Agenda Item 2-C

Note to IAASB:

- Paragraphs not yet edited are shown in yellow highlight.
- Paragraphs that have undergone minor edits to align with the requirements are shown in green highlight.
- Paragraphs that are not highlighted have been updated – except cross references and areas indicated where further work is necessary

INTERNATIONAL STANDARD ON AUDITING 540

AUDITING ACCOUNTING ESTIMATES AND RELATED DISCLOSURES

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 450,[3] ISA 500[4] and other relevant ISAs are to be applied in relation to accounting estimates. It also includes requirements and guidance on misstatements of accounting estimates, and indicators of possible management bias.

Nature of Accounting Estimates

2. Many financial statement items are susceptible to an inherent lack of precision in their measurement, which is referred to as estimation uncertainty. In the ISAs, such financial statement items are referred to as accounting estimates.

2A. Accounting estimates vary widely in nature. The measurement objectives and other requirements of the applicable financial reporting framework, and the possible methods, data sources and types of assumptions that could be used to make an accounting estimate, may involve complexity and subjectivity and the need for use of judgment by management. This may give rise to variation in the possible outcomes of the estimation process and affects the degree to which the accounting estimate is subject to estimation uncertainty.. (Ref: Para: A1, Appendix 1, Appendix 2)

3. When an accounting estimate is being made, its susceptibility to misstatement may increase because of the need to:

   (a) With respect to complexity:

Commented [A1]: Note to IAASB: The Task Force has not made any changes to this paragraph given that this paragraph is heavily based on the structure of the standard. The Task Force is therefore of the view that it is more efficient to make changes when the standard is closer to finalization. At that time the Task Force will consider whether:
-This paragraph is still needed; or
-Which changes will need to be made.

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 450, *Evaluation of Misstatements Identified during the Audit*

4 ISA 500, *Audit Evidence*

(i) Apply appropriate specialized skills or knowledge in the selection, design or application of the method used to make the accounting estimate, including when the method involves complex modelling.

(ii) Appropriately consider the relevance and reliability of the data used, whether the data is obtained from internal sources or from external information sources.

(iii) Maintain the integrity of the data used.

(b) With respect to the use of judgment by management:

(i) Appropriately take into account available information when selecting methods, assumptions, or data.

(ii) Mitigate the risk of management bias.

(c) With respect to estimation uncertainty:

(i) Take appropriate steps to address estimation uncertainty.

(ii) Select an appropriate management point estimate or make appropriate related disclosures in the financial statements.

Key Concepts of This ISA

3A. This ISA recognizes that the nature, timing and extent of the auditor's procedures relating to accounting estimates are responsive to a spectrum of inherent risk. Depending on the nature of a particular accounting estimate, its susceptibility to misstatement may be affected, to a greater or lesser degree, by estimation uncertainty, subjectivity, complexity and other relevant risk factors. These risk factors influence the likelihood and magnitude of the risks of material misstatement at the assertion level, and therefore the auditor's consideration of inherent risk. These risk factors also may influence the design and implementation of the entity's system of internal control relating to accounting estimates, and therefore the auditor's consideration of control risk, which in turn may affect the auditor's planned reliance on controls in testing the accounting estimate.

4. This ISA emphasizes the need for the auditor's further audit procedures (including, where appropriate, tests of controls) to be responsive to the reasons for the assessment of risk of material misstatement at the assertion level, particularly when such reasons relate to estimation uncertainty, or the effects of complexity or subjectivity in selecting and applying methods, assumptions and data used in making the accounting estimate, and in selecting the amounts and related disclosures to be included in the financial statements.

5. The application of professional skepticism by the auditor is particularly important to the auditor's work relating to accounting estimates due to their subjective, potentially complex and uncertain nature.

6. This ISA requires the auditor to evaluate, based on the procedures performed and the audit evidence obtained, whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework. For purposes of this ISA, accounting estimates and related disclosures are considered to be reasonable when all the relevant requirements of the applicable financial reporting framework have been applied appropriately. (Ref: Para. A2–A3).

Effective Date

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

Objective

8. The objective of the auditor is to obtain sufficient appropriate audit evidence about whether:

   (a) Accounting estimates that are required to be recognized or disclosed in the financial statements; and

   (b) Related disclosures in the financial statements,

   are reasonable in the context of the applicable financial reporting framework.

Definitions

9. 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 is subject to estimation uncertainty. (Ref: Para. A4)

   (b) Auditor's point estimate or auditor's range – An amount, or range of amounts, respectively, developed by the auditor in evaluating management's point estimate. (Ref: Para. A5)

   (c) Estimation uncertainty – The susceptibility of an accounting estimate to an inherent lack of precision in its measurement. (Ref: Para. A6)

   (d) Management bias – A lack of neutrality by management in the preparation of information. (Ref: Para. A7)

   (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 that results from the resolution of the transaction(s), event(s) or condition(s) addressed by an accounting estimate. (Ref: Para A8)

Requirements

Risk Assessment Procedures and Related Activities

10. When obtaining an understanding of the entity and its environment and the system of internal control, as required by ISA 315 (Revised),[5] in relation to the entity's accounting estimates, the auditor shall obtain an understanding of the following matters, when applicable: (Ref: Para. A10)

Commented [A2]: Note to IAASB: Application material related to paragraph 10 needs to be reorganized and referenced to fit with the revised structure of paragraph 10.

   The Entity and Its Environment[6]

[5] ISA 315 (Revised), paragraphs 3, 5–6 and 11–12

[6] ISA 315 (Revised), paragraph 11 (a) and (b)

(a) The requirements of the applicable financial reporting framework relevant to the entity's accounting estimates, including the recognition criteria, measurement bases and the related presentation and disclosure requirements.[7] (Ref: Para. A11A)

(b) Regulatory factors, if any, relevant to the entity's accounting estimates.[8] (Ref: Para. A14)

(c) The entity's transactions and other events and conditions that may give rise to the need for, or changes in, accounting estimates to be recognized or disclosed in the financial statements.[9] (Ref: Para. A18–A23)

(d) The nature of the accounting estimates and related disclosures that the auditor would expect to be included in the entity's financial statements, based on the auditor's understanding of the matters in 10(a)–(c) above.[10] (Ref: Para. A16)

The Entity's System of Internal Control Relevant to the Audit[11]

Control Environment

(e) The extent to which management has applied specialized skills or knowledge, including whether a management's expert has been used; (Ref: Para. A17A).

(f) The nature and extent of oversight and governance that the entity has in place over management's process.

Management's Risk Assessment Process[12]

(g) Whether, and if so, how the risk of management bias is identified and addressed. (Ref: Para. A45)

(h) Whether, and if so, how estimation uncertainty, complexity, subjectivity or other relevant risk factors are taken into account by management in making the accounting estimates.(Ref: Para. A46)

The Information System Relevant to Financial Reporting[13]

(i) How management makes accounting estimates, including how management: (Ref: Para. A24–A25)

 (i) Identifies transactions, other events and conditions that give rise to the need for, or changes in, accounting estimates to be recognized or disclosed in the financial statements and related disclosures;

[7] ISA 315 (Revised), paragraph 11(a)

[8] ISA 315 (Revised), paragraph 11(a)

[9] ISA 315 (Revised), paragraphs 9 and 11(b)

[10] ISA 315 (Revised), paragraph 11(b)

[11] ISA 315 (Revised), paragraph 12

[12] ISA 315 (Revised), paragraph 15-17

[13] ISA 315 (Revised), paragraph 1

(ii) Identifies the relevant methods, assumptions or sources of data, that are appropriate in the context of the applicable financial reporting framework, including how management:

a. Selects or designs, and applies, the methods used, including the extent to which they involve modelling; (Ref: Para. A26–A31)

b. Selects the assumptions to be used, including alternatives considered, and identifies significant assumptions; (Ref: Para. A32–A38); and

c. Selects the data to be used and identifies significant data; (Ref: Para. A39–A42)

(iii) Understands the degree of estimation uncertainty associated with accounting estimates, including through considering the range of possible measurement outcomes; and

(iv) Selects a point estimate and related disclosures for inclusion in the financial statements.

Control Activities Relevant to the Audit[14]

(j) How management monitors the outcome(s) of previous accounting estimates and responds to the results of that monitoring.

(k) How management monitors the need for a change from the prior period in the methods, assumptions or data used, and if so, the nature of, and reasons for, such changes. (Ref: Para. A47)

11. The auditor shall review the outcome of previous accounting estimates, or, where applicable, their subsequent re-estimation to assist in identifying and assessing the risk of material misstatement in the current period. The auditor shall take into account the characteristics of the accounting estimates in determining the nature and extent of that review. The review is not intended to call into question judgments about previous period accounting estimates that were appropriate based on the information available at the time they were made. (Ref: Para. A61–A66)

12. The auditor shall determine whether specialized skills or knowledge are required to perform the risk assessment procedures, to identify and assess the risks of material misstatement, to design and perform audit procedures to respond to those risks, or to evaluate the audit evidence obtained. (Ref: Para. A67–A70)

Identifying and Assessing the Risks of Material Misstatement

13. In identifying and assessing the risks of material misstatement relating to an accounting estimate and related disclosures at the assertion level, as required by ISA 315 (Revised),[15] the auditor shall take into account: (Ref: Para. A70A–A75)

(a) The degree to which the accounting estimate is subject to estimation uncertainty; and (Ref: Para. A75A–A75F)

(b) The degree to which complexity, subjectivity, or other relevant risk factors affect:

(i) The selection and application of the methods, assumptions and data in making the accounting estimate; or

[14] ISA 315 (Revised), paragraphs 20-21

[15] ISA 315 (Revised), paragraph 25 and 26

(ii) The selection of the related amount and disclosures for inclusion in the financial statements. (Ref: Para. A79–A92A)

13A. The auditor shall determine whether any of the risks identified in accordance with paragraph 13 are, in the auditor's judgment, a significant risk.[16] (Ref: Para. A92B–A92C)

Responses to the Assessed Risks of Material Misstatement

15. As required by ISA 330[17], the auditor's further audit procedures shall be responsive to the reasons given to the risks of material misstatement[18] at the assertion level, and shall include one or more of the following approaches:

(a) Determining whether events occurring up to the date of the auditor's report provide audit evidence regarding those risks;

(b) Testing how management made the accounting estimate; or

(c) Developing a point estimate or range based on available audit evidence to evaluate management's point estimate or related disclosures.

The auditor's further audit procedures shall take into account that the higher the assessed risk of material misstatement, the more persuasive the audit evidence needs to be.[19] In designing and performing the further audit procedures, the auditor shall seek to obtain relevant audit evidence from available sources, whether it corroborates or contradicts management's assertions. (Ref: Para A94–A95)

16. As required by ISA 330,[20] the auditor shall design and perform tests of relevant controls over risks of material misstatement at the assertion level relating to an accounting estimate to obtain sufficient appropriate audit evidence as to their operating effectiveness, if:

- The auditor intends to rely on those controls, or
- Substantive procedures alone cannot provide sufficient appropriate audit evidence about those risks.

The auditor's design and performance of tests of relevant controls shall be responsive to the reasons for the risks of material misstatement and shall take into account that the greater the reliance the auditor places on the effectiveness of a control, the more persuasive the audit evidence needs to be.[21] (Ref: Para A98–A100)

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[16] ISA 315 (Revised), paragraph 27

[17] ISA 330, *The Auditor's Responses to Assessed Risks*, paragraphs 6-15 and 18

[18] ISA 330, paragraphs 6-7 and 21

[19] ISA 330, paragraph 7(b)

[20] ISA 330, paragraph 8

[21] ISA 330, paragraph 9

16A. For a significant risk relating to an accounting estimate, the auditor's further audit procedures shall include tests of relevant controls in the current period if the auditor plans to rely on those controls, and tests of details when the approach consists only of substantive procedures.[22]

Determining Whether Events Occurring up to the Date of the Auditor's Report Provide Audit Evidence Regarding Those Risks

17. When the auditor's further audit procedures include obtaining evidence about events occurring up to the date of the auditor's report, the auditor shall evaluate whether the audit evidence:

(a) is sufficient, reliable and relevant to the risks of material misstatement at the assertion level relating to the accounting estimate, and

(b) supports or contradicts relevant assertions about the accounting estimate,

taking into account that changes in circumstances and other relevant conditions between the event and the measurement date may affect its relevance to the accounting estimate at the measurement date. (Ref: Para A100A–A100F)

Testing How Management Made the Accounting Estimate

17A. When the auditor's further audit procedures designed in accordance with paragraph 15 include testing how management made the accounting estimate, the nature, timing, and extent of the auditor's further audit procedures shall be designed to obtain sufficient appropriate audit evidence about:

(a) The selection and application of methods, assumptions and data used by management in making the accounting estimate, and

(b) How management selected the point estimate and disclosures to be included in the financial statements,

in accordance with paragraphs 17B to 17F.

