely also predict an increase in refinancing.

Testing for accuracy and consistency

- 5.3.12 The utilisation of a retrospective review is a common and accepted practice used to assess whether model behaviour is consistent with a model's intended purpose. Back-testing is one method of using hindsight to validate models or components thereof where appropriate; alternatives including stress testing, benchmarking and other, more qualitative, methods.
- 5.3.13 Estimates of ECL under IFRS 9 are not the bank's estimate of the losses they expect to experience in a given portfolio, but rather a summation of 12-month (for assets in stage 1) and lifetime ECL (for assets in stage 2) that are probability weighted by different economic scenarios. Accordingly, efforts to compare the bank's actual experienced losses against prior overall ECL estimates may be of little value
- 5.3.14 However, various components of the bank's ECL estimation process will more easily lend themselves to evaluation utilising hindsight. For example, back-testing may be performed to validate the modelled effects of economic conditions on probabilities of default. The auditor should consider whether models are adjusted appropriately for relevant new historical information, after considering the impact of differences between predicted and actual results.

- 5.3.15 The auditor should consider whether the models are appropriately updated or adjusted on a timely basis for changes identified as necessary by the bank's model testing and validation process and whether there are appropriate change-control policies over the model.
- 5.3.16 The auditor should assess the appropriateness of the inputs and the reliability of the input sources as well as the nature and extent of the use of observable versus unobservable inputs.

Assessing for management bias

- 5.3.17 Evaluating the appropriateness of overlay adjustments made to the output of quantitative models that present a risk of material misstatement includes assessing such overlays for indications of bias. While the presence of overlays by themselves may not be an indication of management bias (as adjustments may be needed to ensure that the model's outputs adhere to the requirements of IFRS 9), overlays are nonetheless more susceptible to management bias and should be critically analysed.
- 5.3.18 The auditor's evaluation of the appropriateness of the model also includes considering whether there may be aspects of the model itself – such as the build-up of certain modelling parameters or modelled adjustments – that may also be susceptible to bias.

6. Reasonable and supportable judgements

6.1.1 The estimation of ECL under IFRS 9 for banks is inherently complex and relies on management's judgement. The complexity and significance of the judgements will vary depending on many factors, such as the model that the bank uses and the availability of detailed information (e.g. information about past events, such as the level of historical credit losses on a portfolio may be easily available, while forecasts of future levels of credit losses and volatility or future economic conditions may be difficult to obtain or develop). Given the extent and complexity of judgement involved in estimating ECL, the estimation uncertainty makes this a significant accounting estimate.

6.2 Implications for the bank

6.2.1 Management is responsible for establishing accounting policies as discussed in Section 2 of this Paper, including the judgements that are essential for determining the ECL estimate. The audit committee should expect that those judgements related to the ECL estimate that give rise to the greatest risks of material misstatement (including those that result in high estimation uncertainty) would be a topic of discussion with their auditor. However, not all judgements related to an ECL estimate are significant, or give rise to increased estimation uncertainty, and they do not therefore demand the attention of the audit committee. These interactions with the auditor also provide the audit committee with important information about the bank, including its internal controls and potential issues with its financial reporting.

6.2.2 The selection of an ECL estimation methodology and model will require significant judgement by the bank in order to deliver probability-weighted and unbiased estimates of ECL on an ongoing basis. Estimating ECL requires management to make accounting policy elections, as discussed in Section 2 of this Paper, and exercise judgement in relation to their expectations of future economic conditions, taking into account their geographical and political position, for example some locations may be susceptible to natural disasters such as earthquakes or political unrest (which inherently increases the subjectivity of such judgements), including judgements related to:

- inputs into the model, including PD, LGD, EAD, prepayment assumptions, macro-economic forecasts and forward-looking information;
- the need for overlays, such as those to adjust model results for limitations in the core modelling approach.

