

INTERNATIONAL STANDARD ON AUDITING 540

AUDITING ACCOUNTING ESTIMATES AND RELATED DISCLOSURES

(Effective for audits of financial statements for periods
beginning on or after December 15, [TBA])

[Note: While the Task Force has worked hard at producing this draft, the Task Force has not yet had the opportunity to fully discuss all aspects of this draft. Accordingly, some aspects of the draft standard will continue to be discussed and refined prior to the intended approval of the Exposure Draft in December 2016. These areas include additional material related to external data sources, some recommendations from the Professional Skepticism Working Group, and any response needed to the Board's deliberations on this and other projects (particularly regarding ISA 315 (Revised)) in September 2016.]

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International Standard on Auditing (ISA) 540 (Revised), *Auditing Accounting Estimates and Related Disclosures*, should be read in conjunction with ISA 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*.

Introduction

Scope of this ISA

1. This International Standard on Auditing (ISA) deals with the auditor's responsibilities relating to accounting estimates, including fair value accounting estimates, and related disclosures in an audit of financial statements. Specifically, it expands on how ISA 315 (Revised),¹ ISA 330,² ISA 500³ and other relevant ISAs are to be applied in relation to accounting estimates. It also includes requirements and guidance on misstatements of individual accounting estimates, and indicators of possible management bias.

Nature of Accounting Estimates

2. Some financial statement items cannot be measured directly, but can only be estimated. For purposes of this ISA, such financial statement items are referred to as accounting estimates. The nature and reliability of information available to management to support the making of an accounting estimate varies widely, which thereby affects the degree of estimation uncertainty, complexity, and judgment associated with accounting estimates. The degree of estimation uncertainty, complexity, and judgment affect, in turn, the risks of material misstatement of accounting estimates, including their susceptibility to unintentional or intentional management bias. (Ref: Para. A1–A11)
3. The measurement objective of accounting estimates can vary depending on the applicable financial reporting framework and the financial item being reported. The measurement objective for some accounting estimates is to forecast the outcome of one or more transactions, events or conditions giving rise to the need for the accounting estimate. For other accounting estimates, including fair value accounting estimates, the measurement objective is different, and is expressed in terms of the value of a current transaction or financial statement item based on conditions prevalent at the measurement date, such as estimated market price for a particular type of asset or liability. For example, the applicable financial reporting framework may require fair value measurement based on an assumed hypothetical current transaction between knowledgeable, willing parties (sometimes referred to as "marketplace participants" or equivalent) in an arm's length transaction, rather than the settlement of a transaction at some past or future date.⁴
4. A difference between the outcome of an accounting estimate and the amount originally recognized or disclosed in the financial statements does not necessarily represent a misstatement of the financial statements. This is the case for fair value accounting estimates, as any observed outcome is invariably affected by events or conditions subsequent to the date at which the measurement is estimated for purposes of the financial statements, but is also true for some other types of accounting estimates.

Application to Accounting Estimates with Lower Risks

- 4A. This ISA applies to all accounting estimates, but accounting estimates have different levels of estimation uncertainty, complexity, and judgment. While this ISA addresses all accounting estimates,

¹ ISA 315 (Revised), *Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment*

² ISA 330, *The Auditor's Responses to Assessed Risks*

³ ISA 500, *Audit Evidence*

⁴ Different definitions of fair value may exist among financial reporting frameworks.

this ISA directs the auditor to respond to lower risks of material misstatement in accordance with ISA 330 and not by following paragraphs 12-16A. However, unless otherwise not relevant to the engagement, the other requirements of this ISA apply equally to such accounting estimates.

Effective Date

5. This ISA is effective for audits of financial statements for periods beginning on or after [TBA].

Objective

6. The objective of the auditor is to obtain sufficient appropriate audit evidence about whether:
- (a) Accounting estimates in the financial statements, whether recognized or disclosed, are reasonable; and
 - (b) Related disclosures in the financial statements are adequate, in the context of the applicable financial reporting framework.

Definitions

7. For purposes of the ISAs, the following terms have the meanings attributed below:
- (a) Accounting estimate – A monetary amount prepared in accordance with the requirements of the applicable financial reporting framework, the measurement of which cannot be made with certainty. (Ref: Para. A11B)
 - (b) Auditor's point estimate or auditor's range – An amount, or range of amounts used by the auditor in evaluating management's point estimate. (Ref: Para. A11C)
 - (c) Estimation uncertainty – The susceptibility of an accounting estimate to an inherent lack of precision in its measurement. (Ref: Para. A11D)
 - (d) Management bias – A lack of neutrality by management in the preparation of information.
 - (e) Management's point estimate – The amount selected by management for recognition or disclosure in the financial statements as an accounting estimate.
 - (f) Outcome of an accounting estimate – The actual monetary amount which results from the resolution of the underlying transaction(s), event(s) or condition(s) addressed by an accounting estimate. A11E)

Requirements**Risk Assessment Procedures and Related Activities**

8. When performing risk assessment procedures and related activities to obtain an understanding of the entity and its environment in applying ISA 315 (Revised),⁵ the auditor shall obtain an understanding of the following: (Ref: Para. A12)
- (a) The requirements of the applicable financial reporting framework relevant to the accounting estimates, including the recognition criteria, measurement basis and related disclosures. (Ref: Para. A13–A15)

⁵ ISA 315 (Revised), paragraphs 5–6 and 11

- (aA) The nature of the accounting estimates and the related disclosures to be expected in the financial statements, including the sources and extent of complexity and estimation uncertainty and where the exercise of judgment will be required and the classes of transactions and account balances. (Ref: Para. A15A–A15B)
- (b) How management identifies those transactions, events and conditions that may give rise to the need for the accounting estimates to be recognized or disclosed in the financial statements. In obtaining this understanding, the auditor shall make inquiries of management about changes in circumstances that may give rise to new, or the need to revise existing, accounting estimates. (Ref: Para. A16–A21)
- (c) How management makes accounting estimates, including: (Ref: Para. A22–A23)
 - (i) The methods used in making the accounting estimates, how the methods have been applied and, where applicable, how models have been used in such application; (Ref: Para. A23A–A26)
 - (iA) The data on which the accounting estimates are based, including whether data has been obtained from internal or external sources, the nature and reliability of those sources and the processes applied in obtaining derived data; (Ref: Para. A26A–A26D)
 - (ii) The assumptions underlying the accounting estimates, including whether assumptions have been determined using data from external sources; (Ref: Para. A26E–A36)
 - (iii) Whether management has used an expert; (Ref: Para. A36A–A36B)
 - (iv) Whether and, if so, how management has addressed estimation uncertainty, including an assessment of which data and assumptions most influence estimation uncertainty and therefore have the greatest impact on the accounting estimate; and (Ref: Para. A38–A38A)
 - (v) Whether there has been, or ought to have been, a change from the prior period in the methods for making the accounting estimates, and if so, why. (Ref: Para. A38B)
- 8A When performing risk assessment procedures and related activities to obtain an understanding of the entity's internal control in applying ISA 315 (Revised), the auditor shall obtain an understanding of the following components of internal control relevant to making the accounting estimates (Ref: Para. A38C–A38D):
 - (a) The control environment including the oversight and, if applicable, review and approval of the accounting estimates, by those charged with governance in making the accounting estimates (Ref: Para. A38E–A38J)
 - (b) The entity's risk assessment process; (Ref: Para. A38K–A38L)
 - (c) The information system; (Ref: Para. A38M–A38O)
 - (d) The control activities; and (Ref: Para. A38P–A38Q)
 - (e) The entity's activities to monitor controls. (Ref: Para. A38R–A38S)
- 9. The auditor shall determine whether reviewing previous accounting estimates will assist in identifying and assessing the risks of material misstatement in the current period. The auditor shall review the outcome of accounting estimates included in the prior period financial statements, or, where

applicable, their subsequent re-estimation for the purpose of the current period. If so, the nature and extent of the auditor's review takes the nature of the estimate into account of the nature of the accounting estimates, and whether the information obtained from the review would be relevant to identifying and assessing risks of material misstatement of accounting estimates made in the current period financial statements. However, the review is not intended to call into question the judgments made in the prior periods that were based on information available at the time. (Ref: Para. A38T–A44B)

- 9A. The auditor shall, based on the understanding obtained of the accounting estimates assess whether specialized skills or knowledge in relation to one or more aspects of the accounting estimates are required in order to perform the risk assessment procedures and related activities. (Ref: Para. A44C–A44H)

Identifying and Assessing the Risks of Material Misstatement

10. In applying ISA 315 (Revised), in relation to accounting estimates, the auditor is required to identify and assess the risks of material misstatement, at the financial statement and assertion levels, including determining whether any of the risks identified are, in the auditor's judgment, significant risks. In doing so, the auditor shall consider inherent and control risk and shall take into account consideration of relevant risk factors, including the extent to which: (Ref: Para. A44I–A46D)
- (a) The accounting estimates are subject to estimation uncertainty, including the sensitivity of the accounting estimates to the use of particular data, assumptions and methods; (Ref: Para. A46E–A49A)
 - (b) Making the accounting estimates is impacted by complexity, including:
 - (i) The extent to which the method used to make an accounting estimate use of large volumes of data, or complex models, assumptions or IT systems; (Ref: Para. A49B)
 - (ii) The difficulty in obtaining relevant and reliable data, including data from sources from outside the general and subsidiary ledgers and external sources; or (Ref: Para. A49C)
 - (iii) The extent to which it is difficult to understand or interpret data, including application of complex legal or contractual terms. (Ref: Para. A49D)
 - (c) Making the accounting estimates depends on the use of management judgment, including in the identification and selection of appropriate methods and assumptions and of relevant and reliable data sources. (Ref: Para. A49E–A49F)
- 10A As part of the identification and assessment of the risks of material misstatement, taking account of the factors described in paragraph 10, the auditor shall determine which of the identified risks are assessed, in the auditor's judgment, as being of lower risk. (Ref: Para A49G)

Responses to the Assessed Risks of Material Misstatement

- 11A. In responding to the assessed risks of material misstatement in accordance with paragraphs 12–13C, the auditor shall consider whether specialized skills or knowledge are required in order to obtain sufficient appropriate audit evidence. (Ref: Para. A44C–A44H)
12. In response to the assessed risks of material misstatement, the auditor shall: (Ref: Para. A52–A52A)

- (a) Determine whether management's method appropriately applies the requirements of the applicable financial reporting framework relevant to the accounting estimate; and (Ref: Para. A53–A56)
- (b) Determine whether management's method for making the accounting estimate are appropriate and have been applied consistently, and whether changes, if any, in accounting estimates or in the method for making them from the prior period are appropriate in the circumstances. (Ref: Para. A57–A58)
- 12A. The auditor shall respond in accordance with ISA 330 to the risks of material misstatement that are assessed as lower risk. For those risks of material misstatement that are assessed as lower risk, the auditor is not required to comply with paragraph 13 through 16A. (Ref: Para A58A)
- 12B. If the nature of the accounting estimate is such that events occurring up to the date of the auditor's report may provide sufficient appropriate audit evidence about the assessed risks of material misstatement, the auditor shall obtain such audit evidence. (Ref: Para. A58B–A58G)
13. In responding, as required by ISA 330, to the assessed risks of material misstatement related to accounting estimates (for risks other than those that have been assessed as lower risk), the auditor shall design and perform procedures from the table below, unless another procedure is, in the auditor's professional judgment, more responsive to the assessed risks. The nature, timing and extent of procedures to be performed shall depend on the assessed risks of material misstatement, recognizing that the higher the risk, the more persuasive the audit evidence needed. (Ref: Para. A67B–67C)

	Factors From Paragraph 10		
Procedures	Estimation Uncertainty (paragraph 10(a))	Complexity (paragraph 10(b))	Judgment (paragraph 10(c))
Data and Assumptions			
1. Test whether the key assumptions used by management are consistent with one another, relevant, reliable, and reasonable in light of the measurement objectives of the applicable financial reporting framework	✓	✓	✓
2. Evaluate how management considered alternatives to the key data and assumptions	✓		✓
3. Determine whether data or assumptions obtained from external data sources are appropriate and reasonable in the context of the applicable financial reporting framework.	✓	✓	✓
Management's Method for Making the Accounting Estimate			
4. Test how management made the accounting estimate, including the model (if applicable) and whether the method complies with the	✓	✓	✓

requirements of the applicable financial reporting framework. For complex models, this includes:			
<ul style="list-style-type: none"> Considering whether management, or when applicable management's expert, have the expertise and competence to make the accounting estimate; Considering whether the model is appropriate given the nature and size of the entity business. 			
5. Evaluate how management considered alternatives to the choice of method	✓		✓
6. Evaluate the key judgments made by management in making the accounting estimate to determine if the judgments are reasonable in the context of the applicable financial reporting framework	✓		✓
7. If relevant to the requirements of the applicable financial reporting framework, evaluate management's intent to carry out specific courses of action and its ability to do so			✓
8. Test the operating effectiveness of controls.	✓	✓	✓
9. Determine whether management's method appropriately applies the requirements of the applicable financial reporting framework relevant to the accounting estimate, has been applied consistently, and whether changes, if any, in accounting estimates or in the method for making them from the previous period are appropriate in the circumstances.	✓		✓
10. Obtain sufficient appropriate audit evidence about whether the following are in accordance with the requirements of the applicable financial reporting framework:			
(i) Management's decision to recognize, or not recognize, the accounting estimates in the financial statements; and (Ref: Para. A113-A114)	✓		✓
(ii) The selected measurement basis for the accounting estimates.			
Developing an Auditor's Point Estimate or Range			
11. Develop an independent point estimate or range for the accounting estimate. In doing so:			
<ul style="list-style-type: none"> The auditor shall determine appropriate assumptions and methods to use in light of the requirements of the applicable financial reporting framework. The auditor shall also obtain an understanding of management's assumptions or methods sufficient to establish that the auditor's point estimate or range takes into account relevant variables and to evaluate any 	✓	✓	✓

<p>significant differences from management's point estimate. (Ref: Para. A92)</p> <ul style="list-style-type: none"> • If the auditor concludes that it is appropriate to use a range, the auditor shall narrow the range, based on audit evidence available, until all outcomes within the range are considered reasonable. (Ref: Para. A93–A95) • If the business environment is experiencing turmoil or possible disruption, the auditor shall consider management's approach to dealing with such issues, and shall consider whether it is necessary to consider the effect of different scenarios by developing an auditor's range. 			
12. Develop an independent point estimate or range for key data or assumptions to challenge management's choice of the key data or assumption.	✓	✓	✓
13. Determine whether management's disclosures adequately convey the estimation uncertainty associated with the accounting estimate in view of the applicable financial reporting framework.	✓		

13A. Taking into account the procedures performed under paragraph 13, when:

- (a) Management uses a model, the auditor shall evaluate whether testing the model is needed to obtain sufficient appropriate audit evidence. Such testing shall include testing: (Ref: Para. A68–A70)
 - (i) Whether the key assumptions used by management are reasonable and appropriate in light of the measurement objectives of the applicable financial reporting framework; and (Ref: Para. A77–A83)
 - (ii) That the key data used by management is accurate, complete, and appropriate for the model.
- (b) The auditor's assessment of the accounting estimate's risks of material misstatement at the assertion level includes an expectation that controls are operating effectively⁶ or where substantive procedures alone cannot provide sufficient appropriate audit evidence at the assertion level, the auditor shall test the operating effectiveness of the controls over how management made the accounting estimate. (Ref: Para. A84–A86)
- (c) Relevant to the reasonableness of the key assumptions used by management or the appropriate application of the applicable financial reporting framework, the auditor shall evaluate management's intent to carry out specific courses of action and its ability to do so. (Ref: Para. A110)]

Further Substantive Procedures to Respond to Significant Risks

Estimation Uncertainty

⁶ That is, the auditor intending to rely on the operating effectiveness of controls over the accounting estimate in determining the nature, timing and extent of substantive procedures.

