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])

Introduction

Scope of this ISA

1. This International Standard on Auditing (ISA) deals with the auditor's responsibilities relating to accounting estimates and related disclosures in an audit of financial statements. Specifically, it expands on how ISA 315 (Revised),[1] ISA 330,[2] ISA 500[3] 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 precisely. For purposes of this ISA, such financial statement items are referred to as accounting estimates. Accounting estimates vary widely in nature, and may be affected by complexity in making the accounting estimate, the use of judgment by management in making the accounting estimate, and estimation uncertainty. The extent to which the accounting estimate is subject to, or affected by, the factors of complexity, judgment and estimation uncertainty affects the auditor's assessment of the risks of material misstatement related to the accounting estimates. Accordingly, this ISA requires that the nature, timing, and extent of audit procedures, in responding to the assessed risks of material misstatement, address the reasons for the auditor's assessment, that is be responsive to the factors present in making an accounting estimate, recognizing that the higher the risk the more persuasive the audit evidence required (Ref: Para. A1–A10)

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. For example, for fair value accounting estimates 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, and this is also true for other types of accounting estimates.*[Note: Application material will be added here to introduce and further clarify in this section the concepts of complexity, judgment and estimation uncertainty, and how they relate to the risk assessment and the work effort.]*

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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*

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. A11A)

   (b) Auditor's point estimate or auditor's range – An amount, or range of amounts developed by the auditor in evaluating management's point estimate. (Ref: Para. A11B)

   (c) Estimation uncertainty – The susceptibility of an accounting estimate to an inherent lack of precision in its measurement. (Ref: Para. A11C)

   (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. (Ref: Para A11D)

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 as required by ISA 315 (Revised),[4] the auditor shall obtain an understanding of the following: (Ref: Para. A12)

   (a) The requirements of the applicable financial reporting framework relevant to accounting estimates, including the recognition criteria, measurement bases and the related presentation and disclosure requirements. (Ref: Para. A13–A15)

   (b) How management identifies those transactions, events and conditions that may give rise to the need for accounting estimates to be recognized or disclosed in the financial statements. In obtaining this understanding, the auditor shall make

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

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)

(bA) 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 the exercise of judgment needed to make the accounting estimates. (Ref: Para. A21A–A21B)

(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; (Ref: Para. A23A–A26)

(iA) The data on which the accounting estimates are based, including whether data has been obtained from external sources, how management evaluates the relevance and reliability of those sources and the processes applied in obtaining the data; (Ref: Para. A26A–A26D)

(ii) The assumptions used to make the accounting estimates, including whether assumptions have been developed 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 the extent to which management has evaluated which data and assumptions the accounting estimate is particularly sensitive to 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)

(d) Each of the components of internal control relating to accounting estimates (Ref: Para. A38C–A38R)

9. The auditor shall review the outcome or re-estimation of previous accounting estimates to the extent that doing so will assist in identifying and assessing the risks of material misstatement in the current period. The nature and extent of the auditor's review takes into account the characteristics of the accounting estimates. However, the review is not intended to call into question, based on information that was not available at the time, the judgments made at the time the previous accounting estimates were made. (Ref: Para. A38S–A44)

9A. The auditor shall, in the course of obtaining an understanding of the accounting estimates, consider whether specialized skills or knowledge are required, in order to perform the risk assessment procedures and related activities. (Ref: Para. A44A-A44F)

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 of material misstatement

identified are, in the auditor's judgment, significant risks. In identifying and assessing risks of material misstatements in relation to an accounting estimate, the auditor shall take into account the extent to which the accounting estimate is subject to, or affected by the following factors: (Ref: Para. A44G–A44M)

(a) Complexity in making the accounting estimate, including:

(i) The extent to which the method used to make an accounting estimate involves the use of complex models; or (Ref: Para. A44ND)

(ii) The difficulty in obtaining relevant and reliable data, including internal data from sources outside the general and subsidiary ledgers and data from external sources. (Ref: Para. A44O)

(b) The use of judgment by management in making the accounting estimate, including in the selection of appropriate methods, assumptions and sources of relevant and reliable data, and the interpretation of data; or (Ref: Para. A44P–A44Q)

(c) Estimation uncertainty, including the sensitivity of the accounting estimate to the use of particular data, assumptions and methods; (Ref: Para. A44R–A49A)

(d) Other relevant factors (Ref: Para A49B).

Responses to the Assessed Risks of Material Misstatement

11A. In responding to the assessed risks of material misstatement in accordance with paragraphs 13–13D, the auditor shall consider whether specialized skills or knowledge are required in order to obtain sufficient appropriate audit evidence. (Ref: Para. A44A–A44F)

13. In applying ISA 330, the auditor is required to design and perform further audit procedures to respond to the assessed risks of material misstatement, including significant risks, at the assertion level. In doing so with respect to accounting estimates: (Ref: Para. A52–A52B)

(a) If the assessed risk of material misstatement is low without regard to relevant controls, the auditor shall consider whether a procedure directed to the estimate overall would provide sufficient appropriate audit evidence regarding the assessed risk of material misstatement in the circumstances; or (Ref: Para. A58C–A58G)

(b) If the assessed risk of material misstatement is not low, or is low based on an expectation that relevant controls are operating effectively, the auditor shall perform procedures in accordance with paragraphs 13A–13C, as applicable. Such procedures shall address the reasons for the assessment given to the risk of material misstatement in accordance with paragraph 10, recognizing that the higher the assessed risk the more persuasive the audit evidence needed. If the assessed risk is low because of controls, the procedures shall include tests of those controls designed to obtain audit evidence about the matters in paragraphs 13A–13C. (Ref: Para. A58H–A58L)