Methods

17B. With respect to the methods used by management to make the accounting estimate, the auditor shall obtain sufficient appropriate audit evidence about:

(a) Whether the method selected is appropriate in the context of the measurement objectives and other requirements of the applicable financial reporting framework, taking into account the nature of the entity; (Ref: Para A101–A107)

(b) If applicable, whether changes from previous periods in the method used are appropriate; (Ref: Para A108)

(c) Whether the calculations are mathematically accurate and appropriately applied;

(d) When management's application of the method involves complex modelling, whether judgments made have been applied consistently and whether, when applicable:

(i) The design of the model meets the measurement objective of the applicable financial

[22] ISA 330, paragraphs 15 and 21

reporting framework and is appropriate in the circumstances;

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

(iii) Adjustments, if any, to the output of the model are consistent with the measurement objective of the applicable financial reporting framework and are appropriate in the circumstances; (Ref: Para A108A–A108D)

(e) Whether the integrity of significant assumptions and data has been maintained in applying the method.

Significant Assumptions

17C. With respect to the significant assumptions selected by management, the auditor shall obtain sufficient appropriate audit evidence about:

(a) Whether the significant assumptions selected for use:

(i) Are appropriate in the context of the requirements of the applicable financial reporting framework, and, if applicable, changes from prior periods are appropriate; and

(ii) Give rise to indicators of possible management bias; (Ref: Para A108E–A110)

(b) Whether significant assumptions are consistent with each other and with those used in other accounting estimates, or with assumptions used in other areas of the entity's business activities;

(c) When relevant to the appropriateness of the significant assumptions or the appropriate application of the requirements of the applicable financial reporting framework, whether management has the intent to carry out specific courses of action and has the ability to do so. (Ref: Para A111)

Significant Data

17D. With respect to the significant data used by management in making the accounting estimate, the auditor shall obtain sufficient appropriate audit evidence about:

(a) Whether the significant data selected for use:

(i) Is appropriate in the context of the requirements of the applicable financial reporting framework, and, if applicable, changes from prior periods are appropriate;

(ii) Gives rise to indicators of possible management bias; and

(iii) Is relevant and reliable; (Ref: Para A111A–A111B)

(b) Whether management has appropriately understood or interpreted significant data, including with respect to contractual terms. (Ref: Para A111C)

External Information Sources

17E. If information from an external information source is to be used as audit evidence, the auditor shall consider its relevance and reliability, as required by ISA 500.[23] (Ref: Para A111D)

Management's Expert

17F. If information to be used as audit evidence has been prepared using the work of a management's expert, the auditor shall comply with the requirements in ISA 500.[24]

Management's Selection of a Point Estimate and Related Disclosures

17G The auditor shall obtain sufficient appropriate audit evidence about whether, in the context of the applicable financial reporting framework:

(a) Management has taken appropriate steps to understand and address the estimation uncertainty, and develop a point estimate that meets the measurement objective; and (Ref: Para. A113–A115)

(b) Management's point estimate and the disclosures in the financial statements that describe the estimation uncertainty, are reasonable. (Ref: Para. A116–A125)

17H. When, based on the audit evidence obtained, in the auditor's judgment, management has not appropriately understood and addressed the estimation uncertainty, the auditor shall, to the extent possible, develop an auditor's point estimate or range to enable the auditor to evaluate the reasonableness of management's point estimate and the related disclosures in the financial statements that describe the estimation uncertainty. (Ref: Para A126–A127)

Developing an Auditor's Point Estimate or Range Based on the Available Audit Evidence to Evaluate Management's Point Estimate or Disclosures

18. When the auditor's further audit procedures include developing a point estimate or range to evaluate management's point estimate, the auditor shall take into account the requirements of the applicable financial reporting framework and the auditor's understanding of the process used by management to make the accounting estimate. (Ref: Para A128–A134)

18A. If the auditor's point estimate or range is developed using the auditor's own methods, assumptions or data, the auditor shall:

(a) Obtain sufficient appropriate audit evidence about whether the methods, assumptions or data used are appropriate in the context of the applicable financial reporting framework; and

(b) Consider the relevance and reliability of data obtained from an external information source.[25]

18B. When the auditor uses management's methods, assumptions or data in developing a point estimate or range to evaluate management's point estimate, the auditor shall obtain sufficient appropriate audit evidence about the methods, assumptions or data in accordance with paragraphs 17B-17F.

18C. If the auditor concludes that it is appropriate to develop an auditor's range, the auditor shall only

[23] ISA 500, *Audit Evidence*, paragraph 7

[24] ISA 500, paragraph 8

[25] ISA 500, paragraph 7

include in that range amounts that:

(a) Are supported by sufficient appropriate audit evidence; and

(b) The auditor has evaluated to be reasonable in the context of the measurement objectives and other requirements of the applicable financial reporting framework.

Disclosures Related to Accounting Estimates

21. The auditor shall obtain sufficient appropriate audit evidence about whether the disclosures related to an accounting estimate are reasonable in the context of the requirements of the applicable financial reporting framework including: (Ref: Para. A135–A138)

    (a) In the case of a fair presentation framework, whether management has included disclosures, beyond those specifically required by the framework, that are necessary to achieve the fair presentation of the financial statements as a whole, or

    (b) In the case of a compliance framework, whether the disclosures are those that are necessary for the financial statements not to be misleading.

Indicators of Possible Management Bias

21A. The auditor shall evaluate whether judgments and decisions made by management in making the accounting estimates included in the financial statements indicate possible management bias. When indicators of possible management bias are identified, the auditor shall evaluate the implications for the audit. (Ref: Para. A147–A152)

Overall Evaluation Based on Audit Procedures Performed

22. In applying ISA 330[26] to each accounting estimate, the auditor shall evaluate, based on the audit procedures performed and audit evidence obtained, whether: (Ref: Para A139–A141)

    (a) The assessments of the risks of material misstatement at the assertion level remain appropriate, including when indicators of possible management bias have been identified;

    (b) Management's decisions relating to the recognition, measurement, presentation and disclosure of these accounting estimates in the financial statements are in accordance with the applicable financial reporting framework; and

    (c) Sufficient appropriate audit evidence has been obtained.

22A. In making the evaluation required by paragraph 22(c), the auditor shall consider all relevant audit evidence obtained whether corroborative or contradictory.[27] If the auditor is unable to obtain sufficient appropriate audit evidence, the auditor shall evaluate the implications for the audit.

23. Based on the audit procedures performed and the audit evidence obtained, the auditor shall evaluate whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework, or are misstated. ISA 450[28] provides guidance on distinguishing misstatements (whether factual, judgmental, or projected) for purposes of the auditor's

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26 ISA 330, paragraphs 25 and 26

27 ISA 500, Audit Evidence, paragraph 11

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

evaluation of the effect of uncorrected misstatements on the financial statements. (Ref: Para. A2, A142–A146)

Written Representations

25. The auditor shall obtain written representations from management and, when appropriate, those charged with governance that they believe the methods, assumptions and data used in making the accounting estimates and their related disclosures are appropriate to achieve recognition, measurement or disclosure that is in accordance with the applicable financial reporting framework. The auditor shall also consider the need to obtain representations about specific accounting estimates, including in relation to the methods, assumptions, or data used. (Ref: Para. A153–A154)

Communication with Those Charged With Governance or Management

26. In applying ISA 260 (Revised)[29] and ISA 265,[30] the auditor is required to communicate with those charged with governance or management about certain matters, including significant qualitative aspects of the entity's accounting practices and significant deficiencies in internal control, respectively. In doing so, the auditor shall consider the matters, if any, to communicate regarding accounting estimates, taking into account whether the reasons given to the risks of material misstatement relate to estimation uncertainty, or the effects of complexity, subjectivity or other relevant risk factors in making accounting estimates and related disclosures. (Ref: Para. A155–A157)

Documentation

27. The audit documentation shall include:[31]

    (a) The basis for the auditor's evaluation of the reasonableness of the accounting estimates and related disclosures in the context of the applicable financial reporting framework; and

    (b) Indicators of possible management bias related to accounting estimates, if any, and the auditor's evaluation thereof in forming the auditor's opinion as to whether the financial statements as a whole are free from material misstatement, whether due to fraud or error. (Ref: Para. A158–A159)

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Application and Other Explanatory Material

Nature of Accounting Estimates (Ref: Para. 2)

A1. Examples of situations where accounting estimates may be required include:

- Inventory obsolescence.
- Warranty obligations.
- Depreciation method.

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[29] ISA 260 (Revised), *Communication with Those Charged with Governance*, paragraph 16(a)

[30] ISA 265, *Communicating Deficiencies in Internal Control to Those Charged with Governance and Management* paragraph 9

[31] ISA 230, *Audit Documentation*

- Outcome of long term contracts.
- Estimated costs arising from litigation settlements and judgments.
- Expected credit losses.
- Insurance contract liabilities.
- Financial instruments, including complex financial instruments that are not traded in an active market.
- Employee pension liabilities.
- Share-based payments.
- Assets or liabilities acquired in a business combination, including goodwill and intangible assets.
- 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.
- Infrastructure asset valuation.

Key Concepts (Ref: Para. 6, 23)

A2. The auditor is required to obtain sufficient appropriate audit evidence about whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework. Reasonable, in the context of the applicable financial reporting framework,[32] means that all the relevant requirements of the applicable financial reporting framework have been applied appropriately, including those that address:

- The making of the accounting estimate, including the selection of the method, assumptions and data from available alternatives in view of the nature of the accounting estimate and the facts and circumstances of the entity;
- The selection of a management's point estimate that is representative of the range of reasonably possible outcomes of the measurement process; and
- The disclosures about the accounting estimate, including disclosures about how the accounting estimate was developed and that explain the nature, extent, and sources of estimation uncertainty.

Other considerations that may be relevant to the auditor's consideration of whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework include whether:

- The data and assumptions used in making the accounting estimate are consistent with each other and with those used in other accounting estimates or areas of the entity's business activities; and

[32] See also ISA 700 (Revised), *Forming an Opinion and Reporting on Financial Statements*, paragraph 13(c).

- The accounting estimate takes into account appropriate information as required by the applicable financial reporting framework.

A3. The term "applied appropriately" as used in paragraphs 6 and A2 of this ISA means in a manner that not only complies with the requirements of the applicable financial reporting framework but, in doing so, reflects judgments that are consistent with the measurement basis in that framework.

Definitions

Accounting Estimate (Ref: Para. 9(a))

A4. Accounting estimates are monetary amounts that may be classes of transactions or 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.

Auditor's Point Estimate or Auditor's Range (Ref: Para. 9(b))

A5. An auditor's point estimate or range may be developed for an accounting estimate as a whole (for example, the expected credit losses for a particular loan portfolio or the fair value of different types of financial instruments), or a component of an accounting estimate (for example, an amount to be used as a significant assumption or significant data for an accounting estimate). A similar approach may be taken by the auditor in developing an amount or range of amounts in evaluating an item of data or an assumption (for example, an estimated useful life of an asset).

Estimation Uncertainty (Ref: Para. 9(c))

A6. Estimation uncertainty is an inherent characteristic of accounting estimates. The nature and implications of estimation uncertainty are discussed further in Appendix 2.

Management Bias (Ref: Para. 9(d))

A7. Financial reporting frameworks often call for neutrality, that is, freedom from bias. The inherent lack of precision in the measurement of accounting estimates gives rise to the need for the use of judgment by management. Such judgment may be influenced by unintentional or intentional management bias (for example, as a result of motivation to achieve a desired profit target or capital ratio). The susceptibility of an accounting estimate to management bias increases with the extent to which there is a need for judgment in making the accounting estimate. Management bias may be difficult to detect at an account level and may only be identified when considered in groups of accounting estimates, all accounting estimates in aggregate, or when observed over a number of accounting periods.

Outcome of an Accounting Estimate (Ref: Para. 9(f))

A8. Some accounting 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, an accounting estimate may be based on perceptions of market participants at a point in time. Accordingly, the price realized when an asset is sold or a liability is transferred may differ from the related accounting estimate made at the reporting date because, with the passage of time, the market participants' perceptions of value have changed.

Risk Assessment Procedures and Related Activities (Ref: Para. 10)

Considerations Specific to Smaller Entities

A10. [Note: the Task Force will consider whether to combine all the "Considerations Specific to Smaller Entitites" into a single section, including whether this section should be at the start of the application material to paragraph 10 or at the end] ISA 315 (Revised) notes how smaller entities differ, and how the auditor may document their understanding of smaller entities.[33] For entities that have simple businesses, processes relevant to accounting estimates may also be uncomplicated because such estimates may have a lesser degree of estimation uncertainty. In those situations, the extent of the understanding of the matters in paragraph 10 is likely influenced by the extent to which these matters are relevant to the entity (for example the entity may be subject to few, if any, regulatory factors or specialized skills or knowledge may not have been applied in making the accounting estimates). Obtaining this understanding may be primarily achieved through inquiries from management with appropriate responsibilities for the financial statements or walk-throughs of relevant systems.