16. If, in the auditor's judgment, management has not adequately addressed the effects of estimation uncertainty on the accounting estimates that give rise to significant risks, the auditor shall, if considered necessary, develop a range with which to evaluate the reasonableness of the accounting estimate. (Ref: Para. A111–A112)

Conclusion on Sufficiency and Appropriateness of the Audit Evidence

- 16A. For accounting estimates with high estimation uncertainty, high complexity, or that involve high amounts of judgment the auditor shall conclude whether sufficient appropriate audit evidence has been obtained regarding the assessed risks of material misstatement. In making this conclusion, the auditor shall take into account all relevant audit evidence, whether corroborative or contradictory. If the auditor has not obtained sufficient appropriate audit evidence, the auditor shall attempt to obtain further audit evidence by performing additional audit procedures. (Ref: Para A109a)

Evaluating the Reasonableness of the Accounting Estimates, and Determining Misstatements

18. The auditor shall evaluate, based on the audit evidence, whether the accounting estimates in the financial statements are either reasonable in the context of the applicable financial reporting framework, or are misstated. (Ref: Para. A116–A119)

Disclosures Related to Accounting Estimates

19. The auditor shall obtain sufficient appropriate audit evidence about whether the disclosures in the financial statements related to accounting estimates are:
- (a) In accordance with the requirements of the applicable financial reporting framework; and (Ref: Para. A120–A121)
 - (b) If the applicable financial reporting framework does not require disclosures of estimation uncertainty regarding accounting estimates (whether on the face of the financial statements or in the notes), adequate to enable users to understand the estimate uncertainty regarding accounting estimates recognized or disclosed in the financial statements.
20. The auditor shall also evaluate the adequacy of the disclosure of their estimation uncertainty in the financial statements in the context of the applicable financial reporting framework. (Ref: Para. A122–A123)

Indicators of Possible Management Bias

21. The auditor shall review the judgments and decisions made by management in the making of accounting estimates to identify whether there are indicators of possible management bias. Indicators of possible management bias do not themselves constitute misstatements for the purposes of drawing conclusions on the reasonableness of individual accounting estimates. (Ref: Para. A124–A125)

Written Representations

22. The auditor shall obtain written representations from management and, where appropriate, those charged with governance whether they believe key assumptions used in making accounting estimates are reasonable. (Ref: Para. A126–A127)

Communication with Those Charged With Governance

- 22A. The auditor shall determine whether there are matters arising from the auditor's work regarding the accounting estimates that should be communicated to those charged with governance. (Ref: Para. A127A–A127B)

Documentation

23. The auditor shall include in the audit documentation:⁷
- (a) The rationale for the auditor's judgment to use, or not to use, an auditor's expert when dealing with accounting estimates with high estimation uncertainty, high judgment, or high complexity;
 - (b) Indicators of possible management bias, if any, and how the auditor addressed them;
 - (c) The basis for how the auditor demonstrated professional skepticism in auditing the accounting estimates. This shall include relevant matters related to the auditor's overall conclusions about the reasonableness and appropriateness of the accounting estimates, and their disclosure, and the significant professional judgments made by the auditor regarding accounting estimates with high estimation uncertainty or high complexity.
 - (d) When the auditor has performed other procedures that are more responsive to the risk of material misstatement (see paragraph 13), a description of the other procedures and the auditor's rationale for why they are more responsive to the identified risk. (Ref: Para. A128)

Application and Other Explanatory Material**Nature of Accounting Estimates** (Ref: Para. 2)

- A1. Because of the uncertainties inherent in business activities, some financial statement items can only be estimated. Further, the specific characteristics of an asset, liability or component of equity, or the basis of or method of measurement prescribed by the financial reporting framework, may give rise to the need to estimate a financial statement item. Some financial reporting frameworks prescribe specific methods of measurement and the disclosures that are required to be made in the financial statements, while other financial reporting frameworks are less specific. The Appendix to this ISA discusses fair value measurements and disclosures under different financial reporting frameworks.
- A2. Some accounting estimates involve relatively lower estimation uncertainty, lower complexity, and lower judgment, and may give rise to lower risks of material misstatements, for example:
- Accounting estimates arising in entities that engage in business activities that are not complex or do not require significant judgment in making such estimates.
 - Accounting estimates that are frequently made and updated because they relate to routine transactions.
 - Accounting estimates derived from data that is readily available, such as published interest rate data or exchange-traded prices of securities.

⁷ ISA 230, *Audit Documentation*, paragraphs 8–11, and A6

- Accounting estimates where the method of measurement prescribed by the applicable financial reporting framework is simple and applied easily to the asset or liability requiring measurement at fair value.
 - Accounting estimates where the model used to measure the accounting estimate is well-known or generally accepted, provided that the assumptions or data used in the model are observable.
- A3. For some accounting estimates, however, there may be other than low estimation uncertainty, complexity, or judgment, for example:
- Accounting estimates relating to the outcome of litigation.
 - Accounting estimates for financial instruments not publicly traded.
 - Accounting estimates for which a highly specialized entity-developed model is used or for which there are assumptions or data that cannot be observed in the marketplace.
 - Accounting estimates that collate, weight and integrate assumptions and data from a wide range of internal and external sources, such as an expected credit loss model in an internationally active financial institution or a technical provision for an insurance contract.
 - Guarantees related to loans or distressed entities
 - Estimates of development costs of a new drug
 - Estimates of undeveloped mineral resources
 - Valuation of goodwill in a complex business combination
- A4. The degree of estimation uncertainty, complexity, and judgment varies based on the nature of the accounting estimate, the extent to which there is a generally accepted method or model used to make the accounting estimate, the availability of data, and the subjectivity of the assumptions used to make the accounting estimate. In some cases, estimation uncertainty associated with an accounting estimate may be so great that the recognition criteria in the applicable financial reporting framework are not met and the accounting estimate cannot be made.
- A5. Not all accounting estimates involve high levels of estimation uncertainty. For example, some financial statement items may have an active and open market that provides readily available and reliable information on the prices at which actual exchanges occur. However, estimation uncertainty may exist even when the valuation method and data are well defined. For example, valuation of securities quoted on an active and open market at the listed market price may require adjustment if the holding is significant in relation to the market or is subject to restrictions in marketability. In addition, general economic circumstances prevailing at the time, for example, illiquidity in a particular market, may impact estimation uncertainty. The extent and nature of the judgments required may be higher in certain estimates. Certain estimates, like an ECL calculation for a large mortgage portfolio of a major financial institution may require numerous judgments as to the particular data sources to use as well as the assumptions to be used in the calculation.
- A6. Additional examples of situations where accounting estimates may be required include:
- Allowance for doubtful accounts.
 - Inventory obsolescence.
 - Warranty obligations.

- Depreciation method or asset useful life.
 - Provision against the carrying amount of an investment where there is uncertainty regarding its recoverability.
 - Outcome of long term contracts.
 - Costs arising from litigation settlements and judgments.
 - Complex financial instruments, which are not traded in an active and open market.
 - Share-based payments.
 - Property or equipment held for disposal.
 - Transactions involving the exchange of assets or liabilities between independent parties without monetary consideration, for example, a non-monetary exchange of plant facilities in different lines of business.
- A8. Estimation involves judgments based on information available when the financial statements are prepared. For many accounting estimates, these include making assumptions about matters that are uncertain at the time of estimation. The auditor is not responsible for predicting future conditions, transactions or events that, if known at the time of the audit, might have significantly affected management's actions or the assumptions used by management.
- A8A. The application of audit procedures is not intended to, and will not, mitigate or eliminate estimation uncertainty as this is a function of the requirements of the applicable financial reporting framework and or the nature of the estimate itself.

Management Bias

- A9. Financial reporting frameworks often call for neutrality, that is, freedom from bias. Accounting estimates are imprecise, however, and can be influenced by management judgment. Such judgment may involve unintentional or intentional management bias (for example, as a result of motivation to achieve a desired result). The susceptibility of an accounting estimate to management bias increases with the subjectivity involved in making it. Unintentional management bias and the potential for intentional management bias are inherent in subjective decisions that are often required in making an accounting estimate. For continuing audits, indicators of possible management bias identified during the audit of the preceding periods influence the planning and risk identification and assessment activities of the auditor in the current period.
- A10. Management bias can be difficult to detect at an account level. It may only be identified when considered in the aggregate of groups of accounting estimates or all accounting estimates, or when observed over a number of accounting periods. Although some form of management bias is inherent in subjective decisions, in making such judgments there may be no intention by management to mislead the users of financial statements. Where, however, there is intention to mislead, management bias is fraudulent in nature.

Considerations Specific to Public Sector Entities

- A10A. In the public sector fair value measurement is not always required by the applicable financial reporting framework. In those cases, public sector auditors assess the alternative valuation method

used and determine whether it is in accordance with the applicable financial reporting framework and is not misleading.

- A11. Public sector entities may have significant holdings of specialized assets for which there are no readily available and reliable sources of information for purposes of measurement at fair value or other current value bases, or a combination of both. Often specialized assets held do not generate cash flows and do not have an active market. Measurement at fair value therefore ordinarily requires estimation, the exercise of judgment, and may be complex, and in some rare cases may not be possible at all.

Consideration Specific to Accounting Estimates with Low Complexity and Low Estimation Uncertainty

A11A. Accounting estimates with lower complexity and lower estimation uncertainty have different characteristics from more complex and uncertain accounting estimates. For example, a simple, common depreciation calculation rarely gives rise to [higher risks of material misstatement] as the process for making the calculation is often commonly understood and there is usually only limited scope for estimation uncertainty to affect the measurement of the accounting estimate. In such cases, the requirements of paragraph 13 may be too specific to the factors of complexity, estimation uncertainty, and judgment and this may result in the auditor not responding appropriately to the risks of material misstatement for such estimates. Accordingly, ISA 330's more general requirements on responding to the risks of material misstatement are more appropriate. Examples of accounting estimates that are may have lower estimation uncertainty, complexity, and judgment include

- Depreciation
- Provision for doubtful debts
- [TBA]

Definitions

Accounting Estimate (Ref: Para. 7(a))

A11B. Accounting estimates may be account balances recognized in the financial statements, but also include accounting estimates used in disclosures or used to make judgments about whether or not to recognize or disclose a monetary amount. An accounting estimate is subject to estimation uncertainty. The accounting estimate may be required to be recognized or disclosed in the financial statements, or may be used to decide whether to recognize or disclose a financial statement item. Where this ISA addresses only accounting estimates involving measurement at fair value, the term "fair value accounting estimates" is used.

Auditor's Point Estimate or Auditor's Range (Ref: Para. 7(b))

A11C. The auditor may develop a point estimate or range for the accounting estimate, a subset of the accounting estimate (for example, the allowance for a particular loan portfolio or the fair value of different types of financial instruments), or an item of data or an assumption (for example, an estimated useful life of an asset).

Estimation Uncertainty (Ref: Para. 7(c))

A11D. Estimation uncertainty is the result of certain conditions, including:

- Measurement techniques required or permitted by the applicable financial reporting framework
- Uncertainty about future events or conditions; and
- Limitations in data and analytical techniques, such as simplifying complex phenomena in order to develop a model.

Estimation uncertainty is an inherent characteristic of accounting estimates and cannot be reduced by the application of auditing procedures.

Outcome of an Accounting Estimate (Ref: Para. 7(f))

A11E. Some estimates, by their nature, do not have an outcome that is relevant for the auditor's work performed in accordance with this ISA. For example, a fair value measurement is based on perceptions of market participants at a point in time. Accordingly, the price realized when an asset is sold or the liability transferred may differ from the fair value accounting estimate because, for example with the passage of time, the perceptions of value may change.

Risk Assessment Procedures and Related Activities (Ref: Para. 8)

A12. The risk assessment procedures and related activities required by paragraph 8 and 8A of this ISA assist the auditor in obtaining an understanding of the nature and type of accounting estimates that an entity may have. The auditor's primary consideration is whether the understanding that has been obtained is sufficient to identify and assess the risks of material misstatement in relation to accounting estimates, to determine whether any of those risks are significant risks or lower risks, and to plan the nature, timing and extent of further audit procedures.

Obtaining an Understanding of the Requirements of the Applicable Financial Reporting Framework (Ref: Para. 8(a))

A13. Obtaining an understanding of the requirements of the applicable financial reporting framework assists the auditor in determining whether it, for example:

- Prescribes certain conditions for the recognition,⁸ or methods for the measurement, of accounting estimates.
- Specifies certain conditions that permit or require measurement at a fair value, for example, by referring to management's intentions to carry out certain courses of action with respect to an asset or liability.
- Specifies required or permitted disclosures.

Obtaining this understanding also provides the auditor with a basis for discussion with management about how management has applied those requirements relevant to the accounting estimates, and the auditor's determination of whether they have been applied appropriately.

A14. Financial reporting frameworks may provide guidance for management on determining point estimates where alternatives exist. Some financial reporting frameworks, for example, require that

⁸ Most financial reporting frameworks require incorporation in the statement of financial position or statement of profit or loss and other comprehensive income of items that satisfy their criteria for recognition. Disclosure of accounting policies or adding notes to the financial statements does not rectify a failure to recognize such items, including accounting estimates.

the point estimate selected be the alternative that reflects management's judgment of the most likely outcome.⁹ Others may require, for example, use of a discounted probability-weighted expected value. In some cases, management may be able to make a point estimate directly. In other cases, management may be able to make a reliable point estimate only after considering alternative assumptions or outcomes from which it is able to determine a point estimate.