13A. When required by paragraph 13(b) and when the reasons for the assessment given to the risk of material misstatement include complexity in making the accounting estimate, the auditor shall design and perform further audit procedures to address the matters below, as applicable:

(a) Whether the method (including, when applicable, a complex model) is appropriate, including: (Ref: Para. A58Ha)

(i) Whether data (and other information used to develop assumptions) to which the accounting estimate is particularly sensitive is relevant, reliable, accurate and complete. This includes both internal data from sources outside the general and subsidiary ledgers and data from external sources; (Ref: Para. A58Hb, A76–A83)

(ii) Whether the method (including a complex model) is mathematically sound;

(b) When the entity uses a complex IT system to deal with a complex accounting estimation process, the risks arising from the complex IT system;

13B. When required by paragraph 13(b) and when the reasons for the assessment given to the risk of material misstatement include management's judgment in making the accounting estimate, the auditor shall design and perform further audit procedures to address the matters below, as applicable:

(a) Whether assumptions and data sources to which the accounting estimate is particularly sensitive are appropriate in the context of the measurement objectives and other requirements of the applicable financial reporting framework. This includes, when applicable, whether:

(i) Management's selection of methods, assumptions and data (including external information sources) are indicators of possible management bias; (Ref: Para A122L-A125)

(ii) Management considered alternatives to those assumptions and whether the assumptions are consistent with each other. (Ref: Para. A76A–A79, A81–A83, A107–A109);

(iia) Management's judgments, which are acceptable under the applicable financial reporting framework, are appropriate in the particular circumstances of the entity; (Ref: Para. A127A–A127B)

(iii) Changes in methods, assumptions and data sources from the prior period are appropriate (Ref: Para. A49A, A122H–A122K);

(b) When relevant to the appropriateness of the assumptions to which the accounting estimate is particularly sensitive or the appropriate application of the applicable financial reporting framework, the auditor shall also evaluate management's intent to carry out specific courses of action and its ability to do so (Ref: Para. A80, A110);

(c) When management uses a complex model (see also paragraph 13A(a)), whether the complex model has been applied consistently and whether, when applicable: (Ref: Para. A74–A76)

(i) Changes, if any, from the previous period's model are appropriate in the circumstances;

(ii) Adjustments, if any, to the output of the model are consistent with the measurement objective of the applicable financial reporting framework (Ref: Para. A76); and

(iii) The selection of valuation technique, assumptions or data meets the measurement objective of the applicable financial reporting framework and is appropriate in the circumstances;

13C. When required by paragraph 13(b) and when the reasons for the assessment given to the risk of material misstatement include estimation uncertainty, the auditor shall design and perform further audit procedures to address the matters below, as applicable: (Ref: Para. A58I, A103–A106)

(a) Whether, in the context of the applicable financial reporting framework, the steps, if any, management has taken appropriate steps to understand and has adequately addressed the effect of estimation uncertainty.

(b) The extent to which the accounting estimate is sensitive to the use of particular data, assumptions, and methods;

(c) Whether management's point estimate or range (or an element thereof) is reasonable. When, in the auditor's judgment, management has not adequately addressed the effect of estimation uncertainty, the auditor shall develop a point estimate or range, using appropriate methods, data and assumptions, to evaluate management's point estimate. 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. The auditor shall evaluate the range of reasonable outcomes in the context of the requirements of the applicable financial reporting framework (Ref: Para A58J–A58O, A87–A92, A93–A95)

(d) Whether the disclosures in the financial statements that describe the estimation uncertainty are reasonable in the context of the applicable financial reporting framework (Ref: Para. A58P–A58Q, A120–A121A)

Disclosures Related to Accounting Estimates

13D. The auditor shall obtain sufficient appropriate audit evidence to evaluate whether the accounting estimates have been appropriately disclosed in accordance with the requirements of the applicable financial reporting framework; and. (Ref: Para. A120–A121A)

(a) In the case of a fair presentation framework, shall evaluate whether it is necessary for management to provide disclosures beyond those specifically required by the framework to achieve the fair presentation of the financial statements as a whole, or

(b) In the case of a compliance framework, shall evaluate whether the disclosures are appropriate for the financial statements not to be misleading.

Overall Evaluation Based on Audit Procedures Performed

13E. Based on performing the audit procedures in paragraphs 13–13E, as applicable, the auditor shall evaluate whether sufficient appropriate audit evidence has been obtained in respect of: (Ref: Para A121B-A121L)

(a) Whether management's decisions relating to the recognition, presentation and disclosure, or not, of the accounting estimates in the financial statements are in accordance with the requirements of the applicable financial reporting framework;

(b) Whether management's methods for making the accounting estimates have appropriately applied the requirements of the applicable financial reporting framework relevant to the accounting estimates, and have been applied consistently;

(c) The assessed risks of material misstatement related to accounting estimates for which procedures under paragraphs 13A-13C were required; and

(d) Whether the accounting estimates in the financial statements individually, or as a whole, are materially misstated, in the context of the applicable financial reporting framework (Ref: Para. A121M–A121P)

In evaluating the above matters, 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.