6.2.3 An example of a judgement about forward-looking information is that of a bank that considers only a single future economic scenario. Without a supportable analysis that this single scenario captures the weighted average expectations about future conditions and nonlinearity of related outcomes, it is likely that this would not be considered to be a 'supportable judgement'. Rather, the bank may consider information from a variety of sources and understand how they support or contradict the bank's own forecasts of the future. Furthermore, the bank's documentation regarding its view of the future may be strengthened by including considerations related not only to what they expect, but also what the bank does not expect to occur, and why.

Example of Judgments about Forward-Looking Information

An example of a judgment about forward-looking information is that of a bank that considers only a single future economic scenario. Banks are required to consider multiple, probability-weighted economic scenarios in their estimation of ECL. The use of a single economic scenario would only be supportable if the estimate of ECL resulting from the use of a single scenario approximates a more sophisticated multi-scenario estimate, considering both the measure of ECL and outcomes regarding the staging of assets.

In assessing whether the use of a single scenario approximates a more sophisticated multi-scenario estimate, the bank should assess whether the use of a single scenario captures any nonlinearity in the ECL of its portfolio relative to the forecast macroeconomic conditions. For further discussion on nonlinearity in portfolios when estimating ECL, please refer to the IASB's [summary](#) of the ITG's meeting held in December 2015 and the IASB's subsequent [presentation](#).

Without a compelling, supportable analysis that a single scenario reasonably approximates a more sophisticated multi-scenario estimate, including considering nonlinearity of related outcomes, it is likely that the use of a single economic scenario would not be considered to be a 'supportable judgment'.

6.2.4 Part of the auditor's work is evaluating whether disclosure of the significant judgements made by banks in choosing their accounting policies and making key assumptions provides users with transparent, comparable, timely, relevant and decision-useful information. A quantified approach to these disclosures, which may include sensitivities and a range of possible outcomes on how changes in these judgements could affect ECL would help banks communicate their credit risk policies in a more transparent manner.

6.3 Implications for the auditor

6.3.1 The auditor's consideration of the bank's operational and control environment, including the actions of the audit committee, will influence how they audit the ECL estimate and evaluate the reasonableness of related judgements made by the bank, including how the bank has appropriately supported their judgements (and the related documentation that the bank maintains).

6.3.2 Significant areas of judgement are likely to include the components of the ECL estimation process contributing to the risk of material misstatement. Accordingly, it is likely to be these areas of judgements on which the auditor focuses, and which the audit committee should consider as part of their oversight of their auditor. Common areas of judgment in estimating ECL include: whether there is a significant increase in credit risk, models, economic scenarios, overlays, and policy definitions.

6.3.3 The auditor should be able to explain their views on significant matters, including reasonableness of judgements that the bank has made, how the auditor challenged such judgements and the audit support obtained, to the audit committee.

6.3.4 One of the more significant judgments made by banks will likely be the selection and relative weighting of forward-looking economic scenarios. The auditor's consideration of the estimate of ECLs is expected to involve directing procedures toward evaluating the reasonableness of these forward-looking scenarios and their relative weighting. The auditor should evaluate the bank's selection of forward looking scenarios by considering:

- Whether the scenarios are unbiased, both in selection and probability weighting. This may be evaluated partly by ensuring they are consistent with other forecasts used elsewhere in the bank, including those for budgeting, pricing loans, risk management or for other accounting estimates.
- Whether the scenarios have 'parameter coherence' – that is, that the interrelationship between factors in the scenarios are internally consistent and supported with appropriate analysis.

Additionally, auditors should consider challenging the bank's forward-looking scenarios by considering the degree to which the bank's forward-looking scenarios are consistent with or diverge from market consensus scenarios or the auditor's independently developed expectations and the strength of the bank's support in light of that consistency or divergence. Such analysis may require the use of an expert by the auditor.