- A15. Financial reporting frameworks may require the disclosure of information concerning the significant assumptions to which an accounting estimate is particularly sensitive. Furthermore, where there is a high degree of estimation uncertainty, some financial reporting frameworks do not permit certain accounting estimates to be recognized in the financial statements, but certain disclosures may be required in the notes to the financial statements.

Obtaining an Understanding of the Nature of the Accounting Estimates (Ref: Para. 8(aA))

A15A. Obtaining an understanding of the nature of the accounting estimate may assist the auditor in understanding whether the accounting estimate is complex to make, requires significant judgment or whether the accounting estimate has high estimation uncertainty because certain factors are present. For example, in order to make certain accounting estimates, management may use complex models; or the accounting estimate may be based on data that is not subject to the same level of control as data prepared specifically for the financial statements or may be difficult to obtain. The accounting estimate may also have a long forecast period like some future cash flow predictions and may therefore be susceptible to estimation uncertainty.

A15B. The auditor may obtain an understanding of the nature of the accounting estimate through the auditor's:

- Understanding of the industry in which the entity operates;
- Understanding of the applicable financial reporting framework;
- Past knowledge and experience obtained through other audits and education; and
- Previous experience with the entity.

Understanding the nature of the accounting estimate may also assist the auditor in understanding the nature and extent of disclosures that may be relevant to an accounting estimate and may provide the auditor with a basis for discussion with management about how management has made the accounting estimate, and the auditor's determination of whether the accounting estimate has been made appropriately in accordance with the applicable financial reporting framework.

Obtaining an Understanding of How Management Identifies the Need for Accounting Estimates

(Ref: Para. 8(b))

A16. The preparation of the financial statements requires management to determine whether a transaction, event or condition gives rise to the need to make an accounting estimate, and that all necessary accounting estimates have been recognized, measured and disclosed in the financial statements in accordance with the applicable financial reporting framework.

A17. Management's identification of transactions, events and conditions that give rise to the need for accounting estimates is likely to be based on:

⁹ Different financial reporting frameworks may use different terminology to describe point estimates determined in this way.

- Management's knowledge of the entity's business and the industry in which it operates.
- Management's knowledge of the implementation of business strategies in the current period.
- Where applicable, management's cumulative experience of preparing the entity's financial statements in prior periods.

In such cases, the auditor may obtain an understanding of how management identifies the need for accounting estimates primarily through inquiry of management. In other cases, where management's process is more structured, for example, when management has a formal risk management function, the auditor may perform risk assessment procedures directed at the methods and practices followed by management for periodically reviewing the circumstances that give rise to the accounting estimate and re-estimating the accounting estimate as necessary. The completeness of accounting estimates is often an important consideration of the auditor, particularly accounting estimates relating to liabilities.

- A18. The auditor's understanding of the entity and its environment obtained during the performance of risk assessment procedures, together with other audit evidence obtained during the course of the audit, assist the auditor in identifying circumstances, or changes in circumstances, that may give rise to the need for an accounting estimate.
- A19. Inquiries of management about changes in circumstances may include, for example, inquiries about whether:
- The entity has engaged in new types of transactions that may give rise to accounting estimates.
 - Terms of transactions that gave rise to accounting estimates have changed.
 - Accounting policies relating to accounting estimates have changed, as a result of changes within the requirements of the applicable financial reporting framework or otherwise.
 - Regulatory or other changes outside the control of management have occurred that may require management to revise, or make new, accounting estimates.
 - New conditions or events have occurred that may give rise to the need for new or revised accounting estimates.
- A20. During the audit, the auditor may identify transactions, events and conditions that give rise to the need for accounting estimates that management failed to identify. ISA 315 (Revised) deals with circumstances where the auditor identifies risks of material misstatement that management failed to identify, including determining whether there is a significant deficiency in internal control with regard to the entity's risk assessment processes.¹⁰

Considerations Specific to Smaller Entities

- A21. Obtaining this understanding for smaller entities is often less complex as their business activities are often limited and transactions have lower complexity. Further, often a single person, for example the owner-manager, identifies the need to make an accounting estimate and the auditor may focus inquiries accordingly.

¹⁰ ISA 315 (Revised), paragraph 16

Obtaining an Understanding of How Management Makes the Accounting Estimates (Ref: Para. 8(c))

A22. The preparation of the financial statements also requires management to establish financial reporting processes for making accounting estimates, including adequate internal control. Such processes include the following:

- Selecting appropriate accounting policies and prescribing estimation processes, including appropriate estimation or valuation methods, including, where applicable, models.
- Identifying or developing relevant data and assumptions used in making the accounting estimate.
- Periodically reviewing the circumstances that give rise to the accounting estimate and re-estimating as necessary.

A23. Matters that the auditor may consider in obtaining an understanding of how management makes the accounting estimate include, for example:

- The types of accounts or transactions to which the accounting estimate relate (for example, whether the accounting estimates arise from the recording of routine and recurring transactions or whether they arise from non-recurring or unusual transactions).
- Whether and, if so, how management has used recognized measurement techniques for making particular accounting estimates.
- Whether the accounting estimates were made based on data available at an interim date and, if so, whether and how management has taken into account the effect of events, transactions and changes in circumstances occurring between that date and the period end.

Method of Measurement, Including the Use of Models (Ref: Para. 8(c)(i))

A23A. A method is a technique used by management to apply the measurement basis in the financial reporting framework. A model is a tool to make the accounting estimate that applies assumptions and data, based on a set of relationships between them as specified by the method and a complex model is a model that exhibits a significant degree of complexity in its design or operation. . For example, one of the methods to value share based payments is by determining a theoretical call price. The Black Scholes option model can be used to apply this method. A model may also be used to develop an assumption.

A24. In some cases, the applicable financial reporting framework may prescribe the method of measurement for an accounting estimate which may include, for example, use of a particular model that is to be used in measuring a fair value estimate. In many cases, however, the applicable financial reporting framework does not prescribe the method of measurement, or may specify alternative methods for measurement.

A25. When the applicable financial reporting framework does not prescribe a particular method to be used in the circumstances, matters that the auditor may consider in obtaining an understanding of the method, and where applicable the model, used to make accounting estimates include, for example:

- How management considered the nature of the asset or liability being estimated when selecting a particular method.
- Whether the entity operates in a particular business, industry or environment in which there are methods commonly used to make the particular type of accounting estimate.

A25A. If the entity uses a model, whether it be management's own model or an external model, for making

an accounting estimate, including any sub-models that are relevant to the audit, management may put into place specific controls around such models. This is especially relevant when the model to make the accounting estimate is considered to be complex, such as, an expected credit loss model. The complexity of a model depends on factors such as the (extensive) use of sub-models, the complexity of the formulas and interrelationships within the model that may require specific knowledge. Depending on the nature of the model and the accounting estimate, relevant controls may include, for example those established over: factors that may be considered in obtaining an understanding of the model used to make the accounting estimate and the control activities thereon, include the following:

- How management determines the completeness, relevance and accuracy of the model;
- Whether the model is validated prior to usage, with regular reviews to ensure it is still suitable for its intended use. The entity's validation process may include evaluation of;
 - The method's theoretical soundness and the model's mathematical integrity; and
 - The consistency and completeness of the model's data and assumptions, and whether the appropriate data is used in the model and appropriate assumptions have been made.
- The model is appropriately changed or adjusted on a timely basis for changes in (market) conditions and whether there are appropriate change control policies over the model;
- The model maximizes the use of relevant observable data and assumptions and minimizes the use of unobservable data and assumptions;
- Whether adjustments or overlays are made to the output of the model (such as may be needed to ensure that the model's output complies with the requirements of the applicable financial reporting framework); and
- Whether the model is adequately documented, including the model's intended applications and limitations and its key parameters, required data and assumptions, results of any validation analysis performed and any adjustments made to the output of the model.

A26. There may be greater risks of material misstatement, for example, in cases when management has internally developed a model to be used in making the accounting estimate or is departing from a method commonly used in a particular industry or environment.

Data (Ref: Para. 8(c)(iA))

A26A. Data comprises factual data, which can be observed, and derived data, which is data obtained through applying analytical or interpretive techniques to factual data. The analytical or interpretive techniques to be used in deriving data are not subject to judgment as there is little or no choice in which technique is to be used. For example, the average of a series of values requires a calculation, but there is no choice as to how to calculate it. Examples of data include market prices, risk management data, data on usage of an asset historical prices or data included in contracts (for example, for a loan the data may include the contracted interest rate, payment schedule, and term of the contract).

A26B. There are many different types of data and data can come from a wide range of sources. For example, there is data that is generated internally or externally, data can also be historic or forward looking, data can come from systems in or outside the general or subsidiary ledgers or data can be based on a contract. An understanding what the source of the data is may help the auditor in

understanding what the risks are with respect to the data used in make the accounting estimate. The selection of which data to use in an accounting estimate may require management's judgment about the relevance and reliability of the data or the reputation of the source of the data.

A26C. Matters that the auditor may consider in obtaining an understanding of relevant the data on which an accounting estimate is based include:

- The nature of the data.
- How management assesses whether the data is appropriate.
- Whether the data source is consistent with previous periods.
- Whether the data has been obtained from outside the general and subsidiary ledgers or generated by external data sources.
- The use of information technology systems and the complexity resulting from the need for those systems to handle large volumes of data, including how the transactions or data are transmitted, processed or maintained electronically.

A26D. When making the accounting estimate requires large volumes of data management may have extensive information technology systems in place and general information technology and application controls may be necessary. Such controls are intended to ensure that data:

- Is completely and accurately extracted from the entity's records or obtained from appropriate third parties; and
- Flows completely and accurately through the entity's information systems and that any modification to the data used in making the accounting estimate, such as the translation of data into a different currency, is appropriate. The system should have sufficient controls to maintain the integrity and security of the data.

Assumptions (Ref: Para. 8(c)(iv))

A26E. Assumptions are integral components of accounting estimates and may include matters such as the choice of an interest rate, a discount, or judgments about future conditions or events. An assumption may be selected by management from a range of possible alternatives for use in applying a method to make an accounting estimate.

A26F. The applicable financial reporting framework sometimes provides criteria or guidance to be used in the selection of an assumption. For example, the applicable financial reporting framework may prescribe that a discount rate be used for a certain accounting estimate. As the use of a different discount rate could be selected based on judgment, the discount rate is an assumptions used in the accounting estimate.

A26G. It may not be clear whether a particular item is data or an assumption. Data for one model could be considered an assumption for another model or two auditors may have different professional judgment as to whether an item is data or assumptions. Regardless, the auditor may need to consider what could go wrong with the data or assumption.

A31. Matters that the auditor may consider in obtaining an understanding of the assumptions underlying an accounting estimate include, for example:

- The nature of the assumptions.

- How management assesses whether the assumptions are relevant and complete (that is, that all relevant variables have been taken into account).
- When applicable, how management determines that the assumptions used are internally consistent.
- Whether the assumptions relate to matters within the control of management (for example, assumptions about the maintenance programs that may affect the estimation of an asset's useful life), and how they conform to the entity's business plans and the external environment, or to matters that are outside its control (for example, assumptions about interest rates, mortality rates, potential judicial or regulatory actions, or the variability and the timing of future cash flows).
- The nature and extent of management's documentation supporting the assumptions.
- The disclosures required by the applicable financial reporting framework.

Assumptions may be made or identified by a management's expert to assist management in making the accounting estimates. Such assumptions, when used by management, become management's assumptions.

- A34. In the case of fair value accounting estimates, assumptions reflect, or are consistent with, what knowledgeable, willing arm's length parties (sometimes referred to as "marketplace participants" or equivalent) would use in determining fair value when exchanging an asset or settling a liability. Specific assumptions will also vary with the characteristics of the asset or liability being valued, the valuation method used (for example, a market approach, or an income approach) and the requirements of the applicable financial reporting framework.
- A35. With respect to fair value accounting estimates, assumptions vary in terms of their source and bases, as follows:
- (a) Those that reflect what marketplace participants would use in pricing an asset or liability developed based on market data obtained from sources independent of the reporting entity.
 - (b) Those that reflect the entity's own judgments about what assumptions marketplace participants would use in pricing the asset or liability developed based on the best data available in the circumstances.

In practice, however, the distinction between (a) and (b) is not always apparent. Further, it may be necessary for management to select from a number of different assumptions used by different marketplace participants.

- A36. The extent of subjectivity, such as whether an assumption is observable, influences the degree of estimation uncertainty and thereby the auditor's assessment of the risks of material misstatement for a particular accounting estimate.

Management's Use of Experts (Ref: Para. 8(c)(iii))

A36A. Management may have, or the entity may employ individuals with, the experience and competence necessary to make the accounting estimates. In some cases, however, management may need to engage an expert to make, or assist in making, them. This need may arise because of, for example:

- The specialized nature of the matter requiring estimation, for example, the measurement of mineral or hydrocarbon reserves in extractive industries.

- The technical nature of the models required to meet the relevant requirements of the applicable financial reporting framework, as may be the case in certain measurements at fair value.
- The unusual or infrequent nature of the condition, transaction or event requiring an accounting estimate.

A failure by management to engage an expert when management does not otherwise have access to such an individual with the necessary experience and competence increases the control risk.

Considerations specific to smaller entities

A36B. In smaller entities, the circumstances requiring an accounting estimate often are such that the owner-manager is capable of making the required point estimate. In some cases, however, an expert will be needed. Discussion with the owner-manager early in the audit process about the nature of any accounting estimates, the completeness of the required accounting estimates, and the adequacy of the estimating process may assist the owner-manager in determining the need to use an expert.

Estimation Uncertainty (Ref: Para. 8(c)(iv))

A38. Matters that the auditor may consider in obtaining an understanding of whether and, if so, how management has addressed estimation uncertainty include, for example:

- Whether and, if so, how management has considered alternative assumptions or outcomes by, for example, performing a sensitivity analysis to determine the effect of changes in the assumptions on an accounting estimate.
- How management determines the accounting estimate when analysis indicates a number of outcome scenarios.
- Whether management monitors the outcome of accounting estimates made in the prior period, and whether management has appropriately responded to the outcome of that monitoring procedure.

A38A. Accounting estimates may be particularly sensitive to changes in certain data and assumptions. For example, an accounting estimate may be determined based on a model that has several assumptions, one or more of which particularly influences the outcome of the accounting estimate because the assumption might have a wide reasonable range or the model may be sensitive to a specific assumption because of the underlying formulas. The auditor may consider obtaining an understanding of how management identifies relevant data and assumptions to which the accounting estimate is particularly sensitive.

Changes in Methods for Making Accounting Estimates (Ref: Para. 8(c)(v))

A38B. In evaluating how management makes the accounting estimates, the auditor is required to understand whether there has been or ought to have been a change from the prior period in the methods for making the accounting estimates. If management has changed the method for making an accounting estimate, it is important that management can demonstrate that the new method is more appropriate, or is itself a response to changes in the environment or circumstances affecting the entity, or to changes in the requirements of the applicable financial reporting framework. For example, if management changes the basis of making an accounting estimate from a mark-to-market approach to using a model, the auditor challenges whether management's assumptions about the

marketplace are reasonable in light of economic circumstances.