Indicators of Possible Management Bias

21. The auditor shall evaluate whether judgments and decisions made by management in making the accounting estimates included in the financial statements, even if they are individually reasonable, indicate a possible bias on the part of the entity's management that may represent a risk of material misstatement of the financial statements as a whole, including due to fraud. If so, the auditor shall reevaluate the accounting estimates taken as a whole; (Ref: Para. A121Q-A125)

Written Representations

22. The auditor shall obtain written representations from management and, where appropriate, those charged with governance that they believe the methods and significant data and assumptions used in making the accounting estimates and their related disclosures are reasonable. (Ref: Para. A126–A127)

Communication with Those Charged With Governance

22A. In communicating with those charged with governance significant findings from the audit, as required by ISA 260, the auditor shall consider the matters, if any, to communicate related to the extent to which the accounting estimates and their related disclosures are affected by, or subject to, estimation uncertainty, complexity, use of judgment, or other relevant factor. (Ref: Para. A127A–A127B)

Documentation

23. The audit documentation shall include:

(a) The basis for the auditor's conclusions about the reasonableness of accounting estimates and their disclosure; and

(b) Indicators of possible management bias, if any, and the auditor's evaluation thereof in forming their opinion on whether the financial statements as a whole are materially misstated. (Ref: Para. A128)

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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, component of equity or comprehensive income, 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.

A1A. Examples of situations where accounting estimates may be required include:

- Calculation of estimated credit losses.
- Inventory obsolescence.
- Warranty obligations.
- Depreciation method or asset useful life.
- Outcome of long term contracts.
- Costs arising from litigation settlements and judgments.
- Valuation of complex financial instruments, including those that are not traded in an active 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.

A1B. Estimation involves making 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.

A1C. The auditor is responsible for obtaining sufficient and appropriate audit evidence whether the accounting estimates recognized or disclosed, are reasonable. What is reasonable depends on the facts and circumstances. An accounting estimate may be reasonable when it is in accordance with the applicable financial reporting framework. For example, it may not be possible to measure reliably the expected proceeds from a lawsuit may and therefore should not be recognized as an asset or as income. However, the existence of the claim would be disclosed in the financial statements.

A1D. The difficulty of estimating a financial statement item is influenced by several factors but often relates to the complexity, judgment or estimation uncertainty involved in making the accounting estimate.

Complexity

A1E. The extent and nature of complexity originates from many sources such as the financial reporting framework, the nature of the entity's business, and the entity's organizational structure. Complexity may also arise from the information systems, methods and models used by management in making the accounting estimates and difficulty in obtaining relevant and reliable data because data is unobservable.

Judgment

A1F. The use of judgment in making accounting estimates is often required by the financial reporting framework due to uncertainties that are present when financial statement items cannot be measured precisely. The extent and nature of the judgments used in making the accounting estimates may create opportunity for bias in making decisions about the course of action that, according to management, is appropriate in making the accounting estimate. The judgments made by management are diverse and include, for example, the selection of assumptions models and data used to make the accounting estimates. The need for professional skepticism may increase with the greater judgment involved in making the accounting estimates.

Estimation Uncertainty

A1G. Sources that may influence estimation uncertainty include the volatility in jurisdictions or markets in which the entity is active or the requirements of the applicable financial reporting framework. 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. As estimation uncertainty cannot be lowered by control testing and performing substantive procedures, the disclosure of the estimation uncertainty in the financial statements is of importance to the users of the financial statements.

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.

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 judgment 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.

Definitions

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

A11A. 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. 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))

A11B. The auditor may develop a point estimate or range for the accounting estimate, a subset of the accounting estimate (for example, the credit loses 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))

A11C. Estimation uncertainty is the result of certain conditions, including:

- Measurement methods required or permitted by the applicable financial reporting framework
- Lack of access to information outside of the entity that affects the measurement of the estimate;
- Uncertainty about future events or conditions; and
- Limitations in data and analytical techniques, such as simplifying complex matters 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))

A11D. 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 at the reporting date because, 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 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;
- Determine whether any of those risks are significant risks or low risks; and
- 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,[5] 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 the point estimate selected be the alternative that reflects management's judgment of the most likely outcome.[6] 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 the accounting estimates are 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 How Management Identifies the Need for the

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5 Most financial reporting frameworks require incorporation in the statement of financial position or statement of 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.

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

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 the accounting estimates, 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:

- 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 estimates and re-estimating the accounting estimates 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 to 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.[7]

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 are subject to less complexity. Further, often a single person, for example the owner-manager, identifies the need to make the accounting estimates and the auditor may focus inquiries accordingly.

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

A21A. Obtaining an understanding of the nature of the accounting estimates may assist the auditor in understanding whether the accounting estimates are complex to make, require significant judgment or have high estimation uncertainty. For example, in order to make certain accounting estimates, management may use complex models, or the accounting estimates may be based on data that is not subject to the same level of control as data used to prepare financial statements. The accounting estimates may also involve a long forecast period, like some future cash flow predictions, and may therefore be susceptible to estimation uncertainty.

A21B. The auditor may obtain an understanding of the nature of the accounting estimates 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 estimates may also assist the auditor in understanding the nature and extent of disclosures that may be relevant to the accounting estimates and may provide the auditor with a basis for discussion with management about how management has made the accounting estimates. This understanding may also be useful for the auditor's determination of whether the accounting estimates have been made appropriately in accordance with the applicable financial reporting framework.

Obtaining an Understanding of How Management Makes 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 estimates.

[7] ISA 315 (Revised), paragraph 16

- Periodically reviewing the circumstances that give rise to the accounting estimates and re-estimating as necessary.