Sufficient knowledge

6.3.5 The auditor should identify the components of, and inputs to, the bank's ECL estimation process that are both (1) judgemental and (2) represent a risk of material misstatement. The auditor should then ensure that their team is comprised of individuals with appropriate expertise to evaluate and challenge the reasonableness of such judgements. Such expertise will likely include credit risk, modelling, economic forecasting, information technology systems, industry and technical accounting expertise.

Evaluating judgements

6.3.6 The auditor should ensure focused and directed audit procedures have been performed to:

- Understand and evaluate the initial determination of, and changes from previous periods in, the accounting policies, methods, models or assumptions, such as:
 - § the processes used for updating the accounting policies, method, model and / or assumptions;
 - § how changes in conditions are reflected in the data and assumptions used in the model;
 - § how changes in assumptions are authenticated and approved by an appropriately informed level of management; and
 - § that the model has been appropriately updated for changes in the availability of data used to determine the ECL

- Assess the completeness of the data used. If any data is being excluded from the ECL estimation on the basis of not being reasonable and supportable, the auditor should enquire as to the bank's rationale for this and assess the exclusion for validity and reasonableness.
- Apply appropriate professional scepticism in relation to the ECL estimate. Professional scepticism plays a critical role in the auditor's work relating to ECL estimates, especially given the risk of management bias and the subjective and complex nature of judgements the bank is required to make when determining the estimate of ECL. Application of appropriate professional scepticism is demonstrated by:

- § the quality of the auditor's assessment of 'what could go wrong' with the ECL estimate;
- § whether the auditor has critically evaluated all reasonably available audit evidence, regardless of whether it corroborates or contradicts the bank's assertions - the auditor should not just accept the evidence provided by the bank, but also independently consider the completeness of such evidence;
- § the auditor's professional judgements, including the consideration of both subjective (e.g. what the bank considers as a SICR and the probability weighting of future economic scenarios) and objective factors (e.g. the correlation between changes in economic factors and probabilities of default) - the auditor may supplement these judgements by engaging experts;
- § how the auditor has considered management bias in their audit procedures, including their challenge of the bank's assumptions;
- § the auditor's considerations of the appropriateness and accuracy of the bank's responses to questions; and
- § the auditor's appropriate consideration and use of individuals with specialised skills and knowledge - this could include experts (e.g. to assist with audit issues related to the bank's use of different IT systems that may or may not be appropriately controlled) and the firm accounting and credit experts knowledgeable in the application of IFRS 9.

6.3.7 The auditor's actions throughout the audit that relate to the above items, as well as other activities during the audit, form the basis for the audit committee's conclusion on the quality of the audit performed. This is supported by the audit committee's general interactions with and evaluations of their auditor.

6.3.8 As discussed in Section 7 of this Paper, the auditor should also consider the adequacy and appropriateness of those disclosures, ie including both the specifically required disclosures in relevant IFRS and those disclosures that might go beyond what is specifically required, especially when there is increased estimation uncertainty.

Testing for accuracy and consistency

- 6.3.9 The auditor should consider whether the bank has appropriately considered all reasonably available evidence in making its judgements, specifically considering whether the bank has omitted potentially contradictory evidence. The auditor should consider whether the work of its experts identified such evidence and, if identified, consult with the expert in evaluating its impact. For example, an auditor might engage an expert in economics who may identify a widely-cited economic forecast not considered by the bank that contradicts the bank's forecasts. The auditor should consult with the expert to assist in evaluating the potential impact of this contradictory information.

Evaluating the Bank's Forward-Looking Information

The auditor may need to utilise specialised skills to evaluate the reasonableness of a bank's forward-looking economic scenarios, including identifying whether the bank has appropriately considered all reasonably available pertinent information. The auditor may consult with an expert to help assess whether the information the bank has considered is complete and whether the bank has appropriately considered contradictory information.

For example, an auditor might engage an expert in economics who may identify a widely-cited and relevant economic forecast not explicitly considered by the bank that potentially contradicts the bank's forecasts. The auditor should discuss this potentially contradictory information with the bank, understand why the bank did not consider the information or how they did consider the information, and consult further with the expert to assist in evaluating the bank's response. If the bank has not appropriately considered the potentially contradictory information, the auditor should assess the impact of this contradictory information on the bank's estimate of ECL.