The Entity's Internal Control

Considerations Specific to Smaller Entities (Ref: Para. 8A)

A38C. The entity's internal control relevant to making accounting estimates within smaller entities is likely to differ from larger entities as smaller entities may use less structured means and simpler processes and procedures to achieve their objectives. For example, audit evidence with respect to making the accounting estimates may not be available in documentary form and the segregation of duties may be limited when there is a limited number of employees. However, management or the owner-manager is often closely involved in the operations and may therefore be able to exercise more effective oversight of the estimation process.

A38D. ISA 315 (Revised)¹¹ includes specific considerations to smaller entities that the auditor might find helpful in obtaining an understanding of the entity's internal control with respect to accounting estimates.

The Control Environment Relevant to Making Accounting Estimates (Ref: Para. 8A(a))

A38E. In some industries, such as the banking industry, the term governance may be used to describe something similar to what is defined by ISA 315 (Revised) as the control environment.¹²

A38F. The nature and extent of the entity's internal control over accounting estimates will vary depending on the size of the entity and the nature of its activities. For example, in entities that have accounting estimates that require extensive reliance on information technology systems and use of large volumes of data management may enforce a more strict control environment than it does elsewhere within the entity. When management's knowledge and experience about certain complex accounting estimates is limited the auditor may need to consider in its risk assessment the control environment applicable to those responsible for making these complex accounting estimates.

A38G. Management and, where applicable, those charged with governance are responsible for designing and implementing a system of internal control to enable the preparation of financial statements in accordance with the applicable financial reporting framework. The effectiveness of the design of the control environment in relation to participation by those charged with governance is influenced by the matters described in paragraph A80 in ISA 315 (Revised).

Oversight by those charged with governance

A38H. Usually a part of those charged with governance's role is to set the tone, oversee and, if applicable, approve the process to make the accounting estimates. The effectiveness of the design of the control environment in relation to participation by those charged with governance is influenced by such matters as:

- Whether they understand the risks of using a particular method or model to make an accounting estimate, or have sufficient skills and experience to assess the risk of, for example, the method or information technology used in making the accounting estimate.

¹¹ ISA 315 (Revised) paragraph A52, A56, A57, A88, A93, A95, A101, A102 and A108

¹² ISA 315 (Revised) paragraph A76

- The extent to which those charged with governance have the experience and knowledge to understand whether management made the accounting estimate in accordance with the applicable financial reporting framework; or
- The independence from management and their ability to evaluate the actions of management.

A38I. Depending on the nature of an accounting estimate, the auditor may consider obtaining an understanding of the extent of the review and, if applicable, approval of the accounting estimate, including any models used in its development, by those charged with governance, including:

- The existence of an appropriate authorization process for accounting estimates by management and, if applicable, those charged with governance, which is expected to be designed relative to the complexity and estimation uncertainty related to the accounting estimates.
- The monitoring activities as part of the system of internal control, undertaken by management and, if applicable, those charged with governance. This may include adequate supervision and review of the accounting estimates within the entity designed to detect and correct any deficiencies in the operating effectiveness of controls over the accounting estimates and its valuation.

A38J. The review and, if applicable, approval of accounting estimates by those charged with governance may particularly be important for accounting estimates that:

- Require significant judgment by management, for example in the selection of assumptions;
- Have a high estimation uncertainty;
- Are complex to make, for example, because of the extensive use of information technology, large volumes of data or the use of multiple data sources or assumptions with complex-interrelationships;
- Have a change in the method or model compared to prior year; or
- Are particularly sensitive to changes in certain data and assumptions.

The Entity's Risk Assessment Process; (Ref: Para. 8A(b))

A38K. An entity's risk assessment process establishes how management identifies business risks that come from making accounting estimate, including how management estimates the significance of the risks, assesses the likelihood of their occurrence and decides upon actions to manage them. The types and levels of risks an entity faces are directly related to the types of accounting estimates the entity makes and the complexity of the business model, including the volume of data. The extent of the entity's risk assessment process reflects the types and levels of risks and how risk averse management is.

A38L. The entity's risk assessment process forms the basis for how management determines the risks to be managed. With respect to making accounting estimates the risk assessment processes exist with the objective of ensuring that management:

- Understands the requirements of the applicable financial reporting framework related to the accounting estimates;

- Selecting data sources which are relevant and reliable and maintaining appropriate information control systems.
- Has procedures in place to reduce or change risk exposure if necessary and for managing reputational risk
- Subjects the making of accounting estimates to rigorous supervision and review.

The Entity's Information Systems (Ref: Para. 8A(c))

A38M. The purpose of an entity's information system is to capture and record all the transactions accurately, settling them, and producing management information to support the effective operation of controls. Difficulties can arise for accounting estimates that require large volumes of, in particular if the data comes from multiple systems that are poorly integrated and have manual interfaces without adequate controls.

A38N. The development of certain accounting estimates, such as those involving the use of an expected credit loss model, may require a large volume of data and therefore sophisticated information systems. The sophistication of the information system may depend on the nature of the accounting estimate and the entity's business processes. Specific risks that can arise with respect to accounting estimates that require a large volume of data or require the extensive use of information technology include:

- Information systems, in particular for smaller entities, not having the capability or not being appropriately configured to process large volumes of data. This may result in an increased number of manual transactions, which may further increase the risk of inaccurate or incomplete data;
- The diversity of systems required to process more complex transactions, and the need for regular reconciliations between them, in particular when the systems are not interfaced or may be subject to manual intervention;
- A lack of review of systems exception logs, to validate the entries generated by the systems;
- Failure to evaluate the design and calibration of complex models initially and on a periodic basis;
- Management has not established a library of models, with controls around access, change and maintenance of individual models to maintain a strong audit trail of the accredited versions of models and to prevent unauthorized access or amendments to those models; and
- When using external sources, management may need to consider the risks related to appropriately recording, processing, or accounting for data transactions as management is still responsible needs to reconcile appropriately and challenge the output from those sources.

A38O. Information systems relevant to financial reporting serve as an important source of data for the quantitative disclosures in the financial statements. However, entities may also develop and maintain non-financial systems used for internal reporting and to generate data included in qualitative disclosures, for example regarding risks and uncertainties or sensitivity analyses.

The Control Activities (Ref: Para. 8A(d))

A38P. Matters that the auditor may consider in obtaining an understanding of the control activities relevant

to making the accounting estimate include, for example, the experience and competence of those who make the accounting estimates, and controls related to:

- How management determines the relevance and reliability of the data used to develop the accounting estimates, including when management uses an external data source or data from outside the general and subsidiary ledgers.
- The review and approval of accounting estimates, including the assumptions or data used in their development, by appropriate levels of management and, where appropriate, those charged with governance.
- The segregation of duties between those committing the entity to the underlying transactions and those responsible for making the accounting estimates, including whether the assignment of responsibilities appropriately takes account of the nature of the entity and its products or services (for example, in the case of a large financial institution, relevant segregation of duties may include an independent function responsible for estimation and validation of fair value pricing of the entity's proprietary financial products staffed by individuals whose remuneration is not tied to such products).

A38Q. Other controls may be relevant to making the accounting estimates depending on the circumstances. For example, if the entity uses specific models for making accounting estimates, management may put into place specific policies and procedures around such models. Relevant controls may include, for example, those established over:

- The design and development, or selection, of a particular model for a particular purpose.
- The completeness, relevance and accuracy of the model.
- The use of adjustments and overlays over the outcome of the model.
- The changes made to the model, for example because of changes in (market) conditions.
- The maintenance and periodic validation of the integrity of the model.

The Entity's Activities to Monitor Controls over How the Accounting Estimates Are Made. (Ref: Para 8A(e))

A38R. In many large entities, the internal audit function may perform work that enables management and those charged with governance to review and evaluate the entity's controls relating to significant accounting estimates. The internal audit function may assist management in identifying the risks of material misstatement due to fraud or error. The extent to which the internal audit function has the experience and knowledge to cover, and has in fact covered, the entity's activities with respect to accounting estimates that are complex to make, as well as the competence and objectivity of the internal audit function, is a relevant consideration in the external auditor's determination of whether the internal audit function is likely to be relevant to the auditor's assessment of the risks of material misstatement.

A38S. Areas where the work of the internal audit function may be particularly relevant are:

- Documenting an overview of the extent of use of accounting estimates and the nature of the accounting estimates;
- Evaluating the operating effectiveness of control activities that address the risk related to the data, assumptions and models used to make the accounting estimate;

- Evaluating systems that generate the data on which the accounting estimate is based; and
- Assessing whether new risks relating to accounting estimates are identified, assessed and managed.

The Entity's Activities to Monitor Controls over How the Accounting Estimates Are Made. (Ref: Para 8A(e))

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- Documenting an overview of the extent of use of accounting estimates and the nature of the accounting estimates;
- Evaluating the operating effectiveness of control activities that address the risk related to the data, assumptions and models used to make the accounting estimate;
- Evaluating systems that generate the data on which the accounting estimate is based; and
- Assessing whether new risks relating to accounting estimates are identified, assessed and managed.

Reviewing the Outcome of Previous Accounting Estimates (Ref: Para. 9)

A38T. A retrospective review may be useful to assist the auditor in identifying and assessing the risks of material misstatement, specifically in circumstances when previous accounting estimates:

- Have an outcome through transfer or realization of the asset or liability; or
- Are re-estimated for the purpose of the current period (such as may be the case with accounting estimates that endure beyond a single financial reporting period).

A39. The outcome of an accounting estimate will often differ from the accounting estimate recognized in the previous period's financial statements. For some accounting estimates with high estimation uncertainty, including securities in an active market, the difference may be significant because of the nature of the accounting estimate. By performing risk assessment procedures to identify and understand the reasons for such differences, the auditor may obtain:

- Information regarding the effectiveness of management's prior period estimation process, from which the auditor can determine the likely effectiveness of management's current process.
- Audit evidence that is pertinent to the re-estimation, in the current period, of previous accounting estimates.
- Audit evidence of matters, such as estimation uncertainty, that may be required to be disclosed in the financial statements.

- Information regarding the complexity and estimation uncertainty pertaining to the accounting estimates.
- A40. The review of previously made accounting estimates may also assist the auditor, in the current period, in identifying circumstances or conditions that increase the susceptibility of accounting estimates to, or indicate the presence of, possible management bias. The auditor's professional skepticism assists in identifying such circumstances or conditions and in determining the nature, timing and extent of further audit procedures.
- A41. A retrospective review of management judgments and assumptions related to significant accounting estimates is also required by ISA 240.¹³ That review is conducted as part of the requirement for the auditor to design and perform procedures to review accounting estimates for biases that could represent a risk of material misstatement due to fraud, in response to the risks of management override of controls. As a practical matter, the auditor's review of previous accounting estimates as a risk assessment procedure in accordance with this ISA may be carried out in conjunction with the review required by ISA 240.
- A42. The auditor may determine that a more detailed review is required for those accounting estimates that were identified during previous period audits as having high estimation uncertainty or that are complex, or for those accounting estimates that have changed significantly from the previous period. As part of the detailed review, the auditor may perform a retrospective review over the assumptions for which small changes are likely to cause significant changes in the accounting estimate. On the other hand, for example, for accounting estimates that arise from the recording of routine and recurring transactions, the auditor may judge that the application of analytical procedures as risk assessment procedures is sufficient for purposes of the review.
- A42A. In addition to the retrospective review over previous period's estimates, the auditor may determine that a retrospective review over several periods or a shorter period (such as half-yearly or quarterly)-period is useful. For example, for certain accounting estimates, individually small changes to the assumptions that are not significant year-over-year become significant when aggregated over several years. When entities make accounting estimates that are realized within a shorter timescale than full financial reporting periods, considering the outcomes of such accounting estimates may also provide important information about management's current competence and other factors relevant to making estimates. Considering outcomes of accounting estimates that are realized between the end of the financial reporting period and the start of the audit may be useful for similar reasons.
- A43. For fair value accounting estimates and other accounting estimates based on current conditions at the measurement date, more variation may exist between the fair value amount recognized in the previous period's financial statements and the outcome or the amount re-estimated for the purpose of the current period. This is because the measurement objective for such accounting estimates deals with perceptions about value at a point in time, which may change significantly and rapidly as the environment in which the entity operates changes. The auditor may therefore focus the review on obtaining information that would be relevant to identifying and assessing risks of material misstatement. For example, in some cases, obtaining an understanding of changes in marketplace participant assumptions which affected the outcome of a previous period's fair value accounting estimates may be unlikely to provide relevant information for audit purposes. If so, then the auditor's

¹³ ISA 240, *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*, paragraph 32(b)(ii)

consideration of the outcome of previous period's fair value accounting estimates may be directed more towards understanding the effectiveness of management's prior estimation process, that is, management's track record, from which the auditor can judge the likely effectiveness of management's current process.

- A44. A difference between the outcome of an accounting estimate and the amount recognized in the previous period's financial statements does not necessarily represent a misstatement of the previous period's financial statements. However, it may do so if, for example, the difference arises from information that was available to management when the prior period's financial statements were finalized, or that could reasonably be expected to have been obtained and taken into account in the preparation of those financial statements. Many financial reporting frameworks contain guidance on distinguishing between changes in accounting estimates that constitute misstatements and changes that do not, and the accounting treatment required to be followed.

Considerations Specific to Public Sector Entities

- A44A. In the public sector, the actual amounts of certain long-term estimated liabilities may not be known for an extended period of time. Therefore, paragraph 9 of the ISA and the application material included in paragraphs A39-A42 may not be relevant for certain estimates. For example, social insurance liabilities extend for many years into the future and, therefore, public sector auditors will not be able to evaluate the outcome.

- A44B. Many financial reporting frameworks in the public sector do not contain guidance on distinguishing between changes in accounting estimates that constitute misstatements of the prior period's financial statements and changes that do not, as explained in paragraph A44 of the ISA. In the absence of guidance in the applicable financial reporting framework, public sector auditors may consider relevant guidance in other frameworks.

Specialized Skills or Knowledge (Ref: Para. 9A)

- A44C. In planning the audit, the auditor is required to ascertain the nature, timing and extent of resources necessary to perform the audit engagement.¹⁴ This may include, as necessary, the involvement of those with specialized skills or knowledge. In addition, ISA 220 requires the engagement partner to be satisfied that the engagement team, and any auditor's external experts who are not part of the engagement team, collectively have the appropriate competence and capabilities to perform the audit engagement.¹⁵ During the course of the audit the auditor may identify, in light of the experience of the auditor and the circumstances of the engagement, the need for specialized skills or knowledge to be applied in relation to one or more aspects of the accounting estimates.