Obtaining an Understanding of the Requirements of the Applicable Financial Reporting Framework (Ref: Para. 10(a))

A11. Obtaining an understanding of the requirements of the applicable financial reporting framework provides the auditor with a basis for discussion with management and, where applicable, those charged with governance about how management has applied those requirements relevant to the accounting estimates, and about the auditor's determination of whether they have been applied appropriately. This understanding also may assist the auditor in communicating with those charged with governance when the auditor considers a significant accounting practice, that is acceptable under the applicable financial reporting framework, not to be the most appropriate in the circumstances of the entity.[34]

A11A. In obtaining this understanding, the auditor may seek to understand whether the applicable financial reporting framework:

(a) Prescribes certain criteria for the recognition, or methods for the measurement of accounting estimates;

(b) Specifies certain criteria 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; and

(c) Specifies required or suggested disclosures, including disclosures concerning judgments, assumptions, or other sources of estimation uncertainty relating to accounting estimates.

Obtaining an Understanding of Regulatory Factors (Ref: Para. 10(b))

A14. [Merged with A15] Obtaining an understanding of the regulatory factors that are relevant to accounting estimates (for example regulation established by banking and insurance regulators) may assist the auditor in determining whether the regulatory framework:

33 ISA 315 (Revised) paragraph A53, A152-A153

34 ISA 260 (Revised), paragraph 16(a)

- Addresses conditions for the recognition, or methods for the measurement, of accounting estimates, or provides related guidance thereon;
- Specifies, or provides guidance about, disclosures in addition to the requirements of the applicable financial reporting framework;
- Provides an indication of areas for which there may be a potential for management bias to meet regulatory requirements; or
- Contains requirements for regulatory purposes that are not consistent with requirements of the applicable financial reporting framework, which may indicate potential risks of material misstatement.

Obtaining an Understanding of the Nature of the Accounting Estimates and Related Disclosures That the Auditor Expects to be included in the Financial Statements (Ref: Para. 10(d))

A16. Obtaining an understanding of the nature of accounting estimates that the auditor expects to be included in the entity's financial statements assists the auditor in understanding the measurement basis of such accounting estimates and the nature and extent of disclosures that may be relevant. Such an understanding provides the auditor with a basis for discussion with management about how management has made the accounting estimates.

Management's Application of Specialized Skills or Knowledge, Including the Use of Management's Experts (Ref: Para. 10(e)

A17A.In understanding the extent to which management has applied specialized skills or knowledge, the auditor may seek to understand whether management has, or the entity may employ individuals with, the skills and knowledge necessary to make the accounting estimates or whether management may need to engage an expert to make or assist in making them. The auditor may consider whether the following circumstances increase the likelihood that management may need to engage an expert:

- The specialized nature of the matter requiring estimation, for example, the accounting estimate may involve measurement of mineral or hydrocarbon reserves in extractive industries or the evaluation of the likely outcome of applying complex contractual terms.
- The complex nature of the models required to apply the relevant requirements of the applicable financial reporting framework, as may be the case in certain measurements, such as level 3 fair values.
- The unusual or infrequent nature of the condition, transaction or event requiring an accounting estimate.

A failure by management to apply the required specialized skills or knowledge, including engaging an expert when management does not otherwise have access to an individual with such skills and knowledge, increases control risk.

Obtaining an Understanding of How Management Identifies the Need for the Accounting Estimates (Ref: Para. 10(d))

A18. The preparation of the financial statements requires management to determine whether a transaction, event or condition gives rise to the need to make an accounting estimate, and that all necessary accounting estimates have been recognized, measured, presented, and disclosed in the financial statements, in accordance with the applicable financial reporting framework.

A19. 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 previous periods.

Management may periodically review the circumstances that give rise to the need for accounting estimates and for re-estimating them as necessary. Further, management may have established a risk assessment process in this area which may involve a formal risk management or similar function. In such circumstances, the auditor's risk assessment procedures may be directed at understanding such a review or risk assessment processes. How management addresses the completeness of accounting estimates, particularly estimates related to liabilities, is often an important consideration of the auditor.

A21. Inquiries of management about changes in circumstances may include, for example, 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.

A22. 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.[35]

Considerations Specific to Smaller Entities

A23. Obtaining this understanding for smaller entities is often less complex as their business activities and transactions may be less complex. Further, often a single person, for example the owner-manager, identifies the need to make the accounting estimates and the auditor's inquiries may be focused accordingly.

[35] ISA 315 (Revised), paragraph 16

Obtaining an Understanding of How Management Makes Accounting Estimates (Ref: Para. 10(e))

A24. The preparation of the financial statements also requires management to establish financial reporting processes for making accounting estimates for each account balance, class of transaction or disclosure, 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.
- Developing or identifying relevant data and assumptions that are used in making accounting estimates.
- Periodically reviewing the circumstances that give rise to the accounting estimates and re-estimating as necessary.

A25. 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 classes of 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.

Methods (Ref: Para. 10(e)(i))

A26. A method is a measurement technique used by management to apply the measurement basis in the financial reporting framework. In some cases, the applicable financial reporting framework may prescribe the method to be used for making an accounting estimate. In many cases, however, the applicable financial reporting framework does not prescribe a single method or the required measurement basis prescribes, or allows, the use of alternative methods.

A27. For example, one recognized method used to make accounting estimates relating to share-based payment transactions is to determine a theoretical option call price using the Black Scholes option pricing formula. This method may be applied by modelling the data and assumptions of that formula based on the terms of the transaction and market conditions relevant to the underlying share.

A28. A model is a tool used to make the accounting estimate that applies assumptions and data, and a set of relationships between them as specified by the method.

A29. A model is complex when:

- The method it applies requires specialized skills or knowledge;
- Relevant and reliable data needed for use in the model is difficult to obtain;
- The integrity of the data is difficult to maintain;
- It exhibits a significant degree of complexity in its design or operation, which may, for example, involve more extensive use of information technology or large volumes of data; or

- It uses multiple data sources or assumptions with complex-interrelationships.

A30. Management may design and implement specific controls around models used for making accounting estimates, whether management's own model or an external model. Controls that address complexity around models are more likely to be relevant to the audit when the model used is complex, such as an expected credit loss model or a model used for the valuation of insurance contract liabilities. Factors that may be appropriate for the auditor to consider in obtaining an understanding of the model and of related control activities include the following:

- How management determines the relevance and accuracy of the model;
- The validation or back testing 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 of the model may include evaluation of:
    - The model's theoretical soundness;
    - The model's mathematical integrity;
    - The accuracy and completeness of the data and appropriate assumptions used in the model; and
    - Whether the appropriate data is used in the model and appropriate assumptions have been made;
- How the model is appropriately changed or adjusted on a timely basis for changes in market or other conditions and whether there are appropriate change control policies over the model;
- Whether adjustments, also referred to as overlays in certain industries, are made to the output of the model and whether such adjustments are appropriate under the circumstances and in accordance with the requirements of the applicable financial reporting framework; and
- Whether the model is adequately documented, including its intended applications, limitations, key parameters, required data and assumptions, the results of any validation performed on it and the nature of, and basis for, any adjustments made to its output.

A31. Estimates may have greater susceptibility to material misstatement relating to the use of models in certain circumstances. For example, in cases when management has developed a model internally and has relatively little experience in doing so, or uses a model that applies a method that is not established or commonly used in a particular industry or environment.

Assumptions Ref: Para. 10(e)(ii))

A32. 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 accounting estimates.

A33. Matters that the auditor may consider in obtaining an understanding of the assumptions used in making the accounting estimates include, for example:

- The nature of the assumptions used, the alternatives considered and the basis for management's selection. The applicable financial reporting framework may provide criteria or guidance to be used in the selection of an assumption.

- How management assesses whether the assumptions are relevant and complete.
- When applicable, how management determines that the assumptions are consistent with each other and with those used in other accounting estimates or areas of the entity's business activities.
- How the assumptions are consistent with other matters:
  - o Within the control of management (for example, assumptions about the maintenance programs that may affect the estimation of an asset's useful life), and whether they are consistent with the entity's business plans and the external environment; and
  - o Outside the control of management (for example, assumptions about interest rates, mortality rates, potential judicial or regulatory actions, or the variability and the timing of future cash flows).
- Management's documentation supporting the assumptions.
- The requirements of the applicable financial reporting framework related to the disclosure of assumptions.
- How management identifies significant assumptions.

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

A34. With respect to fair value accounting estimates, assumptions vary in terms of the sources of the data and the basis for the judgments to support them, 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) may not always be apparent and distinguishing between them depends on understanding the sources of data and the basis for the judgments that support the assumption. Further, it may be necessary for management to select from a number of different assumptions used by different marketplace participants.

Significant data and significant assumptions

A35. Data and assumptions used in making an accounting estimate are referred to as significant data or significant assumptions in this ISA if a reasonable variation in the data or assumption would materially affect the measurement of the accounting estimate. For example, an accounting estimate may be determined applying a method that uses several data sets and several assumptions, one or more of which particularly influences the measurement of the accounting estimate because the range of reasonable assumptions may be large or the model may be sensitive to specific data or assumption because of the underlying formulas.

Inactive or illiquid markets

A36. Some financial reporting frameworks require different accounting treatments depending on the level of activity in the market. Estimation uncertainty increases and valuation is more complex when the markets in which financial instruments or their component parts are traded become inactive. Valuation techniques selected when market information was available may not provide appropriate valuations in times of stress. However, even where markets are inactive, prices achieved may still provide relevant evidence about fair value. In these circumstances, valuations may be developed based on more unobservable inputs, requiring more judgment by management. When markets are inactive, prices quoted may not represent prices at which market participants would trade or may represent forced transactions (such as when disposal of an asset is necessary to meet regulatory or legal requirements).

A37. Particular difficulties may develop where there is severe curtailment or even cessation of trading in particular financial instruments. In these circumstances, financial instruments that have previously been valued using market prices may need to be valued using a model; or, where they have previously been valued using a model, the model may need to change. Reacting to changes in market conditions may be difficult if management does not possess the specialized skills or knowledge necessary to develop an appropriate model on a timely basis, or to select the valuation technique that may be most appropriate in the circumstances.

A38. When markets are inactive or illiquid, the auditor's understanding of how management selects assumptions may include understanding whether management has:

- Implemented appropriate policies for adapting the application of the method in such circumstances. Such adaptation may include making model adjustments or developing new models that are appropriate in the circumstances;
- Resources with the necessary skills or knowledge to adapt or develop a model, if necessary on an urgent basis, including selecting the valuation technique that is appropriate in such circumstances;
- The resources to determine the range of outcomes, given the uncertainties involved, for example by performing a sensitivity analysis;
- The means to assess how, when applicable, the deterioration in market conditions has affected the entity's operations, environment and relevant business risks and the implications for the entity's accounting estimates, in such circumstances; and
- An appropriate understanding of how the price data from particular external information sources may vary in such circumstances.

Data (Ref: Para. 10(e)(iii))

A39. Data comprises factual data, which can be observed directly, 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 have a well-established theoretical basis and do not involve the application of judgment. Examples of data include:

- Prices agreed in market transactions;
- Operating times or quantities of output from a production machine;

- Historical prices or other terms included in contracts (for example, a loan agreement may include a contracted interest rate, a payment schedule, and term of the loan); or
- Forward looking data such as economic or earnings forecasts made publicly, or a future payment schedule in a loan agreement.

A40. Data can come from a wide range of sources. For example, data can be:

- Generated within the organization or externally;
- Obtained from a system that is either within or outside the general or subsidiary ledgers;
- Observable in contracts; or
- Observable in legislative or regulatory pronouncements.

Understanding the source of the data used to make the accounting estimates may help the auditor in understanding the risks with respect to the relevance and reliability of the data.

A41. Matters that the auditor may consider in obtaining an understanding of the data on which the accounting estimates are 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 complexity of the information technology systems used to obtain and process the data, including when this involves handling large volumes of data.
- How the data is obtained, transmitted and processed and how its integrity is maintained.

A42. When making an accounting estimate involves large volumes of data or otherwise involves complex processing, management may make extensive use of information technology. In such cases, controls relevant to the audit are likely to include general IT controls and application controls. Such controls may address risks related to:

- The complete and accurate extraction of data from the entity's records or from external information sources; and
- The complete and accurate flow of data through the entity's information systems and the appropriateness of any modification to the data used in making accounting estimates, such as the translation of data into a different currency. Controls to maintain the integrity and security of the data are also likely to be relevant to the audit.