A23. Matters that the auditor may consider in obtaining an understanding of how management makes the accounting estimates 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 management's own model or an external model, for making an accounting estimate, management may put into place specific controls around such models, including any discrete parts of such models that are relevant to the audit. 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 a models that has many discrete parts, the complexity of the formulas and interrelationships within the model that may require specific expertise.

Depending on the nature of the model and the accounting estimate, 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 relevance and accuracy of the model;
- The validation of the model, including whether the model is validated prior to use and revalidated at regular intervals to determine whether it remains suitable for its intended use. The entity's validation process may include evaluation of;
    - o The model's theoretical soundness;
    - o The model's mathematical integrity;
    - o The accuracy and completeness of the model's data and assumptions;
    - o The consistency of the data and assumptions; and
    - o 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 extent the model uses relevant observable data and assumptions and unobservable data and assumptions;
- Whether adjustments, also referred to as overlays in certain industries, 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 performed and any adjustments made to the output of the model.

A26. There may be a risks of material misstatement that are not low risk, 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 subject no judgment as there is, when defined properly, no choice in how the technique is applied. For example, the weighted average of a series of values requires a calculation, but there is only one way to calculate the weighted average. 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. Data can come from a wide range of sources. For example, data can:

- Be generated internally or externally,
- Be historic or forward looking
- Come from systems in or outside the general or subsidiary ledgers
- Be based on a contractual or legal terms.

Understanding the source of the data may help the auditor in understanding the risks with respect to the data used to make the accounting estimate. Selecting data to use in an accounting estimate may require management's judgment about the relevance and reliability of the data, including the reputation of the source of the data.

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

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

A26D. When making an accounting estimate requires large volumes of data, management may have extensive information technology in place, and general information technology and application controls may be necessary. Such controls are directed towards

- The complete and accurate extraction of data from the entity's records or obtained from appropriate third parties; and
- The complete and accurate flow of data 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. Controls to maintain the integrity and security of the data are important.

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

A26E. Assumptions are integral components of accounting estimates and may include matters such as the choice of an interest rate, a discount rate, 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. Because different discount rates may be selected based on judgment, the discount rate is an assumption used in the accounting estimate.

A26G. It may not be clear whether a particular item represents data or an assumption. Data for one model could be considered an assumption for another model, or two auditors may come to different professional judgment as to whether an item is data or an assumption. 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 used to make the accounting estimates 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 across accounting estimates are consistent.
- How 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 relate 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 of assumptions 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.

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 range of reasonable assumptions may be large 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 may challenge whether management's assumptions about the marketplace are reasonable in light of economic circumstances.

Components of Internal Control Relating To Accounting Estimates (Ref: Para. 8(d))

The Control Environment Relevant To Making Accounting Estimates

A38C. 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.[8]

A38D. The nature and extent of the entity's internal control 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 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 obtain an understanding of the control environment applicable to those responsible for making these complex accounting estimates.

A38E. 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

A38F. Those charged with governance oversee the control environment set by management. How effective those charged with governance are in this role, with respect to accounting estimates, may be 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.
- 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
- Their independence from management and their ability to evaluate the actions of management.

A38G. Depending on the nature of an accounting estimate, the auditor may consider obtaining an understanding of the oversight of the accounting estimate, including any models used

[8] ISA 315 (Revised) paragraph A76

in its development, by those charged with governance, including:

- The process for oversight of accounting estimates by management and, if applicable, those charged with governance, whose design takes into account the complexity, judgment 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 measurement.

A38H. The oversight 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

A38I. In relation to accounting estimates, an entity's risk assessment process establishes how management identifies business risks relevant to financial reporting objectives, including how these objectives related to making the accounting estimates, 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 often directly related to the types of accounting estimates the entity makes and often the complexity of the business model.

A38J. With respect to making accounting estimates, the objective of the risk assessment processes is to assist management in:

- Understanding the requirements of the applicable financial reporting framework related to the accounting estimates;
- Selecting data sources that are relevant and reliable;
- Maintaining appropriate information systems;
- Having procedures in place to reduce or change risk exposure if necessary and for managing reputational risk; and
- Making accounting estimates with appropriate supervision and review.

The Entity's Information Systems

A38K.The Entity's information system consists of the procedures and records established to initiate, record, process and report entity transactions (as well as events and conditions) and to maintain accountability for the related assets, liabilities and equity. Difficulties can arise for accounting estimates that require large volumes of data, in particular if the data comes from multiple systems that are not adequately integrated or have manual interfaces without appropriate controls.

A38L. The sophistication of the information system may depend on the nature of the accounting estimate and the entity's business processes. For example, the use of an expected credit loss model, may require a large volume of data and therefore may require sophisticated information systems. 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 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;
- Diverse 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 not having 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 not considering the risks related to appropriately recording, processing, or accounting for data as management is still responsible for appropriately reconciling and challenging the data from those sources.

A38M. 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 systems for internal reporting and to generate data included in qualitative disclosures, for example regarding risks and uncertainties or sensitivity analyses.

The Control Activities

A38N. 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).

A38O. 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 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

A38P. Where an entity has an internal audit function, internal audit 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 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.

A38Q. Areas where the work of the internal audit function may be particularly relevant are:P

- Documenting an overview of the nature and extent of use of 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
- Evaluating whether new risks relating to accounting estimates are identified, assessed and managed.