- A44D. Matters that may affect the auditor's consideration of whether specialized skills or knowledge is required include, for example:

- The nature of the accounting estimate in a particular business or industry (for example, mineral deposits, agricultural assets, complex financial instruments).
- A high degree of estimation uncertainty.

¹⁴ ISA 300, *Planning an Audit of Financial Statements*, paragraph 8(e)

¹⁵ ISA 220, *Quality Control for an Audit of Financial Statements*, paragraph 14

- Complex calculations or specialized models are involved, for example, when estimating fair values when there is no observable market.
- The complexity of the requirements of the applicable financial reporting framework relevant to accounting estimates, including whether there are areas known to be subject to differing interpretation or practice is inconsistent or developing.
- The procedures the auditor intends to undertake in responding to assessed risks.
- The degree of judgment needed.

A44E. For the majority of accounting estimates, even when there is estimation uncertainty, it is unlikely that specialized skills or knowledge will be required. For example, it is unlikely that specialized skills or knowledge would be necessary for an auditor to evaluate an allowance for doubtful accounts receivable.

A44F. The auditor may not possess the specialized skills or knowledge required when the matter involved is in a field other than accounting or auditing and may need to obtain it from an auditor's expert. ISA 620¹⁶ establishes requirements and provides guidance in determining the need to employ or engage an auditor's expert and the auditor's responsibilities when using the work of an auditor's expert.

A44G. Further, in some cases, the auditor may conclude that it is necessary to obtain specialized skills or knowledge related to specific areas of accounting or auditing. An example of such a case may be the audit of an allowance for expected credit losses for an internationally active banking institution. Individuals with such skills or knowledge may be employed by the auditor's firm or engaged from an external organization outside of the auditor's firm. Where such individuals perform audit procedures on the engagement, they are part of the engagement team and accordingly, they are subject to the requirements in ISA 220.

A44H. Depending on the auditor's understanding and experience of working with the auditor's expert or those other individuals with specialized skills or knowledge, the auditor may consider it appropriate to discuss matters such as the requirements of the applicable financial reporting framework with the individuals involved to establish that their work is relevant for audit purposes.

Identifying and Assessing the Risks of Material Misstatement (Ref: Para. 10)

A44I. Risks of material misstatement related to estimation uncertainty may arise due to the entity's environment or industry in which it operates, including volatility in jurisdictions or markets, the requirements of the applicable financial reporting framework, or other factors influencing the inherent lack of precision of the accounting estimate. Risks of material misstatement arising from complexity in making the accounting estimates may come from the nature of the entity's business or structure, the requirements of the applicable financial reporting framework, or the entity's internal controls. The risk of material misstatement related to judgment may come from the decisions about the course of action that, according to management, are appropriate in preparing the financial statements such as the selection of particular assumptions, a models or data.

A44J. The factors giving rise to the risk of material misstatement (see paragraph 10) may be interrelated. For example, the financial reporting framework may be a source of estimation uncertainty (as it may require an assumption that may cause an inherent lack of precision), complexity (as it leads

¹⁶ ISA 620, *Using the Work of an Auditor's Expert*

to the use of a complex method) and judgment (as it requires management to choose a method to make the accounting estimate). When there is a high degree of judgment, the accounting estimate may be more susceptible to management bias and, therefore, an increase in estimation uncertainty.

Relevant Factors

A46. Other relevant factors that the auditor may consider in identifying and assessing the risks of material misstatement, including determining whether any of those risks are significant risks, may include:

- The actual or expected magnitude of an accounting estimate.
- The recorded amount of the accounting estimate (that is, management's point estimate) in relation to the amount expected by the auditor to be recorded.
- Whether management has used an expert in making the accounting estimate.
- The outcome of the review of previous period accounting estimates.

A46A. Some accounting estimates may have high estimation uncertainty, be complex to make or both. For example, expected credit loss models are often complex because they require the use of a highly specialized entity-developed model and also involve high estimation uncertainty given the judgments required to be made on the use of particular data and assumptions. Other accounting estimates may only be complex to make or only have high estimation uncertainty. For example, an obsolescence provision for inventory with a wide array of different inventory types may have low estimation uncertainty but requires complex systems and processes to make the accounting estimate. Equally, other accounting estimates may not be complex to make but may have high estimation uncertainty. For example, an accounting estimate that requires a single critical judgment such as a single, clearly identifiable, level 3 financial instrument or a legal contingency.

Significant Risks

A46B. Paragraph 28 of ISA 315 (Revised) and the related application material include factors that need to be considered when identifying significant risks.

A46C. If the auditor determines that an accounting estimate gives rise to a significant risk, the auditor is required to obtain an understanding of the entity's controls, including control activities.¹⁷

A46D. In some cases, the estimation uncertainty of an accounting estimate may cast significant doubt about the entity's ability to continue as a going concern. ISA 570 (Revised)¹⁸ establishes requirements and provides guidance in such circumstances.

Estimation Uncertainty (Ref: Para. 10(a))

A46E. The risk of material misstatement related to estimation uncertainty may arise from various sources such as:

- The financial reporting framework, which may require:
 - A method used to make the accounting estimates that inherently has a high level of

¹⁷ ISA 315 (Revised), paragraph 29

¹⁸ ISA 570, (Revised), *Going Concern*

estimation uncertainty. For example, the financial reporting framework may require the use of fair value accounting instead of historical costs.

- The use of assumptions that inherently have a high level of estimation uncertainty, such as future cash flows for a long term contract, or that are based on data that is unobservable and are therefore difficult for management to make.
- Disclosures about estimation uncertainty. There may be a risk of material misstatement related to the failure to make a material disclosure about the estimation uncertainty.
- The business environment, for example, the entity may be active in a market that experiences turmoil, possible disruption (for example, from major currency movements) and the assumption may therefore be dependent on data from volatile market conditions.

A47. Examples of accounting estimates that may have high estimation uncertainty include the following:

- Accounting estimates that are not calculated using recognized measurement techniques.
- Accounting estimates where the results of the auditor's review of similar accounting estimates made in the prior period financial statements indicate a substantial difference between the original accounting estimate and the actual outcome.

A48. A seemingly immaterial accounting estimate may have the potential to result in a material misstatement due to the estimation uncertainty associated with the estimation; that is, the size of the amount recognized or disclosed in the financial statements for an accounting estimate may not be an indicator of its estimation uncertainty.

A49. In some circumstances, the estimation uncertainty is so high that a reasonable accounting estimate cannot be made. The applicable financial reporting framework may, therefore, preclude recognition of the item in the financial statements, or its measurement at fair value. In such cases, the significant risks relate not only to whether an accounting estimate should be recognized, or whether it should be measured at fair value, but also to the adequacy of the disclosures. With respect to such accounting estimates, the applicable financial reporting framework may require disclosure of the accounting estimates and the high estimation uncertainty associated with them (see paragraphs A120-A123).

The Sensitivity of the Accounting Estimate to Changes in Particular Data and Assumptions

A49A. As described in paragraph A38A, some accounting estimates may be particularly sensitive to certain data and assumptions. For these accounting estimates the sensitivity may influence the degree of estimation uncertainty associated with an accounting estimate, which in turn may influence the accounting estimate's susceptibility to management bias. In these circumstances the auditor's application of professional skepticism is particularly important and the auditor may, for example, compare its own independent analysis of the data and assumptions with management's, including obtaining an understanding of any differences between them.

The Complexity in Making the Accounting Estimates

The Method Used in Making the Accounting Estimates (Ref: Para. 10(b)(i))

A49B. Risks of material misstatement related to the method used in making the accounting estimate may arise from various sources such as:

- The financial reporting framework. The requirements of the applicable financial reporting framework may result in the need for a complex method.
- The nature of the entities' business or organizational structure. A complex business model may give rise to errors not being detected within calculations or challenges in the aggregation of the data.
- The integrity of the information technology system. Data that is used to make the accounting estimates may be based on complex system-generated data which may require effective information technology general controls, and controls over the flow of data through the system.
- Fair value accounting estimates for which a highly specialized entity-developed model is used.

The Data on Which the Accounting Estimates Are Based (Ref: Para. 10(b)(ii))

A49C. The risk of material misstatement related to data used in making the accounting estimate may arise from various sources such as:

- The reliability of the data source. Data from certain sources may be more reliable than from others. For example, data from outside the general and subsidiary ledgers may be more susceptible to misstatements because in some entities it may be difficult to determine whether there were appropriate controls and governance over that data as they may not have been documented. The observability of the data also influence the reliability of the data source. The data that is used to make an accounting estimate may be unobservable because it is, for example, based on quotes from an inactive market. In general, the reliability of the data decreases when the data is less directly observable.
- Challenges in obtaining sufficient and appropriate audit evidence. For some data it might be challenging to obtain sufficient and appropriate audit evidence because it is purchased from an external data source. Some external data sources will not disclose information about the data, such as how the data is accumulated, calculations in the production of the data, and the process used to generate the data (including any controls over the process that may be relevant in determining the reliability of the information provided), because of confidentiality and or proprietary reasons.
- The complexity of the data. For data that is aggregated, compressed, transformed or otherwise modified it may be more difficult for the auditor to determine whether the data is reliable.
- The volume of data or data that comes from a wide variety of sources, leading to a risks that the data may be inappropriately used, or may be incomplete or from the incorrect data set.

The Application of Complex Legal or Contractual Terms (Ref: Para. 10(b)(iii))

A49D. The risk of material misstatement related to complex legal or contractual terms may arise from a lack of expertise or competence. For example, the determination of cash inflow/ outflow arising from commercial supplier or customer rebates may depend on very complex contractual terms which require specific expertise or competence.

Judgment (Ref: Para. 10(c))

A49E. The risk of material misstatement related to judgment involved in making accounting estimates may come from many sources, including:

- The selection of inappropriate methods, assumptions and data, for example:
 - The method selected may not be in compliance with the applicable financial reporting framework.
 - Management may be biased in the selection of a method, an assumption or data.
 - Management may select a data source that is not relevant and reliable.
- The applicable financial reporting may require significant judgment through, for example, a long forecast period.
- Management may lack the experience or competence to make an appropriate judgment or select an assumption or consider relevant scenarios. When management lacks the competence or experience in a certain area and decides not to use a management's expert, there may be a risk that management may not make the necessary judgments that are not appropriate in light of the applicable financial reporting framework.

A49F. Examples of accounting estimates that may have a high degree of judgment include the following:

- Accounting estimates that are based on future cash flows.
- Accounting estimates for litigation and claims where no evidence of legal precedent is available.
- Accounting estimates with a long forecast period.

Identification of Accounting Estimates with Lower Risk of Material Misstatement (Ref: Para. 10A)

A49G. The auditor applies professional judgment in assessing the risks of material misstatement, based on the understanding of the entity and its environment, including the entity's internal control, as required by ISA 315 (Revised). Based on that understanding, and taking account of the factors identified in paragraph 10, the auditor may assess identified risks as being higher risk or lower risk. Risks of material misstatement may be assessed as lower when accounting estimates involve:

- Routine, non-complex calculations that are subject to systematic processing [and control];
- Little or no estimation uncertainty;
- Minimal judgment by management over the selection of appropriate data and assumptions.

Responses to the Assessed Risks of Material Misstatement (Ref: Para. 11A–13A)

A52. ISA 330 requires the auditor to design and perform audit procedures whose nature, timing and extent are responsive to the assessed risks of material misstatement in relation to accounting estimates at both the financial statement and assertion levels.¹⁹ Paragraphs A53–A115 focus on specific responses at the assertion level only. Paragraph 13(c) of ISA 700 (Revised) requires the auditor to evaluate whether, in view of the requirements of the applicable financial reporting framework, the accounting estimates made by management are reasonable.

A52A. Consistent with the requirements of ISA 330, the nature, timing, and extent of audit procedures are based on and are responsive to the assessed risks of material misstatement at the assertion level.

¹⁹ ISA 330, paragraphs 5–6

In this regard, accounting estimates vary widely in terms of complexity and estimation uncertainty, leading to varying types of assessed risks of material misstatement. The risks of material misstatement and consequent procedures to be performed on a simple accounting estimate with low estimation uncertainty will vary significantly from those performed on a complex accounting estimate with high estimation uncertainty.

Application of the Requirements of the Applicable Financial Reporting Framework (Ref: Para. 12(a))

- A53. Many financial reporting frameworks prescribe certain conditions for the recognition of accounting estimates and specify the methods for making them and required disclosures. Such requirements may be complex and require the application of judgment. Based on the understanding obtained in performing risk assessment procedures, the requirements of the applicable financial reporting framework that may be susceptible to misapplication or differing interpretations become the focus of the auditor's attention.
- A54. Determining whether management has appropriately applied the requirements of the applicable financial reporting framework is based, in part, on the auditor's understanding of the entity and its environment. For example, the measurement of the fair value of some items, such as intangible assets acquired in a business combination, may involve special considerations that are affected by the nature of the entity and its operations.
- A55. In some situations, additional audit procedures, such as the inspection by the auditor of the current physical condition of an asset, may be necessary to determine whether management has appropriately applied the requirements of the applicable financial reporting framework.
- A56. The application of the requirements of the applicable financial reporting framework requires management to consider changes in the environment or circumstances that affect the entity. For example, the introduction of an active market for a particular class of asset or liability may indicate that the use of discounted cash flows to estimate the fair value of such asset or liability is no longer appropriate.

Consistency in Methods and Basis for Changes (Ref: Para. 12(b))

- A57. The auditor's consideration of a change in an accounting estimate, or in the method for making it from the prior period, is important because a change that is not based on a change in circumstances or new information is considered arbitrary. Arbitrary changes in an accounting estimate result in inconsistent financial statements over time and may give rise to a financial statement misstatement or be an indicator of possible management bias.
- A58. Management often is able to demonstrate good reason for a change in an accounting estimate or the method for making an accounting estimate from one period to another based on a change in circumstances. What constitutes a good reason, and the adequacy of support for management's contention that there has been a change in circumstances that warrants a change in an accounting estimate or the method for making an accounting estimate, are matters of judgment.

Responses to the Assessed Risks of Material Misstatements (Ref: Para. 12A-13A)

Procedures for Risks of Material Misstatement that are Lower Risk (Ref: Para. 12A)

- A58A. Determining whether a risk of material misstatement is lower risk according to paragraph 10 is a matter of professional judgment. Risks of material misstatement that are assessed as lower based

on paragraph 10 do not share the same characteristics as other, higher risks, and therefore the procedures in paragraph 13 may not respond to the risk of material misstatement. For the lower risks, while the procedures listed in paragraph 13 are not required, they may be useful guidance on procedures that could be performed pursuant to ISA 330.