Management's Application of Specialized Skills or Knowledge, Including the Use of Management's Experts (Ref: Para. 10(e)(iv))

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Risk of Management Bias (Ref: Para. 10(e)(v))

A45. Matters that the auditor may consider in obtaining an understanding of how management addresses the risk of management bias in making accounting estimates includes whether, and if so how, management:

- Identifies and pays particular attention to accounting estimates that involve greater levels of subjectivity in related judgments.
- Monitors key performance indicators that may indicate unexpected or inconsistent performance compared with historical or budgeted performance or with other known factors.
- Identifies financial or other incentives that may be a motivation for bias.
- Monitors changes in the methods, or in significant sources of data and significant assumptions, used in making accounting estimates.
- Establishes appropriate oversight and review of models used in making accounting estimates.
- Requires documentation of the rationale for, or an independent review of, significant judgments made in making accounting estimates.

Estimation Uncertainty (Ref: Para. 10(e)(vi))

A46. Matters that may be appropriate for the auditor to 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 identified alternative methods, significant assumptions or sources of significant data that are appropriate in the context of the applicable financial reporting framework.
- Whether, and if so, how management has considered alternative outcomes by, for example, performing a sensitivity analysis to determine the effect of changes in the data or assumptions on the accounting estimate.
- How management selects its point estimate.
- Whether management monitors the outcome of accounting estimates made in previous periods, and how management has appropriately responded to the results of that monitoring.

Changes in Methods, Assumptions or Data Used in Making Accounting Estimates (Ref: Para. 10(e)(vii))

A47. In evaluating how management makes the accounting estimates, the auditor is required to understand the extent to which management has identified and addressed the need for change in the methods, assumptions or data used. 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 or regulatory environment. It is also important that management can demonstrate, when no change has been made, that the continued use of the previous methods, assumptions and data is appropriate in view of the current environment or circumstances (for example, whether management's assumptions about marketplace transactions or price quotes reflect fair value when there is reduced market activity).

Components of Internal Control Relevant to the Audit of Accounting Estimates (Ref: Para. 10(f))

A48. Paragraphs 14–24 of ISA 315 (Revised) address the auditor's understanding of the components of internal control and provide useful information for the auditor in considering the components of internal control as they relate to making accounting estimates.

A49. Some entities may have a wide range of accounting estimates, some of which may be significantly affected by, or subject to, complexity, the need for use of judgment by management, and estimation uncertainty. In such circumstances, there may be an increased need for the application of specialized skills or knowledge, and management may make extensive use of information technology in making the estimates. In such cases, it will likely be more important for the auditor to understand the design and implementation of relevant controls, and also to test their operating effectiveness in addressing the assessed risks of material misstatements.

The Control Environment Relevant To Making Accounting Estimates

A50. The auditor's understanding of the control environment relevant to making accounting estimates includes consideration of the influence that the elements of the control environment would be expected to have on the risks of material misstatement.[36] This may include, for example, whether:

- Management, with the oversight of those charged with governance, has created and maintained a culture of transparency and proper ethical behavior; and
- The strengths in the control environment elements collectively provide an appropriate foundation for the other components of internal control and whether those other components are not undermined by deficiencies in the control environment.

A51. In some industries, such as the banking or insurance industry, the term governance may be used to describe the control environment as described in ISA 315 (Revised).[37]

Oversight by those charged with governance

A52. With respect to accounting estimates, the control environment may be further influenced by such matters as the extent to which those charged with governance:

- Have the skills or knowledge to understand the characteristics of a particular method or model to make accounting estimates, or the risks related to the accounting estimate, for example, risks related to the method or information technology used in making the accounting estimates;
- Have the skills and knowledge to understand whether management made the accounting estimates in accordance with the applicable financial reporting framework; or
- Are independent from management, have the information required to evaluate on a timely basis how management made the accounting estimates, and the authority to challenge management when those actions appear to be inadequate or inappropriate.

A53. Depending on the nature of the accounting estimates, the auditor may consider obtaining an understanding of the oversight by those charged with governance over matters such as:

- Management's process for making the accounting estimates, including the use of models.

[36] ISA 315 (Revised), paragraph A78

[37] ISA 315 (Revised) paragraph A77

- The monitoring activities undertaken by management. This may include supervision and review of the accounting estimates designed to detect and correct any deficiencies in the design or operating effectiveness of controls over the accounting estimates.

A54. 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 the method, significant assumptions or significant data;
- Have 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;
- Had, or ought to have had, a change in the method, assumptions or data compared to previous periods; or
- Involve significant data and significant assumptions.

The Entity's Risk Assessment Process

A55. If the entity has a risk assessment process, the auditor is required to obtain an understanding of the process and its results in relation to the entity's accounting estimates, including how management determines the risks to be managed arising from changes in:

- The requirements of the applicable financial reporting framework related to the accounting estimates;
- The availability or nature of data sources that are relevant to making the accounting estimates or that may affect the reliability of the data used;
- The entity's information systems or IT environment; and
- Key personnel.

The Entity's Information Systems

A56. With respect to the entity's information system relevant to making accounting estimates, it may be appropriate for the auditor to obtain an understanding as to whether:

- The information systems have the capability and are appropriately configured to process large volumes of data;
- When diverse systems are required to process complex transactions, regular reconciliations between the systems are made, in particular when the systems do not have automated interfaces or may be subject to manual intervention;
- The design and calibration of models is periodically evaluated;
- Management has 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;

- When using external information sources, management considers and appropriately addresses the risks related to processing or recording the data, recognizing management's responsibility for appropriately reconciling and challenging the data from those sources; and
- There are appropriate controls over the transfer of information relating to accounting estimates into the general ledger, including appropriate controls over related journal entries.

A57. Information systems relevant to financial reporting are an important source for the quantitative and qualitative disclosures in the financial statements. This may include a system developed and maintained by the entity primarily for internal reporting, but which also captures, processes and generates data that may be included in disclosures relating to accounting estimates.

Control Activities

A58. As part of obtaining an understanding of the control activities relating to accounting estimates, the auditor may consider:

- How management determines the appropriateness of the data used to develop the accounting estimates, including when management uses an external information 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 consist of an independent function responsible for estimation and validation of fair value pricing of the entity's financial products staffed by individuals whose remuneration is not tied to such products.
- The control activities included in paragraph A30 and A42.

The Entity's Activities to Monitor Controls over How the Accounting Estimates Are Made

A59. For entities with an internal audit function, its work may be particularly helpful to the auditor in obtaining an understanding of:

- The nature and extent of management's use of accounting estimates;
- The design and implementation of control activities that address the risks related to the data, assumptions and models used to make the accounting estimates;
- The systems that generate the data on which the accounting estimates are based; and
- How new risks relating to accounting estimates are identified, assessed and managed.

Considerations Specific to Smaller Entities

A60. In smaller entities, accounting estimates may be generated outside the general ledger, controls over their development may be limited, and an owner-manager may have significant influence over the determination. The owner-manager's role in making the accounting estimates may need to be taken into account by the auditor both when identifying the risks of material misstatement and when considering the risk of management bias. ISA 315 (Revised)[38] includes specific considerations to smaller entities that the auditor might find helpful in obtaining an understanding of the components of internal control as it relates to making accounting estimates.

Reviewing the Outcome or Re-Estimation of Previous Period Accounting Estimates (Ref: Para. 11)

A61. A review of the outcome or re-estimation of previous accounting estimates(retrospective review) assists 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 in the current period, or are re-estimated for the purpose of the current period. Through performing a retrospective review, the auditor may obtain:

- Information regarding the effectiveness of management's previous estimation process, from which the auditor can obtain insight about 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.
- Information regarding the susceptibility of accounting estimates to, or that may be an indicator 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.

A62. A retrospective review may be performed over accounting estimates made for prior period financial statements but also for accounting estimates made over several periods or a shorter period (such as half-yearly or quarterly). 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 effectiveness in making accounting estimates 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 end of the audit may be useful for similar reasons.

A63. A retrospective review of management judgments and assumptions related to significant accounting estimates is required by ISA 240.[39] 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.

A64. The auditor may judge that a more detailed retrospective review is required for those accounting estimates that have changed significantly from the previous period. As part of the detailed

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

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

retrospective review, the auditor may pay particular attention, when possible, to the effect of data and significant assumptions used in making the previous estimates. On the other hand, for example, for accounting estimates that arise from the recording of routine and recurring transactions, the auditor may judge that the application of analytical procedures as risk assessment procedures is sufficient for purposes of the review.

A65. 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 that 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 outcomes of assumptions (such as a cash flow projections) and understanding the effectiveness of management's prior estimation process from which the auditor can judge the likely effectiveness of management's current process.

A66. 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, such a difference may represent a misstatement 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 in each case.

Specialized Skills or Knowledge (Ref: Para. 12)

A67. In planning the audit, the auditor is required to ascertain the nature, timing and extent of resources necessary to perform the audit engagement.[40] In some cases, the auditor may determine that specialized skills or knowledge are required in relation to specific areas of accounting or auditing. In addition, ISA 220 requires the engagement partner to be satisfied that the engagement team, and any auditor's external experts, collectively have the appropriate competence and capabilities to perform the audit engagement.[41] During the course of the audit, the auditor may identify a need for specialized skills or knowledge to be applied in relation to one or more aspects of the accounting estimates.

A68. Matters that may affect the auditor's determination of whether specialized skills or knowledge is required include, for example:

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

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

- The nature of the accounting estimates for a particular business or industry (for example, mineral deposits, agricultural assets, complex financial instruments, insurance contract liabilities).
- The degree of estimation uncertainty.
- The complexity of the method or model used.
- 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 or areas where there are inconsistencies in how accounting estimates are made.
- The procedures the auditor intends to undertake in responding to assessed risks of material misstatement.
- The need for judgment about matters not specified by the applicable financial reporting framework.
- The degree of judgment needed to select data and assumptions.
- The complexity and extent of the entity's use of information technology in making accounting estimates.

A69. Many accounting estimates do not require the application of specialized skills or knowledge. For example, for most audits it is unlikely that specialized skills or knowledge would be necessary for an auditor to evaluate a bonus accrual or inventory obsolescence. However, for expected credit losses of an internationally active banking institution or the insurance contract liability for an insurance entity, the auditor is likely to conclude that it is necessary to apply specialized skills or knowledge.

A70. The auditor may not possess the specialized skills or knowledge necessary when the matter involved is in a field other than accounting or auditing and may need to use an auditor's expert. ISA 620[42] 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.

Identifying and Assessing the Risks of Material Misstatement (Ref: Para. 13)

A70A. The information obtained during the auditor's risk assessment procedures, as required by paragraph 10, may inform the auditor's identification and assessment of the risks of material misstatement at the assertion level.

A71. Paragraph 13 requires the auditor to take into account the degree to which the accounting estimate is subject to, or affected by estimation uncertainty, complexity, subjectivity, and other relevant risk factors. Taking into account the degree to which these risk factors apply to a particular accounting estimate recognizes that a spectrum of inherent risk exists. These risk factors may affect the susceptibility to misstatement at the assertion level, which in turn may influence, to a greater or lesser degree, the likelihood and magnitude of the risks of material misstatement and the auditor's consideration of inherent risk. These risk factors also may influence the design and implementation of the entity's system of internal control relating to accounting estimates and therefore the auditor's

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

consideration of control risk, which in turn may affect the auditor's planned approach to reliance on controls in testing the accounting estimates..

Commented [A3]: Note to IAASB:

Depending on how the spectrum of risk concept is described earlier in the standard, it may be possible to delete these words and cross-refer to other paragraphs.

A71A. The relevance and significance of risk factors may vary from one estimate to another, and the risk factors may be of lesser importance (either individually or in combination) when dealing with simple accounting estimates. For example, for simple accounting estimates with less complexity, subjectivity, or estimation uncertainty, the auditor may identify fewer risks or assess the risks at the lower end of the risk spectrum.

A71B Conversely, some accounting estimates may involve more complexity or subjectivity, and be subject to a higher degree of estimation uncertainty. For these accounting estimates, the auditor's consideration of the effects of the relevant risk factors may directly affect the number and nature of identified risks of material misstatement, the assessment of such risks (which may be at the higher end of the risk spectrum), and ultimately the persuasiveness of the audit evidence needed in responding to the assessed risks.

A71C. The auditor's consideration of the risk factors also is important in determining the reasons for the assessment given to the risks of material misstatement at the assertion level, and that the auditor's further audit procedures in accordance with paragraph 15 are responsive to those reasons.

A74. The reasons for the auditor's assessment of the risks of material misstatement may result from one or more of the risk factors of estimation uncertainty, complexity, subjectivity or other relevant risk factors. For example:

(a) Accounting estimates of expected credit losses are likely to be complex because the expected credit losses cannot be directly observed and may require the use of a complex model. The model may use a complex set of historical data and assumptions about future developments in a variety of entity specific scenarios that may be difficult to predict. Accounting estimates for expected credit losses are also likely to involve high estimation uncertainty and significant subjectivity in making judgments about future events or conditions. Similar considerations apply to insurance contract liabilities.