Considerations Specific to Smaller Entities

A38R. ISA 315 (Revised)[9] includes specific considerations to smaller entities that the auditor might ind helpful in obtaining an understanding of the components of internal control that are relevant to making the accounting estimates.

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

A38S. A retrospective review may be useful to 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.

A38T. A retrospective review may be performed over accounting estimates made for prior period financial statements but also accounting estimates made in the current period, over several periods or a shorter period (such as half-yearly or quarterly). 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.

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 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 previous 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 previous 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.

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

A41. A retrospective review of management judgments and assumptions related to significant accounting estimates is also required by ISA 240[10] 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 as 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. 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.

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 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 previous 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.

Specialized Skills or Knowledge (Ref: Para. 9A, 11A)

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

A44A. In planning the audit, the auditor is required to ascertain the nature, timing and extent of resources necessary to perform the audit engagement.[11] 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[12] P During the course of the audit the auditor may identify the need for specialized skills or knowledge to be applied in relation to one or more aspects of the accounting estimates.

A44B. 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, insurance liabilities).
- The degree of estimation uncertainty.
- 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.
- The information technology used in making the accounting estimate.

A44C. 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, for most audits it is unlikely that specialized skills or knowledge would be necessary for an auditor to evaluate a warranty provision.

A44D. 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 620[13] 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.

A44E. 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 allowance for expected credit losses for an internationally active banking institution or the insurance liability for a life insurance entity. 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.

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[11] ISA 300, *Planning an Audit of Financial Statements*, paragraph 8(e)

[12] ISA 220, *Quality Control for an Audit of Financial Statements*, paragraph 14

[13] ISA 620, *Using the Work of an Auditor's Expert*

A44F. 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)

A44G. ISA 200 explains that the risk of material misstatement at the assertion level consists of two components: inherent risk and control risk, which can either be assessed separately or in combination. ISA 200 also explains that control risk is a function of the effectiveness of the design, implementation and maintenance of the entity's internal control by management. Obtaining an understanding of the entity's internal control assists the auditor in identifying areas of the financial statements that may be subject to potential misstatement and relevant risk factors that may give rise to potential risks of material misstatement related to accounting estimates. An understanding of the entity's internal control may be particularly important for accounting estimates that are complex to make.

A44H. The sources behind the factors (complexity, judgment and estimation uncertainty) that give rise to the risk of material misstatement 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 may require the use of a complex method) and judgment (as it may require 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.

A44I. Some accounting estimates may have a high risk of material misstatement because of a combination of estimation uncertainty, judgment, and complexity. 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 and judgments about future matters. Other accounting estimates may have a high risk of material misstatement because only on factor is present. For example, an obsolescence provision for inventory with a wide array of different inventory types may require complex systems and processes to make the accounting estimate but in making the accounting estimate little judgment is involved and the estimation uncertainty is low. Equally, other accounting estimates may not be complex to make but may have high estimation uncertainty and require significant judgments, for example, an accounting estimate that requires a single critical judgment such as a clearly identifiable, level 3 financial instrument or a legal contingency.

A44J. Examples of accounting estimates that may give rise to a low risk of material misstatement, include:

- Accounting estimates arising in entities that engage in business activities that are not complex or do not require significant judgment in making the accounting estimates. For example, the depreciation of a warehouse or the translation of foreign currency balance.

- Accounting estimates that are frequently made and updated because they relate to routine transactions.
- Accounting estimates based on data that is readily available, such as published interest rate or foreign exchange rate data or exchange-traded prices of securities.
- 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.
- 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.

A44K. For some accounting estimates, however, the estimation uncertainty, complexity, or judgment involved in making the accounting estimate is not low, 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 a financial institution that is active in different markets or a technical provision relating to an insurance contract.
- Estimates of development costs of a new medicine.
- Estimates relating to undeveloped mineral resources.
- Valuation of goodwill in a business combination

Significant Risks

A44L. Paragraph 28 of ISA 315 (Revised) and the related application material include factors that are required to be considered when identifying significant risks. 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.[14]

A44M. 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)[15] establishes requirements and provides guidance in such circumstances.

The Complexity in Making the Accounting Estimates

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

A44N. Risks of material misstatement related to the method used in making the accounting estimate may arise from various sources such as:

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[14] ISA 315 (Revised), paragraph 29

[15] ISA 570, (Revised), *Going Concern*

- 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 sophistication and integrity of the information systems. 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(a)(ii))

A44O. The risk of material misstatement related to the difficulty in obtaining relevant and reliable data 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 influences 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 in preparing the data. There may be a higher risk of incorrect modifications when data is aggregated, compressed, transformed or otherwise modified.
- 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.

Judgment (Ref: Para. 10(b))

A44P. 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:
  - o The method selected may not be in compliance with the applicable financial

reporting framework.

- o Management may be biased in the selection of a method, an assumption or data.
- o Management may select a data source that is not relevant and reliable.

- The applicable financial reporting framework may require significant judgment through, for example, a long forecast period.
- Management may lack the experience or competence to interpret data, to select appropriate methods and assumptions, 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.
- For example, the determination of cash inflow or outflow arising from commercial supplier or customer rebates may depend on very complex contractual terms which require specific expertise or competence.

A44Q. 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 that are based on complex legal or contractual terms for which no evidence of legal precedent is available.
- Accounting estimates with a long forecast period.