Events Occurring Up to the Date of the Auditor's Report (Ref: Para. 12B)

A58B. Determining whether events occurring up to the date of the auditor's report provide audit evidence regarding the accounting estimate may be an appropriate response when such events are expected to:

- Occur; and
- Provide audit evidence that confirms or contradicts the accounting estimate.

A58C. Events occurring up to the date of the auditor's report may sometimes provide sufficient appropriate audit evidence about an accounting estimate. For example, sale of the complete inventory of a superseded product shortly after the period end may provide audit evidence relating to the estimate of its net realizable value. In such cases, there may be no need to perform additional audit procedures on the accounting estimate, provided that sufficient appropriate evidence about the events is obtained.

A58D. For some accounting estimates, events occurring up to the date of the auditor's report are unlikely to provide audit evidence regarding the accounting estimate. For example, the conditions or events relating to some accounting estimates develop only over an extended period. Also, because of the measurement objective of fair value accounting estimates, information after the period-end may not reflect the events or conditions existing at the balance sheet date and therefore may not be relevant to the measurement of the fair value accounting estimate. Paragraph 13 identifies other responses to the risks of material misstatement that the auditor may undertake.

A58E. In some cases, events that contradict the accounting estimate may indicate that management has ineffective processes for making accounting estimates, or that there is management bias in the making of accounting estimates.

A58F. Even though the auditor may decide not to undertake this approach in respect of specific accounting estimates, the auditor is required to comply with ISA 560.²⁰ The auditor is required to perform audit procedures designed to obtain sufficient appropriate audit evidence that all events occurring between the date of the financial statements and the date of the auditor's report that require adjustment of, or disclosure in, the financial statements have been identified²¹ and appropriately reflected in the financial statements.²² Because the measurement of many accounting estimates, other than fair value accounting estimates, usually depends on the outcome of future conditions, transactions or events, the auditor's work under ISA 560 is particularly relevant.

²⁰ ISA 560, *Subsequent Events*

²¹ ISA 560, paragraph 6

²² ISA 560, paragraph 8

Considerations specific to smaller entities

A58G. When there is a longer period between the balance sheet date and the date of the auditor's report, the auditor's review of events in this period may be an effective response for accounting estimates other than fair value accounting estimates. This may particularly be the case in some smaller owner-managed entities, especially when management does not have formalized control procedures over accounting estimates.

Responses to Risks of Material Misstatement Arising From the Factors in Paragraph 10

A58H. Some accounting estimates have both a low level of complexity and low estimation uncertainty. These accounting estimates are like to give rise to risks that are different (lower) in both nature and extent to more complex accounting estimates or accounting estimates with higher estimation uncertainty. When dealing with such estimates, the auditor is required by paragraph 12B to follow the requirements of ISA 330 to respond to the risks of material misstatement as the requirements of paragraphs 13-16 are most useful in dealing with accounting estimates with complexity or estimation uncertainty. The auditor may, however, find the material in paragraph 13-16 to be useful guidance.

A58I. The auditor's understanding of how management makes the accounting estimate (see paragraph 8) and the consideration of factors that may give rise to a risk of material misstatement (see paragraph 10) are important to designing and performing appropriate procedures. The procedures described in paragraph 13A-16 form part of the auditor's overall response to the assessed risks of material misstatement relating to the accounting estimate.

A58J. Paragraph 13 lists procedures that may be performed to meet the overall requirement to perform procedures in response to the assessed risk of material misstatement. The appropriate procedures to be performed depend on the assessed risk of material misstatement for the accounting estimate and the auditor's professional judgment. In some circumstances, when the procedures required by paragraph 13 enable the auditor to obtain sufficient appropriate audit evidence, the auditor may not need to perform any procedures under paragraph 13. For example, if management uses a model, the auditor is required by paragraph 13A(a) to test the model, which may result in the auditor obtaining sufficient appropriate audit evidence in some circumstances.

A59. The auditor's decision as to how to respond to the risks of material misstatement as required by paragraphs 13-13A may be influenced by such matters as:

- The nature of the accounting estimate, including whether it arises from routine or non-routine transactions.
- Whether the procedure(s) is expected to effectively provide the auditor with sufficient appropriate audit evidence.
- The assessed risk of material misstatement, including whether the assessed risk is a significant risk.

A60. For example, when evaluating the reasonableness of the allowance for doubtful accounts, an effective procedure for the auditor may be to review subsequent cash collections in combination with other procedures (see paragraph 12B). Where the estimation uncertainty associated with an accounting estimate is high, for example, an accounting estimate based on a proprietary model for which there are unobservable data or assumptions, it may be that a combination of the responses to assessed risks in paragraph 13 is necessary in order to obtain sufficient appropriate audit evidence.

A61. Additional guidance explaining the circumstances in which each of the responses may be appropriate is provided in paragraphs A61A–A95.

Key Judgments (Ref: Para. 13A)

A61A. The key judgments made by management in making the accounting estimate may cover matters such as:

- The choice of method (including a model), data, or assumptions (see also paragraph 13A(d)); or
- How management addressed inconsistent or contradictory evidence.

Procedures for Other Risks of Material Misstatement (Ref: Para. 13)

A67B. As the auditor is required by paragraph 10 to identify risks of material misstatement related to the factors of estimation uncertainty, complexity, and judgment, the procedures that the auditor designs and performs need to be responsive to those assessed risks. The application material to paragraph 10 provides examples of risks of material misstatement related to those factors. In light of this, the procedures in paragraph 13 are organized to show which procedures are likely to be responsive to particular factors and, therefore, particular risks.

A67C. The procedures in the table are organized by the factors described in paragraph 10. Not all the listed procedures for a given factor are needed to be carried out to respond to all risks arising from that factor. For example, the auditor may not test how management made the accounting estimate (procedure 4) if other procedures also relevant to that factor are responsive to the risk of material misstatement and the auditor has obtained sufficient appropriate audit evidence from those procedures.

A67D. Below is an example of how the requirement to identify and assess risks of material misstatement in paragraph 10 and how to respond to those in accordance with this ISA.

- In this example, the accounting estimate is a financial instrument. The auditor assesses that this financial instrument gives rise to a number of risks, one of which is that, as the method used in making the accounting estimate involves voluminous amounts of data or data that comes from a wide variety of sources, there is a risk that the data may be inappropriately used, incomplete or wrong (see paragraph A51A). The accounting estimate is such that events occurring up to the date of the auditor's report do not provide sufficient appropriate audit evidence (see paragraph 12A), and the auditor assesses this risk as other than lower risk (that is, paragraph 12B does not apply).
- The auditor determines that the risk of material misstatement can be addressed by performing the following procedures:
 - Testing whether key data sources are relevant and reliable and that the selection of the data sources does not bias the accounting estimate (procedure 5 from paragraph 13)
 - Evaluating how management considered alternatives to the key data and choice of method (procedure 7 from paragraph 13)

- Determining whether data obtained from external data sources are appropriate and reasonable in the context of the applicable financial reporting framework (procedure 8 from paragraph 13)
- As a result of performing those procedures, the auditor determines whether sufficient appropriate audit evidence has been obtained regarding this particular risk. There may also be audit evidence obtained in relation to other risks, which may also be relevant to the auditor's conclusion regarding the sufficiency and appropriateness of the audit evidence obtained.
- If the risk of material misstatement was higher, more persuasive audit evidence may be needed. This may require the auditor to perform additional procedures from paragraph 13, such as developing an auditor's point estimate or range (procedure 3) or testing how management made the accounting estimate (procedure 4). These procedures are likely to address more than one risk of material misstatement arising from the same accounting estimate.

[Note: Paragraphs A68–A125B (shown in grey highlight) have not yet been revised or restructured to reflect the proposed amendments to the requirements, nor have cross references been fully updated]

Testing How Management Made the Accounting Estimate (Ref: Para. 13(b))

A68. Testing how management made the accounting estimate and the data on which it is based may be an appropriate response when the accounting estimate is an accounting estimate developed on a model that uses observable and unobservable data and assumptions. It may also be appropriate when, for example:

- The accounting estimate is derived from the routine processing of data by the entity's accounting system.
- The auditor's review of similar accounting estimates made in the prior period financial statements suggests that management's current period process is likely to be effective.
- The accounting estimate is based on a large population of items of a similar nature that individually are not significant.

A69. Testing how management made the accounting estimate may involve, for example:

- Testing the extent to which data on which the accounting estimate is based is accurate, complete and relevant, and whether the accounting estimate has been properly determined using such data and management assumptions.
- Considering the source, relevance and reliability of external data or information, including that received from external experts engaged by management to assist in making an accounting estimate.
- Recalculating the accounting estimate, and reviewing information about an accounting estimate for internal consistency.
- Considering management's review and approval processes.

Considerations specific to smaller entities

A70. In smaller entities, the process for making accounting estimates is likely to be less structured than in larger entities. Smaller entities with active management involvement may not have extensive descriptions of accounting procedures, sophisticated accounting records, or written policies. Even if the entity has no formal established process, it does not mean that management is not able to provide a basis upon which the auditor can test the accounting estimate.

Evaluating the method of measurement (Ref: Para. 13(b)(i))

A71. When the applicable financial reporting framework does not prescribe the method of measurement, evaluating whether the method used, including any applicable model, is appropriate in the circumstances is a matter of professional judgment.

A72. For this purpose, matters that the auditor may consider include, for example, whether:

- Management's rationale for the method selected is reasonable.
- Management has sufficiently evaluated and appropriately applied the criteria, if any, provided in the applicable financial reporting framework to support the selected method.
- The method is appropriate in the circumstances given the nature of the asset or liability being estimated and the requirements of the applicable financial reporting framework relevant to accounting estimates.
- The method is appropriate in relation to the business, industry and environment in which the entity operates.

A73. In some cases, management may have determined that different methods result in a range of significantly different estimates. In such cases, obtaining an understanding of how the entity has investigated the reasons for these differences may assist the auditor in evaluating the appropriateness of the method selected.

Evaluating the use of models

A74. In some cases, particularly when making fair value accounting estimates, management may use a model. Whether the model used is appropriate in the circumstances may depend on a number of factors, such as the nature of the entity and its environment, including the industry in which it operates, and the specific asset or liability being measured.

A75. The extent to which the following considerations are relevant depends on the circumstances, including whether the model is one that is commercially available for use in a particular sector or industry, or a proprietary model. In some cases, an entity may use an expert to develop and test a model.

A76. Depending on the circumstances, matters that the auditor may also consider in testing the model include, for example, whether:

- The model is validated prior to usage, with periodic reviews to ensure it is still suitable for its intended use. The entity's validation process may include evaluation of:
 - The model's theoretical soundness and mathematical integrity, including the appropriateness of model parameters.

- The consistency and completeness of the model's data and assumptions with market practices.
- The model's output as compared to actual transactions.
- Appropriate change control policies and procedures exist.
- The model is periodically calibrated and tested for validity, particularly when assumptions are subjective.
- Adjustments are made to the output of the model, including in the case of fair value accounting estimates, whether such adjustments reflect the assumptions marketplace participants would use in similar circumstances.
- The model is adequately documented, including the model's intended applications and limitations and its key parameters, required assumptions, and results of any validation analysis performed.

Assumptions and data used by management (Ref: Para. 13(b)(ii))

A76A. The key assumptions and data are those which most influence estimation uncertainty in the method used and that have the greatest impact on the accounting estimate.

A77. The auditor's evaluation of the assumptions used by management is based only on information available to the auditor at the time of the audit. Audit procedures dealing with management assumptions are performed in the context of the audit of the entity's financial statements, and not for the purpose of providing an opinion on assumptions themselves.

A78. Matters that the auditor may consider in evaluating the reasonableness of the assumptions used by management include, for example:

- Whether there is evidence that assumptions, both individually and collectively, appear to be appropriate in the circumstances, given the requirements of the applicable financial reporting framework.
- Whether the assumptions are interdependent and internally consistent.
- Whether the assumptions appear reasonable when considered collectively or in conjunction with other assumptions, either for that accounting estimate or for other accounting estimates.
- In the case of fair value accounting estimates, whether the assumptions appropriately reflect observable marketplace assumptions.

A79. The assumptions on which accounting estimates are based may reflect what management expects will be the outcome of specific objectives and strategies. In such cases, the auditor may perform audit procedures to evaluate the reasonableness of such assumptions by considering, for example, whether the assumptions are consistent with:

- The general economic environment and the entity's economic circumstances.
- The business plans of the entity.
- Assumptions made in prior periods, if relevant.

- Experience of, or previous conditions experienced by, the entity, to the extent this historical information may be considered representative of future conditions or events.
- Other assumptions used by management relating to the financial statements.

A80. The reasonableness of the assumptions used may depend on management's intent and ability to carry out certain courses of action. Management often documents plans and intentions relevant to specific assets or liabilities and the financial reporting framework may require it to do so. Although the extent of audit evidence to be obtained about management's intent and ability is a matter of professional judgment, the auditor's procedures may include the following:

- Review of management's history of carrying out its stated intentions.
- Review of written plans and other documentation, including, where applicable, formally approved budgets, authorizations or minutes.
- Inquiry of management about its reasons for a particular course of action.
- Review of events occurring subsequent to the date of the financial statements and up to the date of the auditor's report.
- Evaluation of the entity's ability to carry out a particular course of action given the entity's economic circumstances, including the implications of its existing commitments.

Certain financial reporting frameworks, however, may not permit management's intentions or plans to be taken into account when making an accounting estimate. This is often the case for fair value accounting estimates because their measurement objective requires that assumptions reflect those used by marketplace participants.

A81. Matters that the auditor may consider in evaluating the reasonableness of assumptions used by management underlying fair value accounting estimates, in addition to those discussed above, where applicable, may include, for example:

- Where relevant, whether and, if so, how management has incorporated market-specific data into the development of assumptions.
- Whether the assumptions are consistent with observable market conditions, and the characteristics of the asset or liability being measured at fair value.
- Whether the sources of market-participant assumptions are relevant and reliable, and how management has selected the assumptions to use when a number of different market participant assumptions exist.
- Where appropriate, whether and, if so, how management considered assumptions used in, or information about, comparable transactions, assets or liabilities.

A82. Further, fair value accounting estimates may comprise observable data and assumptions as well as unobservable data and assumptions. Where fair value accounting estimates are based on unobservable data and assumptions, matters that the auditor may consider include, for example, how management supports the following:

- The identification of the characteristics of marketplace participants relevant to the accounting estimate.

- Modifications it has made to its own assumptions to reflect its view of assumptions marketplace participants would use.
- Whether it has incorporated the best information available in the circumstances.
- Where applicable, how its assumptions take account of comparable transactions, assets or liabilities.