- 6.3.10 The auditor should perform appropriate procedures to test the bank's judgements to ensure they are reasonable. These may include, but are not limited to:
- performing a benchmarking exercise utilising internal data and against available external data;
 - assessing for any indication of inconsistent assumptions and evaluating these inconsistencies against the bank's supporting evidence and assessing whether they can be reasonably explained; and
 - considering the bank's judgements and assumptions relating to prior period estimates retrospectively, where appropriate, for an indication of possible bias.
- 6.3.11 The auditor should design and implement appropriate procedures to understand the nature of any back-testing that the bank has designed and is performing so as to evaluate the precision of their method, and as well as evaluating such process and its conclusions.

Assessing for management bias

- 6.3.12 The auditor should obtain sufficient and appropriate audit evidence to evaluate and challenge the reasonableness of the bank's judgements that present a risk of material misstatement. This includes consideration of information that both supports and contradicts the judgements made. It is critical that the auditor does not focus solely on the information that supports the bank's methods and assumptions without critically assessing the reasonableness of this information and whether there are any contradictory or inconsistent elements to it.

Example of Contradictory Information

An example of contradictory information that should be evaluated by the auditor is an instance whereby the auditor obtains information that reveals that the bank's finance and risk departments are both calculating a PD; however, they are using different events in their calculation. The bank is using the ratio as determined by the finance department in their ECL estimate, without considering or explaining why the finance department's ratio is more appropriate than that determined by the risk department.

The auditor should understand the different ratios and critically evaluate whether the finance department's ratio should be adjusted in light of the risk department's ratio.

- 6.3.13 The auditor should consider and assess whether contradictory information identified indicates bias (i.e. a lack of neutrality by the bank) in the ECL estimate given the dichotomy between the subjectivity and judgement involved in the estimation of ECL and the requirements of IFRS 9 that are to be applied in an unbiased manner (e.g. do the macro-economic forecasts include any unsupported conservatism or optimism). Audit procedures should be performed to determine whether:
- The bank has considered all available information when determining the ECL estimate. This may include considering credit loss experience of other entities, if available.
 - Extrapolated projections covering periods beyond management's strategic planning horizon may include potential management bias.
 - A diverse team of reviewers from different functions within the bank with different perspectives have been used to review and challenge the appropriateness of the ECL estimate, including the key assumptions. Management bias is a particular concern for the ECL estimate, an estimate with high estimation uncertainty. Having a diverse team of reviewers can be beneficial in reducing management bias and resulting in a more thoroughly supported and reliable estimate.

7. Financial statement disclosures

- 7.1.1 The financial reporting disclosures regarding complex estimates, such as the estimate of ECL are essential to the users' understanding of the financial statements. The significant amendments to IFRS 7, following the adoption of the impairment requirements of IFRS 9, indicate IASB's view that quality disclosure is essential¹⁰.
- 7.1.2 As discussed throughout this Paper, estimates of ECL under IFRS 9 will likely require the exercise of significant judgement by the bank, even in environments with a well-controlled estimation process and methodology. The financial reporting disclosures relating to expected credit losses will be the primary source of information through which financial statement users will assess the process and methodology applied under IFRS 9 as well as the assumptions used by the bank in estimating ECL. The financial reporting disclosures play a pivotal role in contextualising the key components of the bank's ECL estimation process and methodology, as well as providing users with clear and useful information. When formulating their disclosures for ECL estimates under IFRS 9, banks should particularly consider the disclosure requirements of IAS 1 regarding significant estimates, as well as the credit risk disclosures of IFRS 7.
- 7.1.3 The audit committee should obtain an understanding of controls and processes established by the bank to produce complete and reliable financial statement disclosures. In addition, it will be important for the audit committee in their oversight role to evaluate the auditor's approach to assessing the bank's disclosures, including key matters they considered, and their findings.
- 7.1.4 Banks are expected to ensure that their disclosures will meet the needs of users and allow users to:
- understand the key components of the estimation process, methodology, and critical judgements;
 - have confidence that banks are basing their estimate on reliable information;
 - assess the quality of the bank's estimate; and
 - Assess whether it is free from intentional or unintentional bias.
- 7.1.5 It will also be important for the audit committee to continue to challenge the reliability, transparency and usefulness of disclosures to users of the financial statements.