(b) An accounting estimate for an obsolescence provision for an entity with a wide range of different inventory types may require complex systems and processes, but may involve little subjectivity and the degree of estimation uncertainty may be low, depending on the nature of the inventory.

(c) Other accounting estimates may not be complex to make but may have high estimation uncertainty and require significant judgment, for example, an accounting estimate that requires a single critical judgment about a liability, the amount of which is contingent on the outcome of the litigation.

A75. The auditor's assessment of the risks of material misstatement at the assertion level may be informed by events occurring after the date of the financial statements. For example, the outcome of an accounting estimate may become known during the audit. In such cases, the auditor may assess or revise,[43] when relevant, the risks of material misstatement, regardless of the degree of estimation uncertainty and the degree to which the accounting estimate was subject to, or affected by, complexity, subjectivity or other relevant risk factors. This also may influence the auditor's selection

[43] ISA 315 (Revised), paragraph 31

of the approach to testing the accounting estimate in accordance with paragraph 15. For example, for a simple bonus accrual that is based on a straightforward percentage of compensation for selected employees, the auditor may conclude that there is relatively little complexity or subjectivity in making the estimate, and therefore may assess the risk of material misstatement at the lower end of the risk spectrum. The payment of the bonuses subsequent to period end may provide sufficient appropriate audit evidence regarding the assessed risk of material misstatement.

The Degree of Estimation Uncertainty

A75A. The risks of material misstatement related to estimation uncertainty may relate to one or a combination of the following:

- The applicable financial reporting framework, which may require:
  - o The use of a method 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 a fair value using level 3 inputs.
  - o The use of assumptions that inherently have a high level of estimation uncertainty, such as assumptions with a long forecast period (for example, future cash flows for a long-term contract), assumptions that are based on data that is unobservable and are therefore difficult for management to develop or the use of the various assumptions that are interrelated.
  - o Disclosures about estimation uncertainty. There may be a risk of material misstatement related to the failure to make a disclosure related to estimation uncertainty.
- The business environment. An entity may be active in a market that experiences turmoil or possible disruption (for example, from major currency movements or inactive markets) and the accounting estimate may therefore be dependent on data that is not readily observable.

A75B. In taking into account the degree to which the accounting estimate is subject to estimation uncertainty, it may be important for the auditor to consider whether it is possible (or practical, insofar as permitted by the applicable financial reporting framework) for management:

- To make a precise and reliable prediction about the future realization of a past transaction (for example, the amount that will be paid under a contingent contractual term), or about the incidence and impact of future events or conditions (for example, the amount of a future credit loss or the amount at which an insurance claim will be settled and the timing of its settlement); or
- To obtain precise and complete information about a present condition (for example, information about valuation attributes that would reflect the perspective of market participants at the date of the financial statements, to develop a fair value estimate).

A75C. A seemingly immaterial accounting estimate may have the potential to result in a material misstatement due to the estimation uncertainty associated with the accounting estimate; that is, the size of the amount recognized or disclosed in the financial statements for an accounting estimate is not, in itself, an indicator of its estimation uncertainty.

A75D. 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, there may be risks of material misstatement that relate not only to whether an accounting estimate should be recognized, or whether it should be measured at fair value, but also to the reasonableness of the disclosures. With respect to such accounting estimates, the applicable financial reporting framework may require disclosure of the accounting estimates and the estimation uncertainty associated with them (see paragraphs A124–A125, A135–A137).

A75E. Not all accounting estimates are subject to a high degree 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 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.

A75F. The degree of estimation uncertainty associated with an accounting estimate also influences its susceptibility to management bias. When the reasons for the assessment given to the risk of material misstatement include a high degree of estimation uncertainty, the auditor's application of professional skepticism is particularly important.

The Effects of Complexity and Subjectivity

The Degree to Which Complexity Affects the Method Used in Making the Accounting Estimate

A79. Methods vary in the extent to which they involve complex concepts or techniques that require management to apply specialized skills or knowledge.[44] In addition, the nature of the measurement basis in the applicable financial reporting framework may result in the need for a complex method that requires multiple sources of historical and forward looking data or assumptions, with complex inter-relationships between them.

A80. Complex methods are often applied using a complex model, particularly when the measurement basis requires the use of discounted cash flow techniques, projected or expected future cash flows and historical and forward looking data and assumptions obtained or developed from a combination of internal and external sources. Designing and operating such models often involves specialized skills or knowledge, including in relation to valuation attributes arising from the nature and circumstances of the underlying financial statement items and in the use of information technology.

A81. Examples of accounting estimates for which complex models are likely to be used include:

- An expected credit loss, which may require expectations of future credit repayments and other cash flows, based on consideration of historical experience data and the application of forward looking assumptions.
- Valuation of an insurance contract liability, which may require expectations about future insurance contract payments to be projected based on historical experience and current and assumed future trends.

[44] See paragraph 8 of Appendix 2 for examples of complex techniques.

- A complex revenue arrangement in the pharmaceuticals business.

The Degree to Which Complexity Affects the Data on Which the Accounting Estimate Is Based

A82. Risks of material misstatement related to complexity may arise when there is a greater difficulty in obtaining, or in maintaining the integrity of, relevant and reliable data required to make an accounting estimate, stemming from one or more of the following:

- The reliability of the data source. Data from certain sources may be more reliable than from others. For example, data obtained from internal systems outside the general and subsidiary ledgers may be more susceptible to misstatements than data obtained from the general and subsidiary ledgers, because in some entities it may be difficult to determine whether there were appropriate controls and governance over data obtained from outside the general and subsidiary ledgers.
- Data from an external information source may be less relevant in making a fair value estimate if it is not based on observable market transactions. For example, it may be less relevant when it is based on brokers' quotes that reflect brokers' subjective judgments in the context of an inactive market. In addition, for confidentiality or proprietary reasons, some external information sources will not (or not fully) disclose information that may be relevant in considering the relevance and reliability of the data they provide, such as the sources of the underlying data they used or how it was accumulated and processed (including any controls over the process). It may be more difficult to consider the relevance and reliability of such data than in the case of data from more transparent external information sources.
- The integrity of the information systems. Data that is used to make the accounting estimates may be processed by information systems. In order to maintain the integrity of the information systems, effective general IT controls and controls over the flow of data through the system are necessary. In such circumstances, the auditor will likely identify these controls as relevant to the auditor's understanding and may also determine that it is necessary to test their operating effectiveness.
- A complex organizational structure or a lack of integration between systems in different parts of the entity may give rise to difficulty in reliably and consistently aggregating data sources.
- The volume of data or the source of the data, including data that comes from a wide variety of sources, which may lead to complexity in identifying or managing the appropriate data to be used.

The Degree to Which Subjectivity Affects the Selection of Methods, Assumptions or Data

A83. The selection or application of appropriate methods, the selection or development of appropriate assumptions, and the selection or interpretation of data may involve subjectivity. The risks of material misstatement related to the selection of different methods or to variations in the assumptions and data used may relate to one or a combination of the following:

- A lack of experience or competence by management, including a lack of availability to management of necessary skills or knowledge. These factors may result in risks related to the selection of inappropriate methods, assumptions and data. When management lacks the competence or experience in a certain area and does not use a management's expert, there may be a risk that:

- o The method selected may not be appropriate or comply with the applicable financial reporting framework.
- o The assumptions used are not appropriate in the context of the measurement objectives and other requirements of the applicable financial reporting framework.
- o Management may select a data source that is not relevant and reliable.

- The extent to which the applicable financial reporting framework does not specify the valuation approaches, concepts, techniques and factors to use in the estimation method.

A84. Examples of accounting estimates that are likely to have risks of material misstatement related to a high degree of subjectivity include the following:

- Accounting estimates that are based on expected future cash flows for which there is uncertainty regarding the amount or timing. This is a source of inherent estimation uncertainty, and gives rise to the need for management judgment in selecting a point estimate, which in turn creates an opportunity for management bias.
- Accounting estimates that are based on complex contractual terms. For example, the determination of cash inflows or outflows arising from commercial supplier or customer rebates may depend on very complex contractual terms that require specific expertise or competence to understand or interpret.
- Accounting estimates with a long forecast period.

A85. When accounting estimates are subject to a high degree of subjectivity, the accounting estimate may be more susceptible to the potential for management bias. For example, subjectivity may result in a wide range of possible measurement outcomes of the accounting estimate. Management may select a point estimate from that range that is inappropriate in the circumstances, or that is inappropriately influenced by unintentional or intentional management bias, and that is therefore misstated. 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.

A92. A sensitivity analysis may demonstrate that the accounting estimate is sensitive to one or more assumptions that then become the focus of the auditor's attention.

Commented [A4]: Note to IAASB:

This paragraph could be moved to The Degree of Estimation Uncertainty section above and recast in terms of what the auditor could do to assess the degree to which the estimate is subject to estimation uncertainty. The Task Force also will consider other alternatives for repurposing this paragraph.

Other Relevant Risk Factors

A92A. In addition to estimation uncertainty, complexity, and subjectivity, there may be other relevant risk factors that the auditor may consider in identifying and assessing the risks of material misstatement. These may include the extent to which the accounting estimate is subject to, or affected by:

- A change in the nature or circumstances of the relevant financial statement items, or requirements of the applicable financial reporting framework which may give rise to the need for changes in the method, assumptions or data used to make the accounting estimate;
- The susceptibility of the accounting estimate to the risks of a material misstatement due to fraud; and

- The regulatory environment, which includes the regulatory framework for a regulated industry annd industry-specific practices.

Significant Risks (Ref: Para. 13A)

A92B. 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.[45]

A92C. In some cases, the estimation uncertainty relating to an accounting estimate may cast significant doubt about the entity's ability to continue as a going concern. ISA 570 (Revised)[46] establishes requirements and provides guidance in such circumstances.

Responses to the Assessed Risks of Material Misstatement (Ref: Para. 15)

A94. In designing 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. In addition, as required by ISA 330,[47] the auditor shall design and perform substantive procedures for each material class of transactions, account balance and disclosure related to accounting estimates, irrespective of the assessed risk of material misstatement

A94A. In designing the audit procedures responsive to the risk of material misstatement, the auditor should also take into account the nature of the estimate and the underlying effects of the degree of estimation uncertainty, or the degree to which the methods, assumptions or data used in making the accounting estimate are affected by, or subject to, complexity, subjectivity, or other relevant risk factors, as well as the appropriateness of management's process to make the estimate.

A94B. In designing and performing further audit procedures the auditor may select one or more of the testing strategies listed in paragraph 15. For example, an accounting estimates may be made applying a method that uses several significant assumptions. The auditor may decide to test how management made the accounting for one of the significant assumptions, while for the other significant assumptions there may be audit evidence available because of events occurring up to the date of the auditor's report.

A94C. The information obtained in the auditor's risk assessment procedures, as required by paragraph 10, past knowledge and experience, and previous experience with the entity may inform the auditor which testing strategy can be used by the auditor to audit the accounting estimate.

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45 ISA 315 (Revised), paragraph 29

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

The Nature, Timing and Extent of the Auditor's Further Audit Procedures

A94D. The reasons for the assessed risk of material misstatement and the degree thereof may directly affect the number and nature of identified risks of material misstatement, the assessment of such risks, and ultimately the persuasiveness of the audit evidence needed.

A94E. The nature, timing and extent of the auditor's further audit procedures are affected by the assessed risk of material misstatement. For example, for an accounting estimate where the auditor's assessment of the risk of material misstatement relates to the data used to make the accounting estimate and the auditor will test how management makes the accounting estimate, the auditor's further audit procedures will be directed on the data.

A94F. Examples how the response to the assessed risk of material misstatement can be applied for simpler accounting estimates are included under each testing strategy.

A95. Paragraph A40 of ISA 200[48] 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.

When the Auditor Intends to Rely on Relevant Controls or Substantive Procedures Alone Cannot Provide Sufficient Appropriate Audit Evidence (Ref: Para: 16)

A98. In certain circumstances, it may not be possible or practicable for the auditor to design effective substantive procedures that, by themselves, provide sufficient appropriate audit evidence at the assertion level. For example, this may be the case for entities such as banks, insurers, and telecommunication entities that make extensive use of IT to conduct their business or have a large number of accounting estimates, many of which are highly subjective or complex. Factors that may indicate that substantive procedures alone may not provide sufficient appropriate audit evidence at the assertion level include:

- The volume of transactions (for example, a high volume of transactions may occur in a large bank, insurer or telecommunication entity, making it more difficult to design substantive procedures that alone provide sufficient appropriate audit evidence at the assertion level).
- Whether significant information supporting one or more relevant assertions is electronically initiated, recorded, processed, or reported. For such assertions, audit evidence may be available only in electronic form. In such cases, the sufficiency and appropriateness of the audit evidence may depend on the effectiveness of controls over the accuracy and completeness of the information. In addition, the potential for improper initiation or alteration of information to occur and not be detected may be greater if information is initiated, recorded, processed, or reported only in electronic form and appropriate controls are not operating effectively.
- The need to combine information from the general and subsidiary ledgers with information obtained from outside the general and subsidiary ledgers (for example, an expected credit loss

[48] ISA 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*

may require information from the entity's risk management system). In these situations, it may not be possible to design and perform substantive procedures that, by themselves, provide sufficient appropriate audit evidence at the assertion level.