If there are unobservable inputs, it is more likely that the auditor's evaluation of the assumptions will need to be combined with other responses to assessed risks in paragraph 13 in order to obtain sufficient appropriate audit evidence. In such cases, it may be necessary for the auditor to perform other audit procedures, for example, examining documentation supporting the review and approval of the accounting estimate by appropriate levels of management and, where appropriate, by those charged with governance.

A83. In evaluating the reasonableness of the assumptions supporting an accounting estimate, the auditor may identify one or more significant assumptions. If so, it may indicate that the accounting estimate has high estimation uncertainty and may, therefore, give rise to a significant risk. Additional responses to significant risks are described in paragraphs A102–A115.

Complex Legal or Contractual Terms (Ref: Para. 13)

A83A. Procedures that the auditor may consider when the accounting estimate is based on complex legal or contractual terms include:

- Consider whether specialized skills or knowledge are needed in order to obtain sufficient appropriate audit evidence;
- Enquire of the entity's legal counsel regarding the legal or contractual terms;
- Confirm the completeness of the contractual terms with the counterparty;
- Inspect the underlying contracts, and:
- Obtain an understanding of the business rationale (or lack thereof) of the contracts and evaluate whether the transactions have been entered into for an improper purpose;
- The terms of the contracts are consistent with management's explanations; and
- The transactions have been appropriately accounted for and disclosed in accordance with the applicable financial reporting framework

Data or Assumptions Obtained from External Data Sources

A83B. ISA 500 contains requirements and guidance regarding audit evidence considerations when an external data source is used.

Testing the Operating Effectiveness of Controls (Ref: Para. 13(c))

A84. Testing the operating effectiveness of the controls over how management made the accounting estimate may be an appropriate response when management's process has been well-designed, implemented and maintained, for example:

- Controls exist for the review and approval of the accounting estimates by appropriate levels of management and, where appropriate, by those charged with governance.
- The accounting estimate is derived from the routine processing of data by the entity's accounting system.
- Management's method of making the accounting estimate involves a large volume of data, processing by IT systems, or large volumes of transactions (for example, for an entity with an actively managed portfolio of investments).

A85. Testing the operating effectiveness of the controls is required when:

- (a) The auditor's assessment of risks of material misstatement at the assertion level includes an expectation that controls over the process are operating effectively; or
- (b) Substantive procedures alone do not provide sufficient appropriate audit evidence at the assertion level.²³ This may be case when the entity's method of making the accounting estimate is largely or entirely dependent on IT and no documentation of transactions is produced or maintained, other than through the IT system. In these cases, unless the auditor is able to obtain sufficient, appropriate audit evidence through other audit procedures (such as developing an auditor's point estimate), then substantive procedures alone will not result in sufficient appropriate audit evidence.

Considerations specific to smaller entities

A86. Controls over the process to make an accounting estimate may exist in smaller entities, but the formality with which they operate varies. Further, smaller entities may determine that certain types of controls are not necessary because of active management involvement in the financial reporting process. In the case of very small entities, however, there may not be many controls that the auditor can identify. For this reason, the auditor's response to the assessed risks is likely to be substantive in nature, with the auditor performing one or more of the other responses in paragraph 13.

Developing a Point Estimate or Range (Ref: Para. 13(d))

A87. Developing a point estimate or a range to evaluate management's point estimate may be an appropriate response where, for example:

- An accounting estimate is not derived from the routine processing of data by the accounting system.
- The auditor's review of similar accounting estimates made in the prior period financial statements suggests that management's current period process is unlikely to be effective.
- The entity's controls within and over management's processes for determining accounting estimates are not well designed or properly implemented.
- Events or transactions between the period end and the date of the auditor's report contradict management's point estimate.
- There are alternative sources of relevant data available to the auditor which can be used in developing a point estimate or a range.

²³ ISA 330, paragraph 8

- A88. Even where the entity's controls are well designed and properly implemented, developing a point estimate or a range may be an effective or efficient response to the assessed risks. In other situations, the auditor may consider this approach as part of determining whether further procedures are necessary and, if so, their nature and extent.
- A89. The approach taken by the auditor in developing either a point estimate or a range may vary based on what is considered most effective in the circumstances. For example, the auditor may initially develop a preliminary point estimate, and then assess its sensitivity to changes in assumptions to ascertain a range with which to evaluate management's point estimate. Alternatively, the auditor may begin by developing a range for purposes of determining, where possible, a point estimate.
- A90. The ability of the auditor to develop a point estimate, as opposed to a range, depends on several factors, including the model used, the nature and extent of data available and the estimation uncertainty involved with the accounting estimate. Further, the decision to develop a point estimate or range may be influenced by the applicable financial reporting framework, which may prescribe the point estimate that is to be used after consideration of the alternative outcomes and assumptions, or prescribe a specific measurement method (for example, the use of a discounted probability-weighted expected value).
- A91. The auditor may develop a point estimate or a range in a number of ways, for example, by:
- Using a model, for example, one that is commercially available for use in a particular sector or industry, or a proprietary or auditor-developed model.
 - Further developing management's consideration of alternative assumptions or outcomes, for example, by introducing a different set of assumptions.
 - Employing or engaging a person with specialized expertise to develop or execute the model, or to provide relevant assumptions.
 - Making reference to other comparable conditions, transactions or events, or, where relevant, markets for comparable assets or liabilities.

Understanding Management's Assumptions or Method (Ref: Para. 13(d)(i))

- A92. When the auditor develops a point estimate or a range and uses assumptions or a method different from those used by management, paragraph 13(d)(i) requires the auditor to obtain a sufficient understanding of the assumptions or method used by management in making the accounting estimate. This understanding provides the auditor with information that may be relevant to the auditor's development of an appropriate point estimate or range. Further, it assists the auditor to understand and evaluate any significant differences from management's point estimate. For example, a difference may arise because the auditor used different, but equally valid, assumptions as compared with those used by management. This may reveal that the accounting estimate is highly sensitive to certain assumptions and therefore subject to high estimation uncertainty, indicating that the accounting estimate may be a significant risk. Alternatively, a difference may arise as a result of a factual error made by management. Depending on the circumstances, the auditor may find it helpful in drawing conclusions to discuss with management the basis for the assumptions used and their validity, and the difference, if any, in the approach taken to making the accounting estimate.

Narrowing a Range (Ref: Para. 13(d)(ii))

A93. When the auditor concludes that it is appropriate to use a range to evaluate the reasonableness of management's point estimate (the auditor's range), paragraph 13(d)(ii) requires that range to encompass all "reasonable outcomes" rather than all possible outcomes. The range cannot be one that comprises all possible outcomes if it is to be useful, as such a range would be too wide to be effective for purposes of the audit. The auditor's range is useful and effective when it is sufficiently narrow to enable the auditor to conclude whether the accounting estimate is misstated.

A94. Ordinarily, a range that has been narrowed to be equal to or less than performance materiality is adequate for the purposes of evaluating the reasonableness of management's point estimate. However, particularly in certain industries, it may not be possible to narrow the range to below such an amount. This does not necessarily preclude recognition of the accounting estimate. It may indicate, however, that the estimation uncertainty associated with the accounting estimate is such that it gives rise to a significant risk. Additional responses to significant risks are described in paragraphs A102–A115.

A95. Narrowing the range to a position where all outcomes within the range are considered reasonable may be achieved by:

- (a) Eliminating from the range those outcomes at the extremities of the range judged by the auditor to be unlikely to occur; and
- (b) Continuing to narrow the range, based on audit evidence available, until the auditor concludes that all outcomes within the range are considered reasonable. In some rare cases, the auditor may be able to narrow the range until the audit evidence indicates a point estimate.

Considerations Specific to Public Sector Entities

A101A. Public sector auditor's consideration of the need for specialized skills may be particularly relevant in relation to estimates such as those for:

- Social insurance programs;
- Government employee pension plans; and
- Veterans' compensation programs.

Further Substantive Procedures to Respond to Significant Risks (Ref: Para. 15)***Estimation Uncertainty***

Management's Consideration of Estimation Uncertainty (Ref: Para. 15(a))

A103. Management may evaluate alternative assumptions or outcomes of the accounting estimates through a number of methods, depending on the circumstances. One possible method used by management is to undertake a sensitivity analysis. This might involve determining how the monetary amount of an accounting estimate varies with different assumptions. Even for accounting estimates measured at fair value there can be variation because different market participants will use different assumptions. A sensitivity analysis could lead to the development of a number of outcome scenarios, sometimes characterized as a range of outcomes by management, such as "pessimistic" and "optimistic" scenarios.

A104. A sensitivity analysis may demonstrate that an accounting estimate is not sensitive to changes in particular assumptions. Alternatively, it may demonstrate that the accounting estimate is sensitive to one or more assumptions that then become the focus of the auditor's attention.

A105. This is not intended to suggest that one particular method of addressing estimation uncertainty (such as sensitivity analysis) is more suitable than another, or that management's consideration of alternative assumptions or outcomes needs to be conducted through a detailed process supported by extensive documentation. Rather, it is whether management has assessed how estimation uncertainty may affect the accounting estimate that is important, not the specific manner in which it is done. Accordingly, where management has not considered alternative assumptions or outcomes, it may be necessary for the auditor to discuss with management, and request support for, how it has addressed the effects of estimation uncertainty on the accounting estimate.

Considerations specific to smaller entities

A106. Smaller entities may use simple means to assess the estimation uncertainty. In addition to the auditor's review of available documentation, the auditor may obtain other audit evidence of management consideration of alternative assumptions or outcomes by inquiry of management. In addition, management may not have the expertise to consider alternative outcomes or otherwise address the estimation uncertainty of the accounting estimate. In such cases, the auditor may explain to management the process or the different methods available for doing so, and the documentation thereof. This would not, however, change the responsibilities of management for the preparation of the financial statements.

Significant Assumptions (Ref: Para. 15(b))

A107. An assumption used in making an accounting estimate may be deemed to be significant if a reasonable variation in the assumption would materially affect the measurement of the accounting estimate.

A108. Support for significant assumptions derived from management's knowledge may be obtained from management's continuing processes of strategic analysis and risk management. Even without formal established processes, such as may be the case in smaller entities, the auditor may be able to evaluate the assumptions through inquiries of and discussions with management, along with other audit procedures in order to obtain sufficient appropriate audit evidence.

A109. The auditor's considerations in evaluating assumptions made by management are described in paragraphs A77–A83.

Management Intent and Ability (Ref: Para. 15(c))

A110. The auditor's considerations in relation to assumptions made by management and management's intent and ability are described in paragraphs A13 and A80.

Development of a Range (Ref: Para. 16)

A111. In preparing the financial statements, management may be satisfied that it has adequately addressed the effects of estimation uncertainty on the accounting estimates that give rise to significant risks. In some circumstances, however, the auditor may view the efforts of management as inadequate. This may be the case, for example, where, in the auditor's judgment:

- Sufficient appropriate audit evidence could not be obtained through the auditor's evaluation of how management has addressed the effects of estimation uncertainty.
- It is necessary to explore further the degree of estimation uncertainty associated with an accounting estimate, for example, where the auditor is aware of wide variation in outcomes for similar accounting estimates in similar circumstances.
- It is unlikely that other audit evidence can be obtained, for example, through the review of events occurring up to the date of the auditor's report.
- Indicators of management bias in the making of accounting estimates may exist.

A112. The auditor's considerations in determining a range for this purpose are described in paragraphs A87–A95.

Recognition and Measurement Criteria

Recognition of the Accounting Estimates in the Financial Statements (Ref: Para. 12(c))

A113. Where management has recognized an accounting estimate in the financial statements, the focus of the auditor's evaluation is on whether the measurement of the accounting estimate is sufficiently reliable to meet the recognition criteria of the applicable financial reporting framework.

A114. With respect to accounting estimates that have not been recognized, the focus of the auditor's evaluation is on whether the recognition criteria of the applicable financial reporting framework have in fact been met. Even where an accounting estimate has not been recognized, and the auditor concludes that this treatment is appropriate, there may be a need for disclosure of the circumstances in the notes to the financial statements. Where applicable, the auditor may also determine that an accounting estimate that has been identified as having a high estimation uncertainty is a key audit matter to be communicated in the auditor's report in accordance with ISA 701,²⁴ or may consider it necessary to include an Emphasis of Matter paragraph in the auditor's report (see ISA 706 (Revised)).²⁵ If the matter is determined to be a key audit matter, ISA 706 (Revised) prohibits the auditor from including an Emphasis of Matter paragraph in the auditor's report.²⁶

Measurement Basis for the Accounting Estimates (Ref: Para. 17(b))

A115. With respect to fair value accounting estimates, some financial reporting frameworks presume that fair value can be measured reliably as a prerequisite to either requiring or permitting fair value measurements and disclosures. In some cases, this presumption may be overcome when, for example, there is no appropriate method or basis for measurement. In such cases, the focus of the auditor's evaluation is on whether management's basis for overcoming the presumption relating to the use of fair value set forth under the applicable financial reporting framework is appropriate.

²⁴ ISA 701, *Communicating Key Audit Matters in the Independent Auditor's Report*

²⁵ ISA 706 (Revised), *Emphasis of Matter Paragraphs and Other Matter Paragraphs in the Independent Auditor's Report*

²⁶ ISA 706 (Revised), paragraph 8(b)

Evaluating the Reasonableness of the Accounting Estimates, and Determining Misstatements

(Ref: Para. 18)

A116. Based on the audit evidence obtained, the auditor may conclude that the evidence points to an accounting estimate that differs from management's point estimate. Where the audit evidence supports a point estimate, the difference between the auditor's point estimate and management's point estimate constitutes a misstatement. Where the auditor has concluded that using the auditor's range provides sufficient appropriate audit evidence, a management point estimate that lies outside the auditor's range would not be supported by audit evidence. In such cases, the misstatement is no less than the difference between management's point estimate and the nearest point of the auditor's range.

A117. Where management has changed an accounting estimate, or the method in making it, from the prior period based on a subjective assessment that there has been a change in circumstances, the auditor may conclude based on the audit evidence that the accounting estimate is misstated as a result of an arbitrary change by management, or may regard it as an indicator of possible management bias (see paragraphs A124–A125).

A118. ISA 450²⁷ provides guidance on distinguishing misstatements for purposes of the auditor's evaluation of the effect of uncorrected misstatements on the financial statements. In relation to accounting estimates, a misstatement, whether caused by fraud or error, may arise as a result of:

- Misstatements about which there is no doubt (factual misstatements).
- Differences arising from management's judgments concerning accounting estimates that the auditor considers unreasonable, or the selection or application of accounting policies that the auditor considers inappropriate (judgmental misstatements).
- The auditor's best estimate of misstatements in populations, involving the projection of misstatements identified in audit samples to the entire populations from which the samples were drawn (projected misstatements).

In some cases involving accounting estimates, a misstatement could arise as a result of a combination of these circumstances, making separate identification difficult or impossible.