¹⁰ In particular, the bank should be mindful of the objective of credit risk disclosures explained in IFRS 7, paragraph 35B, ie to enable users of financial statements to understand the effect of credit risk on the amount, timing and uncertainty of future cash flows. In addition, in accordance with IAS 1, para 125 – 133, the bank should disclose information about the future and other major sources of estimation uncertainty at the end of the reporting period, that have a risk of resulting in a material adjustment to the carrying amount of its assets within the next financial year.

7.2 Implications for the bank

7.2.1 In accordance with the standard, the bank should ensure that its financial statement disclosures for IFRS 9¹¹ are:

- Complete;
- Reliable; and
- Clearly presented.

7.2.2 The bank's process for ensuring its financial statement disclosures are complete, reliable and clearly presented includes establishing a well-defined and well-controlled process for evaluating whether the financial statements contain all required disclosures and any additional disclosures that are relevant to the bank's loan portfolio. The following factors can be taken into account when performing this evaluation:

- A Bank's evaluation of the appropriateness of its disclosures includes considering if any additional information beyond that required under IFRS 7 is necessary to provide a fair depiction of the bank's exposure to credit risk including its ECL estimates and its underwriting practices. In this evaluation, banks may find it helpful to consider the views of relevant securities and prudential regulators.
- Additionally banks may also find it helpful to take into account the work of the EDTF (revised in November 2015) which aims to help build trust between the banks and their investors by encouraging more transparent disclosures that reflect the risks taken by the bank, in a clear, balanced and understandable manner. The EDTF expects banks to take a comprehensive approach: disclosing all of their key activities and associated risks in their financial statements as well as how they are managing those risks. In the revised publication, the EDTF also reemphasises the importance of disclosures being relevant. For example, banks are expected to have disclosures which are appropriately targeted at material aspects, such as significant portfolios and those factors and risks that create the greatest variability in their ECL estimation. Furthermore, the EDTF encourages banks to provide timely disclosures which are consistent over time and comparable with other banks.
- For the transition period, the EDTF encourages a gradual and phased approach that weighs the timing of the information (qualitative and/or quantitative) provided, against its reliability; banks are expected to develop both the nature and extent of their disclosures over time.

¹¹ Transition guidance: The International Accounting Standard 8 requires that when an entity has not applied a new IFRS that has been issued but is not effective, the entity shall disclose this fact and any known or reasonably estimable information relevant to assessing the possible impact that application of the new IFRS will have on the entity's financial statements in the period of initial application. Issuers should assess the potential impact of adoption of IFRS 9 and include in their financial statements in the period prior to adoption a necessary detailed description and explanation of their current plan to implement key concepts of IFRS 9, highlighting the differences from their current approach and quantification of the possible impact, when known or reasonably estimable. Additional disclosure on actual impact of adoption of IFRS 9, including a quantitative disclosure of the impact and changes to the amounts reported under prior approach, will be required in the first year of adoption.

7.2.3 It will be important for banks to provide relevant disclosures which will enable users of financial statements to understand the impact of changes in credit risk on the bank's estimate of expected credit losses. These disclosures should provide:

- Detailed information about the bank's credit risk management practices and how they link to its ECL model, ensuring adequate detail is provided in regards to methodology, underlying assumptions and judgements and the quality of data used to measure the ECL;
- Adequate disclosures about the bank's credit risk exposure, including any significant credit risk concentrations; and
- Quantitative and qualitative disclosures which provide an evaluation of the amount of ECL, any changes in ECL year on year and the drivers of these changes.