A99. In some jurisdictions, as part of the audit of the financial statements for certain entities (such as a bank or insurer), the auditor also may be required by law or regulation to undertake additional work to provide assurance on internal controls.

Considerations Specific to Smaller Entities

A100. Controls over the process to make an accounting estimate may exist in smaller entities, but the formality with which they operate may vary. 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, it is likely that the auditor will identify few controls related to accounting estimates as relevant to the audit. For this reason, the auditor's response to the assessed risks is more likely to be substantive in nature.

Determining Whether Events Occurring up to the Date of the Auditor's Report Provide Audit Evidence Regarding the Accounting Estimate (Ref: Para. 17)

Commented [A5]: Note to IAASB: The paragraphs included in this section come from extant ISA 540. The Task Force has not yet discussed whether further changes are needed

A100A. Determining whether events occurring up to the date of the auditor's report provide audit evidence regarding the accounting estimate may be an appropriate response when such events are expected to:

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

A100B. Events occurring up to the date of the auditor's report may sometimes provide sufficient appropriate audit evidence about an accounting estimate. For example, sale of the complete inventory of a superseded product shortly after the period end may provide audit evidence relating to the estimate of its net realizable value. In such cases, there may be no need to perform additional audit procedures on the accounting estimate, provided that sufficient appropriate evidence about the events is obtained.

A100C. For some accounting estimates, events occurring up to the date of the auditor's report are unlikely to provide audit evidence regarding the accounting estimate. For example, the conditions or events relating to some accounting estimates develop only over an extended period. Also, because of the measurement objective of fair value accounting estimates, information after the period-end may not reflect the events or conditions existing at the balance sheet date and therefore may not be relevant to the measurement of the fair value accounting estimate.

A100D. In some cases, events that contradict the accounting estimate may indicate that management has ineffective processes for making accounting estimates, or that there is management bias in the making of accounting estimates.

A100E. Even though the auditor may decide not to undertake this approach in respect of specific accounting estimates, the auditor is required to comply with ISA 560.[49] The auditor is required to

[49] ISA 560, *Subsequent Events*

perform audit procedures designed to obtain sufficient appropriate audit evidence that all events occurring between the date of the financial statements and the date of the auditor's report that require adjustment of, or disclosure in, the financial statements have been identified[50] and appropriately reflected in the financial statements.51 Because the measurement of many accounting estimates, other than fair value accounting estimates, usually depends on the outcome of future conditions, transactions or events, the auditor's work under ISA 560 is particularly relevant.

Considerations specific to smaller entities

A100F. 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.

Testing How Management Made the Accounting Estimate (Ref: Para. 17A)

Commented [A6]: Note for IAASB: requirement A101-A112 of ED 540 have been maintained but re-organized to fit under the new structure. As a result, some paragraphs of ED-540 have been included twice. The Task Force hasn't discussed any further changes that have to be made to this section.

Methods

The selection of the method (Ref: Para. 17B(a))

A101. When management uses a complex method, an important factor that the auditor may need to consider regarding the appropriateness of the method, and significant data and significant assumptions, is whether there were other available valuation concepts, techniques or factors, types of assumptions or sources of data that, in the circumstances, might have been more appropriate, or more generally accepted, in the context of the applicable financial reporting framework. The auditor may also consider whether management was able to obtain access to the appropriate skills and knowledge involved in applying the complex method.

A107. Audit evidence regarding management's selection of methods may be obtained from inquiries of management regarding management's continuing processes of strategic analysis and risk management and inspection of relevant documents (such as committee minutes).

Changes from previous periods in the method (Ref: Para. 17B(b))

A108. The auditor's consideration of a change in the method for making it from previous periods, is important because a change that is not based on a change in circumstances or new information is unlikely to be reasonable nor in compliance with the applicable financial reporting framework. Arbitrary changes result in inconsistent financial statements over time and may give rise to a financial statement misstatement or be an indicator of possible management bias. (see paragraphs A147–A152).

Complex modelling (Ref: Para. 17B(d))

A108A. In some cases, management may use a complex model to make an accounting estimate. Whether the complex model used is appropriate in the context of the applicable financial reporting

[50] ISA 560, paragraph 6

[51] ISA 560, paragraph 8

framework 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 item being measured.

A108B. The nature and extent of the procedures that may be performed with respect to the complex model depends on the source of the complexity. When complex modelling is needed, 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.

A108C. The extent to which the following considerations are relevant depends on the circumstances, including whether the complex model is obtained from a third party, or is a proprietary model. Depending on the circumstances, matters that the auditor may consider 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;
    - The model's mathematical integrity;
    - The accuracy and completeness of the model's data and assumptions; and
    - The model's output as compared to actual transactions.
- Appropriate change control policies and procedures exist.

A108D. When management has made adjustments to the output of the model (see paragraph A30) to meet the requirements of the applicable financial reporting framework, consideration of those adjustments is likely to be important in obtaining sufficient appropriate audit evidence over risks of material misstatement related to the need for the use of judgment by management. Several types of methods used for the valuation of accounting estimates that require adjustments are for example, fulfilment value accounting for valuing insurance contracts and overlay adjustments when accounting for expected credit losses. In the case of fair value accounting estimates, it may be relevant to consider whether adjustments to the output of the model, if any, reflect the assumptions marketplace participants would use in similar circumstances.

Significant Assumptions (Ref: Para. 17C)

The selection of the method and the significant data and significant assumptions (ref: para. 17C(a))

A108E. Audit evidence regarding management's selection of significant assumptions may be obtained from inquiries of management regarding management's continuing processes of strategic analysis and risk management and inspection of relevant documents (such as committee minutes). Even without formal established processes, such as may be the case in smaller entities, the auditor may be able to evaluate the significant assumptions through inquiries of, and discussions with, management, along with other audit procedures in order to obtain sufficient appropriate audit evidence.

Changes from previous periods in the significant assumptions

A108F. The auditor's consideration of a change in an accounting estimate is important because a change that is not based on a change in circumstances or new information is unlikely to be reasonable nor in compliance with the applicable financial reporting framework. 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. (see paragraphs A147–A152).

A109. As part of the process of making changes to the assumptions used in previous periods, management may evaluate alternative assumptions or outcomes of the accounting estimates, which can be accomplished through a number of approaches depending on the circumstances. One possible approach is 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.

Considerations specific to smaller entities

A110. Smaller entities may use simple means to assess alternative assumptions or outcomes. In addition to the auditor's review of available documentation, the auditor may obtain other audit evidence of management's consideration of alternative assumptions or outcomes by inquiry of management. In addition, management may not have the expertise to consider alternative assumptions or outcomes and, therefore, may need to obtain specialized skills or knowledge from an external party (see also paragraph 10(e)(iv)).

Management's intent and ability (Ref: Para. 17C(c))

A111. 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 applicable 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, when 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 and legal, regulatory, or contractual restrictions that could affect the feasibility of management's actions.
- Consideration of whether management has met the applicable documentation requirements, if any, of the applicable financial reporting framework.

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.

Data

The selection of significant data (ref: para. 17D(a))

A111A. Audit evidence regarding management's selection of data may be obtained from inquiries of management regarding management's continuing processes of strategic analysis and risk management and inspection of relevant documents (such as committee minutes). Even without formal established processes, such as may be the case in smaller entities, the auditor may be able to evaluate the significant data through inquiries of, and discussions with, management, along with other audit procedures in order to obtain sufficient appropriate audit evidence.

Changes from previous periods in the data

A111B. The auditor's consideration of a change in an accounting estimate is important because a change that is not based on a change in circumstances or new information is unlikely to be reasonable nor in compliance with the applicable financial reporting framework. 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. (see paragraphs A147–A152).

Understanding and interpretation of data (Ref: Para. 17D(b))

A111C. An accounting estimate may be based on data that needs to be understood or interpreted. For example, a contract may include complex terms that management needs to understand and interpret based on the facts and circumstances of the entity. Procedures that the auditor may consider when the accounting estimate is based on complex legal or contractual terms include:

- Considering whether specialized skills or knowledge are needed to understand or interpret the contract;
- Inquiring of the entity's legal counsel regarding the legal or contractual terms; and
- Inspecting the underlying contracts, and:
    - Obtaining an understanding of, and evaluating, the underlying business purpose for the transaction or agreement; and
    - Considering whether the terms of the contracts are consistent with management's explanations.

External Information Sources (Ref: Para. 17E)

A111D. Data and assumptions may be developed internally, or may be obtained from an external information source. When obtaining audit evidence about the integrity of data and assumptions, it may be appropriate for the auditor to compare the data and assumptions with an external information source.

Management's Selection of Point Estimate and Disclosures

Management's Steps to Understand and Address Estimation Uncertainty (Ref: Para. 17G(a))

A113. To determine an appropriate management point estimate, and related disclosures, it is necessary to understand the sources of inherent variability in the measurement outcomes, the extent of that variability, and the range of reasonably possible measurement outcomes. It also is necessary for management to identify and address the effects of complexity and judgment in the measurement process that increase the susceptibility of the accounting estimate to misstatement. This is important so that the selection of management's point estimate, and the development of related disclosures, is based only on estimation uncertainty.

A114. There is no particular method of addressing estimation uncertainty that is more suitable than another. For example, management may employ sensitivity analysis, scenario analysis, or, when more robust evaluation is considered necessary (for example, in the banking or insurance industries), stress testing and reverse stress testing. Management's consideration of alternative assumptions or outcomes may not need to be conducted through a detailed process supported by extensive documentation. What is important is whether management has appropriately assessed how estimation uncertainty may affect the accounting estimate, 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 estimation uncertainty.

A115. Paragraph A46 includes a list of matters that may be appropriate for the auditor to consider in obtaining an understanding of whether, and if so, how management has addressed estimation uncertainty.

Management's Determination of a Point Estimate and Related Disclosures of Estimation Uncertainty (Ref: Para 17G(b)))

A116. When preparing the financial statements, it also is important for management to determine that the estimation uncertainty has been properly depicted. This includes the selection of an appropriate point estimate and the related disclosures in the financial statements that describe the estimation uncertainty. For this purpose, an appropriate management point estimate is an amount that appropriately represents the range of reasonably possible outcomes, and appropriate related disclosures describe the extent of the variability in reasonably possible measurement outcomes.

A117. The requirements of the applicable financial reporting framework may specify the method that should be applied in selecting an amount from the reasonably possible measurement outcomes. Financial reporting frameworks may recognize that the appropriate amount is one that is representative of the range of reasonably possible measurement outcomes and, in some cases, may indicate that the most relevant amount may be in the central part of that range.

A118. For example, with respect to fair value estimates, IFRS[52] indicates that, if multiple valuation techniques are used to measure fair value, the results (i.e., respective indications of fair value) shall be evaluated considering the reasonableness of the range of values indicated by those results. A fair value measurement is the point within that range that is most representative of fair value in the circumstances. In other cases, the applicable financial reporting framework may specify the use of a

[52] IFRS 13, Fair Value Measurement, paragraph 63

probability-weighted average of the reasonably possible measurement outcomes, or of the measurement amount that is most likely or that is more likely than not.

A119. In other cases, the framework may not specify a particular selection method and judgment will be required, having regard to the requirements of the applicable financial reporting framework, including, when applicable, requirements relating to fair presentation and faithful representation.

A120. The applicable financial reporting framework may require disclosures that describe the amount as an estimate and explain the nature and limitations of the process for making it, including the variability in reasonably possible measurement outcomes. The framework also may require additional disclosures to meet a disclosure objective.[53] In addition, in certain circumstances, it may be necessary for management to provide additional disclosures beyond those specifically required by the financial reporting framework in order to achieve fair presentation, or in the case of a compliance framework, for the financial statements not to be misleading.

A121. The applicable financial reporting framework may require disclosures about significant accounting policies related to accounting estimates. Depending on the circumstances, relevant accounting policies may include matters such as the specific principles, bases, conventions, rules and practices applied in preparing and presenting accounting estimates in the financial statements.

A122. The applicable financial reporting framework also may include requirements to disclose significant or critical judgments (for example, those that had the most significant effect on the amounts recognized in the financial statements) as well as significant forward-looking assumptions or other sources of estimation uncertainty.