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

A44R. The risk of material misstatement related to estimation uncertainty may arise from various sources such as:

- The financial reporting framework, which may require:
  - o A method used to make the accounting estimates that inherently has a high level of estimation uncertainty. For example, the financial reporting framework may require the use of fair value accounting instead of historical costs.
  - o 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.
  - o 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. An entity may be active in a market that experiences turmoil, possible disruption (for example, from major currency movements or inactive markets) and the assumption may therefore be dependent on data that are hard to observe.

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.

Other Relevant Factors (Ref: Para. 10(d))

A49B. 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.

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

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.[16] 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. In this regard, accounting estimates vary widely in terms of complexity, judgment, 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 accounting estimate that is not subject to, or affected by, complexity, judgment, and estimation uncertainty do not drive the risk of material misstatement at the assertion level will vary significantly from those performed on a complex accounting estimate with high estimation uncertainty.

A52B. [Application material to be added to explain that, for significant risks, the auditor is required to understand the controls (ISA 315, paragraph 29) but is not required to test operating effectiveness unless one of the requirements of (ISA 330, paragraph 8) are triggered. If the auditor does decide to rely on controls over a significant risk, then the controls must be tested in the current period to comply with ISA 330, paragraph15)]

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

A58C. Paragraph A40 of ISA 200 states that the ISAs do not ordinarily refer to inherent risk and control risk separately. However, the auditor may make separate or combined assessments of inherent and control risk. Although this ISA neither implies nor requires a separate assessment of inherent and control risk, it highlights the importance of the auditor's consideration of both inherent and control risk in designing and performing further audit procedures to respond to the assessed risks of material misstatement, including significant risks, at the assertion level in accordance with ISA 330.

A58D. In designing the further audit procedures, ISA 330 requires the auditor to consider the reasons for the assessment given to the risk of material misstatement at the assertion level for each class of transactions, account balance, and disclosure, including the likelihood of material misstatement due to the particular characteristics of the relevant class of transactions, account balance or disclosure (that is, the inherent risk), and whether the risk assessment takes account of relevant controls (that is, control risk), thereby requiring the auditor to obtain audit evidence to determine whether the controls are operating effectively.

A58E In identifying the risks of material misstatement for accounting estimates, paragraph 10 requires the auditor to take into account the extent to which the estimate is subject to, or affected by, complexity or use of judgment by management in making the accounting estimate, estimation uncertainty, or other relevant factors (i.e., the reasons for the assessment given to the risk of material misstatement).

A58F. Accounting estimates, by their nature, will vary and be subject to differing levels of assessed risk of material misstatement, and different reasons for the assessment given to those assessed risks. Therefore, the nature, timing and extent of the procedures

[16] ISA 330, paragraphs 5–6

performed to respond to the assessed risks of material misstatement at the assertion level, in accordance with ISA 330, will also vary in relation to the nature of the accounting estimate, the level of assessed risk and the reasons for the assessment given to the risk.

A58G. For some accounting estimates, such as those described in paragraph A44J, the extent of complexity, judgment, or estimation uncertainty may be such that the assessed risk of material misstatement, without regard to relevant controls (that is, the inherent risk) is low. In these circumstances, the auditor may determine that a procedure directed to the estimate overall is sufficiently responsive to the assessed risk of material misstatement. For example, the auditor may determine that events occurring up to the date of the auditor's report may provide sufficient appropriate audit evidence about an accounting estimate. This might be the case when the sale of the complete inventory of a superseded product shortly after the period end provides sufficient appropriate evidence relating to the estimate of its net realizable value. For such accounting estimates with low assessed risk of material misstatement, without regard to relevant controls, the following procedures may be appropriate:

- Obtaining audit evidence about events occurring up to the date of the auditor's report;
- Developing a point estimate or range to evaluate management's point estimate;
- Test the operating effectiveness of the controls over how management made the accounting estimate, together with appropriate substantive procedures; and
- Performing substantive analytical procedures.

While the procedures listed in paragraph 13A-C are not required when the risk of material misstatement is low, these procedures may also be useful to the auditor in designing and performing procedures under paragraph 13A.

A58H. On the other hand, for some accounting estimates, such as those described in paragraph A44K, the extent of complexity, judgment or estimation uncertainty (either individually or in combination) is more likely to influence the auditor's assessment of the risk of material misstatement for the estimate (that is, the auditor's assessment of the risk of material misstatement may be higher as the extent of complexity, judgment and estimation uncertainty involved increases). Although there may be some level of judgment and estimation uncertainty for all accounting estimates, certain conditions or circumstances may result in the judgment involved in making the estimate, or the inherent estimation uncertainty, rising to a level such that more specific procedures are needed to appropriately respond to the assessed risks of material misstatement at the assertion level. In addition, complexity may arise from several sources, such as the requirements of the applicable financial reporting framework, the nature of the entity's business, or the sophistication of the entity's IT system and related integrity of data used in making the estimate.

A58I. In these circumstances, paragraph 13b requires the auditor to design and perform procedures to address the reasons for the assessment given to the risk of material misstatement in accordance with paragraph 10, recognizing that the higher the assessed risk the more persuasive the audit evidence needed.

A58J. Paragraphs 13A to 13C describe the types of matters that the auditor is required to address in designing and performing the further audit procedures in these circumstances.

As explained in ISA 330,[17] the nature of the procedures is of most importance in responding to the assessed risks. In addition, the reasons for the assessment given to a risk are relevant in determining the nature of audit procedures.[18] Therefore, the auditor's consideration of inherent risk is particularly important in designing the further audit procedures because the auditor's assessment of the risk of material misstatement may be higher as the extent of complexity, judgment and estimation uncertainty involved increases, as noted in paragraph AX6. The timing and extent of the further audit procedures will vary based on the assessed risk of material misstatement.