A119. Evaluating the reasonableness of accounting estimates and related disclosures included in the notes to the financial statements, whether required by the applicable financial reporting framework or disclosed voluntarily, involves essentially the same types of considerations applied when auditing an accounting estimate recognized in the financial statements.

Disclosures Related to Accounting Estimates

Disclosures in Accordance with the Applicable Financial Reporting Framework (Ref: Para. 19)

A120. The presentation of financial statements in accordance with the applicable financial reporting framework includes adequate disclosure of material matters. The applicable financial reporting framework may permit, or prescribe, disclosures related to accounting estimates, and some entities may disclose voluntarily additional information in the notes to the financial statements. These disclosures may include, for example:

- The assumptions used.

²⁷ ISA 450, *Evaluation of Misstatements Identified during the Audit*

- The method of estimation used, including any applicable model.
- The basis for the selection of the method of estimation.
- The effect of any changes to the method of estimation from the prior period.
- The sources and implications of estimation uncertainty.

Such disclosures are relevant to users in understanding the accounting estimates recognized or disclosed in the financial statements, and sufficient appropriate audit evidence needs to be obtained about whether the disclosures are in accordance with the requirements of the applicable financial reporting framework.

A121. In some cases, the applicable financial reporting framework may require specific disclosures regarding uncertainties. For example, some financial reporting frameworks prescribe:

- The disclosure of key assumptions and other sources of estimation uncertainty that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities. Such requirements may be described using terms such as “Key Sources of Estimation Uncertainty” or “Critical Accounting Estimates.”
- The disclosure of the range of possible outcomes, and the assumptions used in determining the range.
- The disclosure of information regarding the significance of fair value accounting estimates to the entity’s financial position and performance.
- Qualitative disclosures such as the exposures to risk and how they arise, the entity’s objectives, policies and procedures for managing the risk and the methods used to measure the risk and any changes from the previous period of these qualitative concepts.
- Quantitative disclosures such as the extent to which the entity is exposed to risk, based on information provided internally to the entity’s key management personnel, including credit risk, liquidity risk and market risk.

Disclosures of Estimation Uncertainty for Accounting Estimates that Give Rise to Significant Risks (Ref: Para. 20)

A122. In relation to accounting estimates having significant risk, even where the disclosures are in accordance with the applicable financial reporting framework, the auditor may conclude that the disclosure of estimation uncertainty is inadequate in light of the circumstances and facts involved. The auditor’s evaluation of the adequacy of disclosure of estimation uncertainty increases in importance the greater the range of possible outcomes of the accounting estimate is in relation to materiality (see related discussion in paragraph A94).

A123. In some cases, the auditor may consider it appropriate to encourage management to describe, in the notes to the financial statements, the circumstances relating to the estimation uncertainty. It may be the case that the auditor’s consideration of the adequacy of disclosures regarding estimation uncertainty is a matter that required significant auditor attention. In such cases, ISA 701 contains requirements and application material regarding the communication of key audit matters in the auditor’s report. ISA 705 (Revised)²⁸ provides guidance on the implications for the auditor’s opinion

²⁸ ISA 705 (Revised), *Modifications to the Opinion in the Independent Auditor’s Report*

when the auditor believes that management's disclosure of estimation uncertainty in the financial statements is inadequate or misleading.

Indicators of Possible Management Bias (Ref: Para. 21)

A124. During the audit, the auditor may become aware of judgments and decisions made by management which give rise to indicators of possible management bias. Such indicators may affect the auditor's conclusion as to whether the auditor's risk assessment and related responses remain appropriate, and the auditor may need to consider the implications for the rest of the audit. Further, they may affect the auditor's evaluation of whether the financial statements as a whole are free from material misstatement, as discussed in ISA 700 (Revised).²⁹

A125. Examples of indicators of possible management bias with respect to accounting estimates include:

- Changes in an accounting estimate, or the method for making it, where management has made a subjective assessment that there has been a change in circumstances.
- Use of an entity's own assumptions for fair value accounting estimates when they are inconsistent with observable marketplace assumptions.
- Selection or construction of significant assumptions that yield a point estimate favorable for management objectives.
- Selection of a point estimate that may indicate a pattern of optimism or pessimism.

Considerations Specific to Public Sector Entities

A125A. Reasons for possible bias that may be specific to the public sector may include:

- Strong political motives;
- Changing or unstable political environment;
- Increased public expectations;
- Higher than normal expectations to meet budget;
- Reduction in budgets without corresponding reduction in service delivery expectations;
- Public and private partnerships; and
- Tolerance of errors in financial information.

A125B. Public sector auditors operating in some environments, such as a Court of Accounts environment, may have additional responsibilities related to when they determine an intention by management to mislead. Such responsibilities often include identifying the individual(s) responsible for such actions and to recommend the filing of the appropriate civil and criminal charges against them.

Written Representations (Ref: Para. 22)

A126. ISA 580³⁰ discusses the use of written representations. Depending on the nature, materiality and extent of estimation uncertainty, written representations about accounting estimates recognized or disclosed in the financial statements may include representations:

²⁹ ISA 700 (Revised), *Forming an Opinion and Reporting on Financial Statements*

³⁰ ISA 580, *Written Representations*

- About the appropriateness of the measurement processes, including related assumptions and models, used by management in determining accounting estimates in the context of the applicable financial reporting framework, and the consistency in application of the processes.
- That the assumptions appropriately reflect management's intent and ability to carry out specific courses of action on behalf of the entity, where relevant to the accounting estimates and disclosures.
- That disclosures related to accounting estimates are complete and appropriate under the applicable financial reporting framework.
- That no subsequent event requires adjustment to the accounting estimates and disclosures included in the financial statements.

A127. For those accounting estimates not recognized or disclosed in the financial statements, written representations may also include representations about:

- The appropriateness of the basis used by management for determining that the recognition or disclosure criteria of the applicable financial reporting framework have not been met (see paragraph A114).
- The appropriateness of the basis used by management to overcome the presumption relating to the use of fair value set forth under the entity's applicable financial reporting framework, for those accounting estimates not measured or disclosed at fair value (see paragraph A115).

Communication with Those Charged With Governance (Ref: Para 22A)

A127A. In addition to the matters required to be communicated to those charged with governance under ISA 260 (Revised), other matters specific to the accounting estimates that may need to be communicated to those charged with governance are:

- (a) The nature and consequences of significant assumptions used in accounting estimates and the degree of subjectivity involved in the development of the assumptions;
- (b) The relative materiality of the accounting estimates to the financial statements as a whole;
- (c) Management's understanding (or lack thereof) regarding the nature and extent of, and the risks associated with, accounting estimates, particularly financial instruments;
- (d) Significant deficiencies in the internal control or risk management systems that are relevant to accounting estimates;
- (e) Significant difficulties encountered when obtaining sufficient appropriate audit evidence relating to data obtained from an external data source or valuations performed by management or a management's expert;
- (f) Significant differences in judgments between the auditor and management or a management's expert regarding valuations;
- (g) The auditor's views about differences between the auditor's point estimate or range and management's point estimate;
- (h) The auditor's views about the appropriateness of the selection of accounting policies and presentation of accounting estimates in the financial statements;

- (i) The auditor's views about the qualitative aspects of the entity's accounting practices and financial reporting for accounting estimates;
- (j) The potential effects on the entity's financial statements of material risks and exposures required to be disclosed in the financial statements, including the estimation uncertainty associated with accounting estimates;

A127B. In addition to communicating with those charged with governance, the auditor may be permitted or required to communicate directly with regulators or prudential supervisors, in addition to those charged with governance. Such communication may be useful throughout the audit or at particular stages, such as when planning the audit or when finalizing the auditor's report. For example, in some jurisdictions, financial institution regulators seek to cooperate with auditors to share information about the operation and application of controls over financial instrument activities, challenges in valuing financial instruments in inactive markets, expected credit losses, and insurance reserves while other regulators may seek to understand the auditor's views on significant aspects of the entity's operations including the entity's costs estimates. This coordination may be helpful to the auditor in identifying risks of material misstatement.

Documentation (Ref: Para. 23)

A128. Documentation assists the auditor in demonstrating how and where the auditor has exercised professional skepticism. For example:

- (a) Documentation of indicators of possible management bias identified during the audit assists the auditor in concluding whether the auditor's risk assessment and related responses remain appropriate, and in evaluating whether the financial statements as a whole are free from material misstatement. See paragraph A125 for examples of indicators of possible management bias; and
- (b) Documentation of the basis for the auditor's conclusions regarding contradictory audit evidence can show how the auditor weighed the relevant audit evidence and the additional procedures performed, if any, to come to a conclusion.

Appendix

(Ref: Para. A1)

Fair Value Measurements and Disclosures under Different Financial Reporting Frameworks

The purpose of this appendix is only to provide a general discussion of fair value measurements and disclosures under different financial reporting frameworks, for background and context.

1. Different financial reporting frameworks require or permit a variety of fair value measurements and disclosures in financial statements. They also vary in the level of guidance that they provide on the basis for measuring assets and liabilities or the related disclosures. Some financial reporting frameworks give prescriptive guidance, others give general guidance, and some give no guidance at all. In addition, certain industry-specific measurement and disclosure practices for fair values also exist.
2. Definitions of fair value may differ among financial reporting frameworks, or for different assets, liabilities or disclosures within a particular framework. For example, International Accounting Standard (IAS) 39¹ defines fair value as “the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s length transaction.” The concept of fair value ordinarily assumes a current transaction, rather than settlement at some past or future date. Accordingly, the process of measuring fair value would be a search for the estimated price at which that transaction would occur. Additionally, different financial reporting frameworks may use such terms as “entity-specific value,” “value in use,” or similar terms, but may still fall within the concept of fair value in this ISA.
3. Financial reporting frameworks may treat changes in fair value measurements that occur over time in different ways. For example, a particular financial reporting framework may require that changes in fair value measurements of certain assets or liabilities be reflected directly in equity, while such changes might be reflected in income under another framework. In some frameworks, the determination of whether to use fair value accounting or how it is applied is influenced by management’s intent to carry out certain courses of action with respect to the specific asset or liability.
4. Different financial reporting frameworks may require certain specific fair value measurements and disclosures in financial statements and prescribe or permit them in varying degrees. The financial reporting frameworks may:
 - Prescribe measurement, presentation and disclosure requirements for certain information included in the financial statements or for information disclosed in notes to financial statements or presented as supplementary information;
 - Permit certain measurements using fair values at the option of an entity or only when certain criteria have been met;
 - Prescribe a specific method for determining fair value, for example, through the use of an independent appraisal or specified ways of using discounted cash flows;

¹ IAS 39, *Financial Instruments: Recognition and Measurement*

- Permit a choice of method for determining fair value from among several alternative methods (the criteria for selection may or may not be provided by the financial reporting framework); or
 - Provide no guidance on the fair value measurements or disclosures of fair value other than their use being evident through custom or practice, for example, an industry practice.
5. Some financial reporting frameworks presume that fair value can be measured reliably for assets or liabilities as a prerequisite to either requiring or permitting fair value measurements or disclosures. In some cases, this presumption may be overcome when an asset or liability does not have a quoted market price in an active market and for which other methods of reasonably estimating fair value are clearly inappropriate or unworkable. Some financial reporting frameworks may specify a fair value hierarchy that distinguishes inputs for use in arriving at fair values ranging from those that involve clearly “observable inputs” based on quoted prices and active markets and those “unobservable inputs” that involve an entity’s own judgments about assumptions that marketplace participants would use.
 6. Some financial reporting frameworks require certain specified adjustments or modifications to valuation information, or other considerations unique to a particular asset or liability. For example, accounting for investment properties may require adjustments to be made to an appraised market value, such as adjustments for estimated closing costs on sale, adjustments related to the property’s condition and location, and other matters. Similarly, if the market for a particular asset is not an active market, published price quotations may have to be adjusted or modified to arrive at a more suitable measure of fair value. For example, quoted market prices may not be indicative of fair value if there is infrequent activity in the market, the market is not well established, or small volumes of units are traded relative to the aggregate number of trading units in existence. Accordingly, such market prices may have to be adjusted or modified. Alternative sources of market information may be needed to make such adjustments or modifications. Further, in some cases, collateral assigned (for example, when collateral is assigned for certain types of investment in debt) may need to be considered in determining the fair value or possible impairment of an asset or liability.
 7. In most financial reporting frameworks, underlying the concept of fair value measurements is a presumption that the entity is a going concern without any intention or need to liquidate, curtail materially the scale of its operations, or undertake a transaction on adverse terms. Therefore, in this case, fair value would not be the amount that an entity would receive or pay in a forced transaction, involuntary liquidation, or distress sale. On the other hand, general economic conditions or economic conditions specific to certain industries may cause illiquidity in the marketplace and require fair values to be predicated upon depressed prices, potentially significantly depressed prices. An entity, however, may need to take its current economic or operating situation into account in determining the fair values of its assets and liabilities if prescribed or permitted to do so by its financial reporting framework and such framework may or may not specify how that is done. For example, management’s plan to dispose of an asset on an accelerated basis to meet specific business objectives may be relevant to the determination of the fair value of that asset.

Prevalence of Fair Value Measurements

8. Measurements and disclosures based on fair value are becoming increasingly prevalent in financial reporting frameworks. Fair values may occur in, and affect the determination of, financial statements in a number of ways, including the measurement at fair value of the following:

- Specific assets or liabilities, such as marketable securities or liabilities to settle an obligation under a financial instrument, routinely or periodically “marked-to-market.”
- Specific components of equity, for example when accounting for the recognition, measurement and presentation of certain financial instruments with equity features, such as a bond convertible by the holder into common shares of the issuer.
- Specific assets or liabilities acquired in a business combination. For example, the initial determination of goodwill arising on the purchase of an entity in a business combination usually is based on the fair value measurement of the identifiable assets and liabilities acquired and the fair value of the consideration given.
- Specific assets or liabilities adjusted to fair value on a one-time basis. Some financial reporting frameworks may require the use of a fair value measurement to quantify an adjustment to an asset or a group of assets as part of an asset impairment determination, for example, a test of impairment of goodwill acquired in a business combination based on the fair value of a defined operating entity or reporting unit, the value of which is then allocated among the entity's or unit's group of assets and liabilities in order to derive an implied goodwill for comparison to the recorded goodwill.
- Aggregations of assets and liabilities. In some circumstances, the measurement of a class or group of assets or liabilities calls for an aggregation of fair values of some of the individual assets or liabilities in such class or group. For example, under an entity's applicable financial reporting framework, the measurement of a diversified loan portfolio might be determined based on the fair value of some categories of loans comprising the portfolio.
- Information disclosed in notes to financial statements or presented as supplementary information, but not recognized in the financial statements.