A123. Paragraph A2 of this ISA describes considerations that may be relevant to the auditor's evaluation of whether the accounting estimate, and related disclosures, are reasonable in the context of the applicable financial reporting framework. Matters that may be relevant in obtaining sufficient appropriate audit evidence about the reasonableness of management's point estimate and related disclosures include, when applicable:

- Alternative methods for making the accounting estimate and alternative sources of data were available, and the methods and data used were selected appropriately from those alternatives.
- Valuation attributes used were appropriate and complete.
- The assumptions used were selected from a range of reasonably possible amounts and were supported by appropriate data that is relevant and reliable.
- The data used in the measurement process was appropriate, relevant and reliable, and the integrity of that data was maintained.
- The calculations applied in developing the outputs from the measurement process were mathematically accurate.
- Management's point estimate is appropriately representative of the range of reasonably possible measurement outcomes.

[53] IFRS 13, *Fair Value Measurement*, paragraph 92

- The related disclosures appropriately describe the amount as an estimate and explain the nature and limitations of the estimation process, including the variability of the reasonably possible measurement outcomes.

A124. The auditor may conclude that the disclosure of estimation uncertainty is not reasonable in light of the circumstances and facts involved, even when the disclosures are in accordance with the applicable financial reporting framework. The auditor's evaluation of the reasonableness of disclosures about estimation uncertainty increases in importance the greater the range of possible outcomes of the accounting estimate (see paragraphs A133–A134).

A125. 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)[54] provides guidance on the implications for the auditor's opinion when the auditor believes that management's disclosures in the financial statements are inadequate or misleading, including, for example, with respect to estimation uncertainty. 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).[55]

When Management Has Not Appropriately Understood or Addressed Estimation Uncertainty (Ref: Para. 17H)

A126. When the auditor believes that management has not appropriately understood or addressed estimation uncertainty, the auditor may consider requesting management to consider alternative assumptions or to provide additional disclosure relating to the estimation uncertainty.

A127. If, in the auditor's judgment, management has not appropriately understood or addressed the estimation uncertainty, the auditor is required, to the extent possible, to develop a point estimate or a range to enable the auditor to evaluate the reasonableness of management's point estimate and the related disclosures in the financial statements that describe the estimation uncertainty. The appropriate methods, assumptions and data for the auditor to use depend on the requirements of the applicable financial reporting framework.

Developing an Auditor's Point Estimate or Using an Auditor's Range (Ref: Para. 18-18C)

A128. Whether the auditor develops a point estimate or uses an auditor's range, the auditor is designing and performing a substantive analytical procedure. ISA 520[56] provides requirements and guidance regarding the auditor's use of substantive analytical procedures.

A129. 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 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, when possible, a point estimate.

A130. The ability of the auditor to develop a point estimate, as opposed to a range, depends on several factors, including the method used, the nature and extent of data available and the estimation

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

[55] ISA 701, *Communicating Key Audit Matters in the Independent Auditor's Report*

[56] ISA 520, *Analytical Procedures*

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, or the most likely outcome).

A131. 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.
- Using management's model and selecting alternative assumptions or data sources to develop a point estimate or range.
- Developing a point estimate or range for only part of the accounting estimate (for example, when only a certain part of the accounting estimate is giving rise to the risk of material misstatement).
- Developing alternative assumptions to those used by management.
- 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.

A132. It is important for the auditor to obtain a sufficient understanding of the data, assumptions and method used by management in making the accounting estimate as this understanding also may be relevant to the auditor's development of an appropriate point estimate or range and the evaluation of whether the accounting estimate is reasonable or is misstated.

A133. The auditor also may need to consider whether there is an indication of management bias in the selection of the assumptions, data or method. For example, for a particular accounting estimate, if management has developed an appropriate range for three different assumptions, and in each case the assumption used in making the accounting estimate was from the same end of the range, the auditor may need a further discussion with management and may need to reconsider whether sufficient appropriate audit evidence has been obtained that the assumptions selected were appropriate and supportable in the circumstances.

A134. In certain circumstances, the auditor's range for an accounting estimate may be multiples of materiality for the financial statements as a whole, particularly when materiality is based on operating results (for example, pre-tax income) and this measure is relatively small in relation to assets or other balance sheet measures. In these circumstances, the auditor's evaluation of the reasonableness of the disclosures about estimation uncertainty becomes increasingly important. Considerations such as those included in paragraphs A133, A144 and A145 may also be appropriate in these circumstances.

Disclosures Related to Accounting Estimates (Ref: Para. 21)

A135. Paragraph 21 applies regardless of whether the auditor is required to perform procedures under paragraph 19.

A136. The presentation of financial statements in accordance with the applicable financial reporting framework includes disclosure of relevant 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:
  - Assumptions developed internally; or
  - 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, including when 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 reasonable in the context of the applicable financial reporting framework.

A137. 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 specific information, such as:
  - Information regarding the significance of fair value accounting estimates to the entity's financial position and performance; and
  - Disclosures regarding market inactivity or illiquidity.
- 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.

A138. 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[57] 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 A124–A125).

Overall Evaluation Based on Audit Procedures Performed (Ref: Para. 22)

A139. ISA 330[58] notes that an audit of financial statements is a cumulative and iterative process. As the auditor performs planned audit procedures, the audit evidence obtained may cause the auditor to modify the nature, timing or extent of other planned audit procedures. In relation to accounting estimates, information may come to the auditor's attention through performing procedures to obtain audit evidence that differs significantly from the information on which the risk assessment was based.

A140. For example, the auditor may have identified that the only reason for an assessed risk of material misstatement is the need for the use of judgment by management in making the accounting estimate. However, while performing procedures to address the matters in paragraph 18, as applicable, the auditor may discover that the accounting estimate is more complex than originally contemplated, indicating that the assessment of the risk of material misstatement may need to be revised (that is, the reasons for the assessment now include complexity). Therefore, the auditor needs to perform additional audit procedures to address the matters in paragraph 17, as applicable. ISA 315 (Revised) contains further guidance on revising the auditor's risk assessment.[59]

A141. With respect to accounting estimates that have not been recognized, the focus of the auditor's evaluation may be on whether the recognition criteria of the applicable financial reporting framework have in fact been met. When an accounting estimate has not been recognized, and the auditor concludes that this treatment is appropriate, some financial reporting frameworks may require disclosure of the circumstances in the notes to the financial statements.

Misstatements (Ref: Para.23)

A142. ISA 450[60] 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).

[57] ISA 700 (Revised), paragraph 14

[58] ISA 330, paragraph A60

[59] ISA 315 (Revised), paragraph 31

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

- Differences arising from the judgments of management, including those concerning recognition, measurement, presentation and disclosure of accounting estimates (including the selection or application of accounting policies) that the auditor considers unreasonable or 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).

A142A. ISA 450 also provides guidance regarding qualitative disclosures[61] and when misstatements in disclosures could be indicative of fraud.[62]

A143. Paragraphs A113 to A118 provide guidance to assist the auditor in evaluating management's selection of a point estimate to be included in the financial statements. Based on the audit evidence obtained, the auditor may conclude that there is sufficient appropriate audit evidence supporting a point estimate that does not differ from management's point estimate. When the auditor uses a range, and provided that the auditor's range only includes amounts that are supported by audit evidence obtained and the auditor has evaluated to be reasonable as required by paragraph 20 of this ISA, the auditor may determine that management's point estimate falls within the auditor's range. In either of these situations, the auditor may conclude that the accounting estimate is reasonable in the context of the applicable financial reporting framework.

A144. In some cases, management may have determined an amount or a range of amounts that it believes are reasonable, and that the auditor also may have determined are reasonable, based on the audit evidence obtained, in developing an auditor's point estimate or range. In other circumstances, the audit evidence obtained may support other amounts or another range of amounts as being reasonable. In each of these circumstances, the variation in such amounts or the auditor's range may be significant. Such variation does not necessarily mean that any of the amounts identified or supported or any amount in the auditor's range is not reasonable. Nonetheless, if the variation is significant it may be important for the auditor to reconsider whether sufficient appropriate audit evidence has been obtained regarding the reasonableness of the amounts within the range.

A145. The audit evidence may support a point estimate that differs from management's point estimate, or a range that does not include management's point estimate. When the audit evidence supports an auditor's point estimate that differs from management's point estimate, the difference between the auditor's point estimate and management's point estimate constitutes a misstatement. When the audit evidence supports a range that does not encompass management's point estimate, the misstatement is the difference between management's point estimate and the nearest point of the auditor's range.

A146. 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 involves essentially the same types of considerations applied when auditing an accounting estimate recognized in the financial statements.

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[61] ISA 450, paragraph A17

[62] ISA 450, paragraph A22

Indicators of Possible Management Bias (Ref: Para. 24)

A147. Examples of indicators of possible management bias with respect to accounting estimates include:

- Changes in an accounting estimate, or the method for making it, when management has made a subjective assessment that there has been a change in circumstances.
- Selection or development 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.

148. Indicators of possible management bias themselves do not constitute misstatements for purposes of drawing conclusions on the reasonableness of individual accounting estimates. However, in some cases the audit evidence may point to a misstatement rather than simply an indicator of management bias. For example, when management has changed the method for making an accounting estimate 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 obtained 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.

A149. Management bias may be more difficult to detect at an account level than when considering accounting estimates collectively in the context of the financial statements as a whole, or when observing accounting estimates over a number of accounting periods. For example, if accounting estimates included in the financial statements are considered to be individually reasonable but management's point estimates consistently trend toward one end of the auditor's range of reasonable outcomes that provide a more favourable financial reporting outcome, such circumstances may indicate possible bias by management.

A150. Management bias may also be evident from the cumulative effect of changes in multiple accounting estimates. For example, if the accounting estimates in the financial statements are grouped at one end of the range of reasonable outcomes in the prior year and are grouped at the other end of the range of reasonable outcomes in the current year, such changes may be an indicator of possible management bias as management may seek to achieve an expected or desired outcome.

A151. Indicators of management bias 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).[63]

A152. In addition, in applying ISA 240, the auditor is required to evaluate whether management's judgments and decisions in making the accounting estimates included in the financial statements indicate a possible bias that may represent a material misstatement due to fraud.[64] Fraudulent financial reporting is often accomplished through intentional misstatement of accounting estimates, which may include intentionally understating or overstating accounting estimates. Possible indicators of management bias that may also be indicators of a fraud risk may cause the auditor to reassess

[63] ISA 700, paragraph 12

[64] ISA 240, paragraph 32(b)

whether the auditor's risk assessments, in particular the assessment of fraud risks, and related responses remain appropriate.

Written Representations (Ref: Para. 25)

A153. Written representations about specific accounting estimates may address accounting estimates recognized or disclosed, or decisions by management not to recognize or disclose accounting estimates in the financial statements. Such representations may include representations:

- That management's point estimates are in accordance with the applicable financial reporting framework.
- About the appropriateness of the method selected and, when applicable, the model used in making the accounting estimates in the context of the applicable financial reporting framework.
- That the significant judgments made in making the accounting estimates have been taken into account all relevant information of which management is aware.
- About the consistency in the selection or application of the methods, assumptions and data used by management in making the 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, when relevant to the accounting estimates and disclosures.
- That disclosures related to accounting estimates, including disclosures describing estimation uncertainty, are complete and in accordance with the applicable financial reporting framework.
- That appropriate specialized skills or expertise, when necessary, has been applied in making the accounting estimates.
- That no subsequent event requires adjustment to the accounting estimates and related disclosures included in the financial statements.

A154. 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.

Communication with Those Charged With Governance or Management (Ref: Para 26)

A155. In applying ISA 260 (Revised), the auditor communicates with 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. This may include, when applicable, why the auditor considers a significant accounting practice, although acceptable under the applicable financial reporting framework, not to be most appropriate to the particular circumstances of the entity. 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;

(d) Significant difficulties encountered when obtaining sufficient appropriate audit evidence relating to data obtained from an external information source or valuations performed by management or a management's expert;

(e) Significant differences in judgments between the auditor and management or a management's expert regarding valuations;

(f) The auditor's views about differences between the auditor's point estimate or range and management's point estimate;

(g) The auditor's views about the appropriateness of the selection of accounting policies related to accounting estimates and presentation of accounting estimates in the financial statements; and

(h) 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.

A156. In applying ISA 265, the auditor communicates significant deficiencies in internal control to those charged with governance or management, including significant deficiencies regarding accounting estimates. Significant deficiencies may be identified related to controls over:

(a) The selection and application of significant accounting policies related to accounting estimates, and the selection and application of methods, assumptions, and data;

(b) Risk management and related systems;

(c) Data integrity, including when data is obtained from an external information source; and

(d) The use, development and validation of models, including third-party models, and any adjustments that may be required.

A157. In addition to communicating with those charged with governance, the auditor may be permitted or required to communicate directly with regulators or prudential supervisors. 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, assessing and responding to risks of material misstatement.