A58K. As indicated in paragraph 13(b), the auditor may have assessed the risk of material misstatement as low based on an expectation that relevant controls are operating effectively. When this is the case, the auditor is required to perform tests of the relevant controls to obtain evidence of their operating effectiveness in accordance with ISA 330. In designing the tests of controls, paragraph 13(b) requires the auditor to determine whether such tests will provide evidence of the operating effectiveness of the controls in addressing the matters in paragraphs 13A to 13C, specifically, the effect of complexity, judgment or estimation uncertainty, as applicable, on the assessed risk of material misstatement.

[Note: additional application material will be drafted covering the response to an "other relevant risk factor" as discussed in paragraph A49B.]

Considerations specific to smaller entities

A58L.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.

Complexity

Complex Models

A58Ha. When a complex model is used, the assessed risk of material misstatement is likely to be higher and, therefore, the more persuasive the audit evidence that may need to be obtained. Therefore, the procedures done to meet paragraphs 13(a)(i) and (ii) may be more extensive than for other models.

Data

A58Hb.ISA 500 contains requirements and guidance regarding the auditor's responsibilities to consider the relevance and reliability of information to be used as audit evidence. When designing and performing procedures regarding whether data (and other information used to develop assumptions) to which the accounting estimate is particularly sensitive is relevant, reliable, accurate and complete, whether the data is relevant and reliable in the context of the estimation method and the financial reporting framework, and whether the integrity of the data has been maintained in applying the method, may be important..]

[17] ISA 330, paragraph A5

[18] ISA 330, paragraph A10

***Estimation Uncertainty* (Ref: Para. 13C(b))**

A58I. When evaluating the steps, if any, management has taken to minimize estimation uncertainty, the auditor may consider whether the method or model's design minimizes estimation uncertainty. In this regard, testing the operating effectiveness of controls that are intended to minimize estimation uncertainty may be useful.

Narrowing a Range (Ref: Para. 13C(c))

A58J. A 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.

A58K. 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, such as financial services or extractive 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.

A58L. 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.

(c) Using an expert

(d) Considering whether alternative data or assumptions are more relevant and reliable than those selected by management (in light of the requirements of the applicable financial reporting framework) and, accordingly, if using of those alternative data or assumptions would result in an outcome that is within performance materiality

A58M. [*Additional application material to explore situations where it is not possible to narrow a range to below performance materiality. Suggest a list of bullet points covering actions such as*;

- Considering whether the matter is a key audit matter.

A58N. In preparing the financial statements, management may be satisfied that it has adequately addressed the effects of estimation uncertainty. 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.

A58O. When the auditor believes that the efforts of management are inadequate, the auditor may consider requesting management to consider alternative assumptions or to provide additional disclosure relating to the estimation uncertainty.

Disclosures of Estimation Uncertainty for Accounting Estimates (Ref: Para 13D(c) and 13D(d)(ii))

A58P. 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).

A58Q. 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. ISA 705 (Revised)[19] provides guidance on the implications for the auditor's opinion when the auditor believes that management's disclosure of estimation uncertainty in the financial statements is inadequate or misleading. If the auditor's consideration of estimation uncertainty associated with an accounting estimate, and its related disclosure, is a matter that required significant auditor attention, then this may constitute a key audit matter (see ISA 701).

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

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:

[19] ISA 705 (Revised), *Modifications to the Opinion in the Independent Auditor's Report*

- 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. TBA)

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 (Ref: Para. 13B(c))

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. 13A(a), 13B(a))

A76A. The assumptions and data sources to which the accounting estimate is particularly sensitive 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. TBA)

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 (Ref: Para. 13B(a), 13C(b))

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. TBA)

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 by ISA 330 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.[20] 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.

[20] ISA 330, paragraph 8

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

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.

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.

A91A. The appropriate methods, data, and assumption to use depend on the requirements of the applicable financial reporting framework, and other factors. Obtaining an understanding of management's assumptions or methods aids the auditor evaluating management's point estimate in establishing that the auditor's point estimate or range takes into account relevant variables and enables the auditor in evaluating significant differences from management's point estimate.

Understanding Management's Assumptions or Method (Ref: Para. 13B(c))

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. 13C(c)

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:

(e) Eliminating from the range those outcomes at the extremities of the range judged by the auditor to be unlikely to occur; and

(f) 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.

Estimation Uncertainty

Management's Consideration of Estimation Uncertainty (Ref: Para. 13C(a) and (b))

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. 13C(a)(ii))

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. 13B(b))

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. 13C(c))

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.

Disclosures Related to Accounting Estimates (Ref: Para.13D)

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 method of estimation used, including any applicable model.
- The basis for the selection of the method of estimation.
- Information that has been obtained from models, or from other calculations used to determine estimates recognized or disclosed in the financial statements, including information relating to the underlying data and assumptions used in those models, such as:
    - o Assumptions developed internally that may affect an asset's useful life; or

- o Data, such as interest rates, that are affected by factors outside the control of the entity.

- The effect of any changes to the method of estimation from the prior period.
- The sources and implications of estimation uncertainty.
- Fair value information that is produced by management's experts.
- Information about sensitivity analyses derived from financial models that demonstrates that management has considered alternative assumptions.

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.

A120A. Determining the nature, timing and extent of further audit procedures as they relate to disclosures is important in light of both the wide range of information and the level of detail that may be encompassed in those disclosures.