7.2.4 Regular review of disclosures will be required to ensure that the information continues to be relevant to the unique circumstances affecting the credit risk of the banks' loan portfolio.

7.3 Implications for the auditor

7.3.1 As a part of the audit process, an auditor should assess the completeness of a bank's financial statement disclosures so to adhere to the requirements of the relevant accounting standards and provide clear information on the key components of the estimation process. The auditor should:

- have sufficient knowledge of the disclosure requirements of IFRSs relevant to estimates of ECL;
- test to ensure that disclosures are complete and accurate; and
- assess whether disclosures are free from management bias.

7.3.2 Considering the inherently complex and subjective nature of ECL estimation techniques and models, auditors have a responsibility to stand back from the financial statements and assess whether the risk disclosures are sufficiently transparent. In making this assessment, auditors may find it helpful to take into account the views of the EDTF and relevant securities and prudential regulators. The auditor's evaluation of the bank's disclosures includes considering whether there is a suitable balance between qualitative and quantitative disclosures, and whether clear explanations have been provided for complex areas.

Sufficient knowledge

7.3.3 IFRS 9 has significantly amended the current accounting guidance for estimating credit losses and will also require a significant enhancement to the financial statement disclosures to present clearly and fairly the judgements exercised by the bank in its IFRS 9 ECL estimation process and the related estimation uncertainty.

7.3.4 There are various quantitative disclosures relating to ECL which may be considered, such as:

- gross carrying amounts by risk category, showing key drivers for changes;
- reconciling the impairment provision accounts, showing key drivers for changes;
- gross carrying amounts per credit risk grade; and
- amounts written off, recovered, modified and held as collateral.

7.3.5 Although the standard only requires an explanation of how the significant changes in the gross carrying amounts during the period contributed to the changes in the ECL estimate, banks may choose to provide more detailed information. For example, banks may also consider providing an analysis of movements of gross carrying amounts between stages for on and off balance sheet exposures.

7.3.6 IFRS 7 will also require new qualitative disclosures relating to estimates of ECL, including descriptions of inputs, assumptions and techniques used by the bank to determine:

- when a significant increase in credit risk or default has occurred;
- when a loan is 'credit impaired';
- the bank's policies for write offs and modifications; and
- other critical matters related to the estimation of ECL (e.g. including a detailed description of the process that the bank applies).

7.3.7 Banks may also consider some additional qualitative disclosures in regards to the estimate of ECL. In particular, banks may consider providing additional relevant information regarding changes in the portfolio that may help explain significant changes in the ECL estimate during the period, such as changes in the portfolio composition or the volume of financial instruments purchased or originated.

7.3.8 Auditors should obtain sufficient knowledge of the disclosure requirements of IFRS 7 and IAS 1 and how those will be applicable to a particular bank based on the nature of its operations, type and quality of loan portfolio and the bank's estimation process. Particular attention should be paid to the bank's determination of key drivers of credit risk and when a significant increase in credit risk has occurred. Refer to the Accounting Policies section of this Paper for further discussion.

Evaluating judgements

7.3.9 The auditor's assessment of the bank's disclosures includes ensuring the bank has made all required disclosures and that those disclosures are accurate and descriptive as to the key judgments made by the bank in estimating its ECL.

7.3.10 Auditors should, based on their understanding of the bank's operations, its estimation process for ECL and the credit quality of its loan portfolio, read the disclosures to evaluate whether the disclosures are consistent with the auditor's understanding.

7.3.11 Additionally, the auditor may find it useful to consider the views of other key stakeholders such as national prudential regulators when evaluating the quality of the bank's disclosures and challenge management where they have not considered such views.