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.

A121A. When the financial statements are prepared in accordance with a fair presentation framework, the auditor's evaluation as to whether the financial statements achieve fair presentation may include the consideration of the overall presentation, structure and content of the financial statements, and whether the financial statements, including the related notes, represent the underlying transactions and events in a manner that achieves fair presentation. Depending on the facts and circumstances, given the importance of accounting estimates to the overall financial statements, the auditor may determine that additional disclosures related to accounting estimates are necessary to achieve fair presentation. This may be the case, for example, when an accounting estimate is subject to significant estimation uncertainty (see paragraphs A122-A123).

Overall Evaluation Based on Audit Procedures Performed (Ref: Para. 13E)

~~A113~~ A121B. Where management has recognized and disclosed 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.

A121C. 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,P23F[21]P or may consider it necessary to include an Emphasis of Matter paragraph in the auditor's report (see ISA 706 (Revised)).P24F[22]P 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.P25F[23]P

A121D. 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.

A121E. 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.

A121F. 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.

A121G. 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.

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

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

23 ISA 706 (Revised), paragraph 8(b)

A121H. Areas where particular skills and knowledge may be required include:

- Whether those involved in developing and applying the valuation technique have the appropriate skills and expertise to do so, including whether a management's expert has been used; and
- Understanding the legal, regulatory, and tax implications resulting from the accounting estimate, including whether the contracts are enforceable by the entity (for example, reviewing the underlying contracts), may require specialized skills and knowledge.

A121I. 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.

A121J. 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.

A121K. Some financial reporting frameworks require different accounting treatments depending on the level of activity in the market. As markets become inactive, the change in circumstances may lead to a move from valuation by market price to valuation by model, or may result in a change from one particular model to another. Reacting to changes in market conditions may be difficult if management does not have policies in place prior to their occurrence. Management may also not possess the expertise necessary to develop a model on an urgent basis, or select the valuation technique that may be appropriate in the circumstances. Even where valuation techniques have been consistently used, there is a need for management to examine the continuing appropriateness of the valuation techniques and assumptions used for determining valuation of financial instruments. Further, valuation techniques may have been selected in times where reasonable market information was available, but may not provide reasonable valuations in times of unanticipated stress.

A121L. 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.

Misstatements (Ref: Para.13E(d))

A121M. 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, but could be greater if, for example, the evidence supported a point estimate within the auditor's range.

A121N. 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).

A121O. ISA 450[24] 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.

A121P. Evaluating whether sufficient appropriate audit evidence has been obtained, and whether the accounting estimate is misstated, for 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.

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

A121Q. The preparation of the financial statements requires management to make a number of judgments or assumptions that affect significant accounting estimates and to monitor the reasonableness of such estimates on an ongoing basis. Fraudulent financial reporting is often accomplished through intentional misstatement of accounting estimates. This may be achieved by, for example, understating or overstating all provisions or reserves in the same fashion so as to be designed either to smooth earnings over two or more accounting periods, or to achieve a designated earnings level in order to deceive financial statement users by influencing their perceptions as to the entity's performance and profitability.

[24] ISA 450, *Evaluation of Misstatements Identified during the Audit*

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 do not constitute misstatements for purposes of drawing conclusions on the reasonableness of individual accounting estimates but 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).P28F[25]

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.

Written Representations (Ref: Para. 22)

A126. ISA 580[26] discusses the use of written representations. In addition to obtaining written representations that management and, where appropriate, those charged with governance believe the method and significant data and assumptions used in making the accounting estimates and their related disclosures are reasonable the auditor may, depending on the nature and materiality of the accounting estimate and the extent to which the method for making it, or its related disclosure, is affected by, or subject to, estimation uncertainty, complexity, use of judgment, or other risk factor, determine that it is necessary to obtain one or more further written representations about accounting estimates recognized or disclosed in the financial statements. This may include representations:

- About the appropriateness of the method selected for making the accounting estimate in the context of the applicable financial reporting framework;
- That the assumptions and data sources, used as inputs in making the accounting estimates, are relevant, reliable and appropriate in the context of the applicable financial reporting framework;
- That the significant judgments made in making the accounting estimate have taking into account all relevant information of which management is aware relevant to making those judgments.

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[25] ISA 700 (Revised), *Forming an Opinion and Reporting on Financial Statements*

[26] ISA 580, *Written Representations*

- About the consistency in the selection or application of the method, data, and assumptions used by management in determining accounting estimates in the context of the applicable financial reporting framework.
- 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, including disclosures describing estimation uncertainty, are complete and appropriate under the applicable financial reporting framework.
- That appropriate specialized skills or expertise, where necessary, has been applied in making the accounting estimates;
- 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 applying ISA 260 (Revised) and, when applicable, ISA 265[27], the auditor communicates to those charged with governance the auditor's views about significant qualitative aspects of the entity's accounting practices relating to accounting estimates and related disclosures and, when applicable, why the auditor considers a significant accounting practice, which include management's judgments in making the accounting estimates, although acceptable under the applicable financial reporting framework, not to be most appropriate to the particular circumstances of the entity. In communicating those views, matters specific to the accounting estimates that the auditor may consider communicating to those charged with governance include:

(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;

[27] ISA 265, *Communicating Deficiencies in Internal Control To Those Charged With Governance And Management*

(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 communication may be helpful to the auditor in identifying risks of material misstatement.

Documentation (Ref: Para. 23)

A128. 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.