Testing for accuracy and consistency

7.3.12 The auditors should understand and consider for testing the bank's process over completeness and accuracy of disclosures. This includes understanding and evaluating:

- reliability and reasonableness of sources of information used to prepare disclosures;
- adequacy of the disclosures in terms of providing users with clear, balanced and understandable information about the risks taken by the bank;
- ITGCs over the bank's accounting system or any other sub-systems utilised to gather financial statement disclosures (see Section 4 of this Paper for further discussion);
- the communication process between those within the bank involved in the actual estimation process and those involved in drafting financial statement disclosures; and
- the controls and review process within the financial reporting team of the bank to test accuracy and consistency of information gathered from various sources and divisions with the bank (see Section 3 of this Paper for further discussion).

7.3.13 Once the auditors have obtained sufficient knowledge and understanding of the bank's process over completeness and accuracy of disclosures, they should design an audit plan to corroborate the accuracy and completeness of disclosures presented in the financial statements by auditing the bank's supporting evidence for their disclosures. The nature and extent of audit procedures to test completeness and accuracy of disclosure information will vary based on the auditors understanding of the quality of the bank's process, the complexity of the bank's estimation process and the auditor's assessment of the risks involved in the disclosure information. For example, auditors may have to perform more tests of detail over data to ensure accuracy and completeness of information for a bank with more manual controls and processes, such as those that primarily use spreadsheets to compile their data as compared to a bank with a more automated process or a well-controlled accounting system which uses system generated reports for disclosure information. Auditors should consider testing ITGCs at complex banks and banks using more automated process and system generated reports (see Section 4 of this Paper for further discussion).

Assessing for management bias

7.3.14 IFRS 9 will have a varying impact; banks will need to tailor their disclosures to be specific to their loan portfolio and estimation processes. As a result, when evaluating the quality of a particular bank's disclosures, auditors should consider whether disclosures are reasonably presented to reflect the requirements of IFRSs and are free from management bias. The disclosures are expected to be designed to clearly present to the users of the financial statements that the process in place to estimate ECL is robust, that the systems used are reliable and therefore information can be considered to be complete and fairly presented. Such assessment may be made by auditors by corroborating the validity of data underlying the disclosures and evaluating

the processes used by the bank to compile the disclosures against the auditor's overall knowledge of the bank, including various risks that are inherent to the bank's loan portfolio. Such analysis should also include consideration of the transparency of disclosures and whether the disclosures unduly amplify positive messages or unduly suppress negative messages about the loan portfolio's credit quality.

7.3.15 With the high level of complexity involved with IFRS 9 and its varying impact on different banking institutions, it will also be important for the auditor to stand back and assess whether the disclosures:

- are consistent with their understanding of the portfolio;
- are descriptive of the sources of credit risk;
- help a user understand the bank's estimation process and the judgements made by the bank in that process; and
- contextualise the estimate in terms of its uncertainty.

Abbreviations and terms used

Basel Committee / BCBS	Basel Committee on Banking Supervision
EAD	Exposure at Default
ECL	Expected Credit Losses
EDTF	Enhanced Disclosure Task Force
GPPC	Global Public Policy Committee of representatives of BDO, Deloitte, EY, Grant Thornton, KPMG and PwC
GCRAECL	Basel Committee <i>Guidance on credit risk and accounting for expected credit losses</i> (December 2015)
IAS	International Accounting Standard
IAS 39	International Accounting Standard 39 – Financial Instruments: Recognition and Measurement
IAASB	International Auditing and Assurance Standards Board
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standard
IFRS 7	International Financial Reporting Standard 7 – Financial Instruments: Disclosures
IFRS 9	International Financial Reporting Standard 9 – Financial Instruments
IPE	Information Produced by the Entity
IS	Information Systems
ITGCs	Information Technology General Controls
KAM	Key Audit Matters
LGD	Loss Given Default
PD	Probability of Default
SEC	Securities and Exchange Commission
SIB	Systemically Important Bank
SICR	Significant Increase in Credit Risk
US GAAP	US Generally Accepted Accounting Principles

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