Documentation (Ref: Para. 27)

Commented [A7]: Note for IAASB: The Task Force needs to discuss which additions should be made as several respondents provided comments

A158. Paragraph 8 of ISA 230 requires the auditor to prepare audit documentation that is sufficient to enable an experienced auditor, having no previous connection with the audit, to understand, among other things, significant professional judgments. In the context of auditing accounting estimates, these professional judgments include the basis for the auditor's evaluation of whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework, or are misstated. In addition, the auditor's judgments about the assessed risk of material misstatement related to accounting estimates, and the auditor's response, may likely be further supported by documentation of communications with those charged with governance and management.

A159. 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 A147 for examples of indicators of possible management bias.

Appendix 1

(Ref: Para. 2)

Measurement Bases of Accounting Estimates

1. The purpose of this appendix is to explain the range of different types of measurement bases that may be relevant in making an accounting estimate. It is intended to provide context for the auditor's consideration of the extent to which the factors of complexity, the need for the use of judgment by management, and estimation uncertainty may be inherent in the use of a particular measurement basis.

2. Measurement bases are the measurement objectives for determining the required monetary amounts for financial statement items. They may be either historical cost or current value measurement bases. Monetary amounts for financial statement items measured at historical cost provide information derived from the transaction or event that created them and those measured at current value provide information that is updated to reflect conditions at the measurement date. A current value measurement basis may reflect either an entity-specific or a market-based perspective of value.

3. Depending on the measurement basis and on the nature, condition and circumstances of a financial statement item, the monetary amount required to be measured for the item may be a cost or price for the item at initial recognition, which thereafter may be re-measured, or adjusted to reflect certain subsequent changes in the condition and circumstances of the item. A cost or price may be directly observable in actual transactions (either of the entity or between market participants) or may need to be estimated using other valuation techniques. Adjustments to reflect subsequent changes often also require estimation. Examples of circumstances in which accounting estimates may be required, when applying a range of common measurement bases, are discussed below.

4. The nature, condition and circumstances of financial statement items vary widely and give rise to quantitative and qualitative attributes of those items that would influence the monetary amount of the item on the relevant measurement basis (valuation attributes).

5. The nature of a financial statement item may give rise to valuation attributes relating to the rights, obligations or other claims relating to resources, or changes therein, which the item embodies. The circumstances and condition of a financial statement item may give rise to valuation attributes. These may relate to general economic, regulatory, technological and market conditions. They may also relate to conditions of more specific relevance to the item, including the nature of the business, how the items are used in the business and how the risks and uncertainties inherent in the business activities affect the item.

6. Valuation attributes may affect how the item contributes to the timing and amounts of cash flows, and related risks and uncertainties, and may reflect other risks and uncertainties inherent in the item. Valuation attributes may influence the cost or price of the item on initial recognition, or on re-measurement, or may influence the monetary amount relating to subsequent changes for which adjustment is required.

7. When accounting estimates need to be made, other than by direct observation of the cost or price, valuation techniques may be used to model the cost or price of the item, or the effects of any subsequent changes for which adjustments are required. Using such techniques involves measuring

or estimating relevant valuation attributes and applying functions to the resulting amounts. Amounts may be measured or estimated for valuation attributes based on observable data, where available, or otherwise based on assumptions that take into account the best available data or other information. The selection and application of appropriate valuation techniques, including the measurement or estimation of such attributes and the application of functions to the resulting amounts, are undertaken in a manner that reflects the objectives of the measurement basis and takes into account the nature, circumstances and conditions of the item.

8. Making an accounting estimate for a financial statement item, by modelling the amount to be measured in this way, may therefore involve determining:

- The relevant quantitative and qualitative valuation attributes;
- The extent to which observable data is available to measure relevant valuation attributes;
- If such data is available to measure relevant valuation attributes, the sources of data that would provide appropriate measures of those attributes;
- If such data is not available to measure relevant valuation attributes, or is not sufficiently precise or comprehensive, the types of assumptions that need to be made in estimating appropriate values for those attributes and the sources of data that would provide appropriate support in making those assumptions;
- The method (valuation technique or combination of valuation techniques) by which such data and assumptions would be used to make the estimate , and to develop information about the sensitivity of that amount to reasonably possible variations in the data and assumptions used; and
- Where applicable, the nature and extent of any adjustments that may be made to the estimated measurement arising from the application of that method, for example to reflect practical limitations in the validity of the valuation technique(s) used in measuring what it purports to measure.

Examples of Circumstances in Which Accounting Estimates May Be Required in Applying Certain Measurement Bases

Historical Cost Measurement Bases

9. Some measurement bases require the use of monetary amounts at initial recognition that reflect the cost paid or consideration given (and transaction costs) for a statement asset acquired or built, and the consideration received (less transaction costs) for a liability incurred or assumed, based on the terms of the transactions that gave rise to them (historical cost). Such amounts may be directly observable (for example, they may be observed in invoices, remittance or payment advices or contract notes or other primary transaction records).

10. When such amounts are not directly observable, it may be necessary to estimate a deemed cost for the item(s) using a proxy such as fair value (see paragraph 19). For example, the deemed cost of an item may be the fair value of the other assets or liabilities exchanged for the item or may be the fair value of the item itself when no other assets or liabilities are exchanged for it. That deemed cost may not be known at the measurement date and may depend on the outcome of future events or circumstances (such as would be the case when part or all of the amount payable for the acquisition

of a business depends on the future earnings of the business). Deemed cost may therefore be difficult to determine.

Adjustments of Historical Cost Measures after Initial Recognition

11. Historical cost measurement bases require adjustments to reflect changes after initial recognition of the item, other than changes in prices. Such changes may occur over several reporting periods. For non-financial assets and liabilities, these changes may reflect the consumption or impairment of an asset or the fulfilment of, or the onset of onerous conditions relating to, a liability. The historical cost of a financial asset or a financial liability may be referred to as amortized cost.

12. For financial assets and financial liabilities measured using amortized cost, adjustments are made to reflect changes after initial recognition such as the accrual of interest, changes in the estimates of cash flows (including the impairment of financial assets) and payments or receipts, but not to reflect subsequent changes in prices caused by other factors.

13. The monetary amounts of adjustments to historical costs measured at initial recognition will often not be directly observable and will need to be estimated. Estimating consumption and identifying impairment losses or onerous liabilities can be subjective. Hence, the historical cost of an asset or a liability can sometimes be as difficult to estimate as a current value.

Impairment of an Asset

14. Impairment adjustments are made when the amount recoverable from disposal or use of an asset is less than its carrying amount, after taking account of adjustments for depreciation or amortization. Impairment may be caused by a number of factors, depending on the nature of the asset, such as obsolescence, physical damage, a reduction in creditworthiness (financial assets), a reduction in market value or a reduction in the operational use of the asset. The monetary amount of the impairment, if any, of a historical cost measure of an asset at the balance sheet date is not ordinarily directly observable, and may depend on future realizations from the use or sale of the item.

15. The amount recoverable from disposal may be required to be determined based on a fair value measurement or at net realizable value, and may require estimation. Similarly the amount recoverable from use (value in use) will ordinarily require estimation. There can also be complex considerations relating to the appropriate unit of account.

16. Even if the amount of the impairment of the asset is confirmed in transactions subsequent to the balance sheet date at a monetary amount that is then observable, that amount may not reflect the level of impairment at the balance sheet date. This is because the level of impairment at the balance sheet date may have been subject to the effects of changes in circumstances between that date and the date of such transactions.

Depreciation or Amortization

17. The depreciation or amortization of an asset's historical cost reflects the consumption of the underlying economic resource that constitutes the asset, during its useful life. The capacity of the economic resource (useful life of the asset), the progress of its consumption and the residual value of the asset are all uncertain. These amounts may not be known with certainty until the asset's total economic capacity and its consumption have been observed over its useful life and the asset at the residual stage has been disposed of. Ordinarily, therefore, none of these amounts would be directly

observable when accounting estimates for depreciation or amortization are required to be made during the asset's useful life. They would all therefore ordinarily require estimation.

Current Value Measurement Bases

18. Some measurement bases require the use of monetary amounts that reflect information about conditions at the measurement date rather than information based on historical transactions. Such measurement bases require the use of either a market-participant or an entity-specific perspective.

Fair Value

19. The fair value measurement basis requires measurement of the price for which an asset would have been sold, or a liability transferred, in an orderly transaction (or, if no such transaction has occurred, in an assumed transaction) between market participants in an active market at the measurement date. The objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions.

20. Financial reporting frameworks often establish a 'fair value hierarchy' that categorises the inputs used to measure fair value into three levels and gives priority to using those in the higher levels over using those in lower levels. The purpose of doing so is to increase consistency and comparability in fair value measurements and related disclosures. Quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date and that are not subject to adjustment, provide the most relevant evidence of fair value and are included in the highest level of the hierarchy (these are level 1 inputs).

21. If a level 1 input is not available or accessible, it may be possible to measure the fair value using other observable inputs, such as quoted prices for similar items in an active market or quoted prices for identical items in a non-active market or other inputs observed in or corroborated with active markets (e.g., interest rates, yield curves, implied volatilities or credit spreads) (such other observable inputs are level 2 inputs).

22. Otherwise, it may be necessary to measure the fair value, sometimes using discounted cash flow techniques, based on the best information available in the circumstances, including unobservable inputs to the extent observable inputs are not available, and taking into account all information about market participant assumptions that is reasonably available (unobservable inputs are level 3 inputs).

23. In some circumstances, fair value may be measured using inputs from more than one level of the hierarchy, or using a level 1 input that has been adjusted. Fair value measurements are categorized in their entirety in the same level of the hierarchy as the lowest level of input that is significant for the entire measurement. If so, their categorizations are ordinarily based on the lowest level of input used that is significant to the measurement as a whole, and on categorizing a fair value measurement that uses an adjusted level 1 input into a level lower than level 1.

Value in Use and Fulfilment Value

24. Some measurement bases require the use of monetary amounts that reflect the present value of the future cash flows that the entity will obtain from using and disposing of an asset (value in use) or will incur in fulfilling its obligations inherent in a liability (fulfilment value). For example, value in use is frequently used to test for impairment (see paragraph 15). Certain types of provisions may be

measured using fulfilment value, such as provisions for pension obligations, product warranties, reinstatement obligations, or legal disputes. The monetary amounts required by such measurement bases cannot be observed directly and are estimated using discounted cash flow techniques. In principle, accounting estimates measured using value in use and fulfilment value, reflect an entity-specific perspective but some valuation attributes used in making them may be required to reflect a market-participant perspective, such as market interest rates.

Valuation Techniques Commonly Used in Making Current Value Measurements

Valuation Techniques

25. Valuation techniques can be categorized within three different approaches: the market approach; the cost approach; and the income approach.

Market Approach

26. Valuation techniques within the market approach typically use prices and other relevant information generated by market transactions involving identical or similar assets, liabilities or groups of assets and liabilities, such as businesses. Examples include the use of valuation techniques for measuring fair value that use level 1 and level 2 inputs and valuation techniques for measuring fair value of real estate by reference to comparable properties.

Cost Approach

27. Valuation techniques within the cost approach typically reflect the amount that would be required to replace the service capacity of an asset at the measurement date (often referred to as current replacement cost). For example, current replacement cost is used to measure the fair value of tangible assets used in combination with other assets or liabilities.

Income Approach

28. Valuation techniques within the income approach typically convert future amounts, such as cash flows, or income and expenses, to a single discounted current amount. Valuation techniques that apply this approach include, for example, present value techniques and option pricing models. For example, discounted cash flow is a valuation technique within the income approach, which applies present value techniques to cash flows that are commonly used in measuring value in use and fulfilment value and sometimes used in measuring fair value.

Discounted Cash Flow

29. Measurement bases that involve the use of discounted cash flow in making accounting estimates generally require valuation attributes such as the following to be addressed:

- Estimates of the amount and timing of future cash flows arising from the item;
- Possible variations in the amount and timing of those cash flows, resulting from uncertainty inherent in those cash flows;
- Time value of money;
- Price (a risk premium or discount) for bearing the uncertainty inherent in the cash flows;

- Other attributes, such as liquidity, that would be taken into account in the circumstances; and
- If used to measure fair value of a liability, the price for bearing the entity's own credit risk.

30. The assumptions reflected in the discount rate should be consistent with the assumptions inherent in the cash flows – if uncertainty about future defaults is reflected in the discount rate, then the cash flows should be the contractual flows. If the cash flows are probability-weighted and therefore already reflect assumptions about uncertainty of future default, then the discount rate should not double-count that risk.

31. Assumptions about cash flows and discount rates should also be internally consistent. For example, nominal cash flows, which include the effect of inflation, should be discounted at a rate that includes the effect of inflation and after-tax cash flows should be discounted using after-tax discount rates.

Appendix 2

(Ref: Para. 2, A6)

Factors That May be Indicators of Risks of Material Misstatement for Accounting Estimates

1. Paragraphs 2, 3 and 13 of this ISA, respectively, introduce the factors of complexity, judgement and estimation uncertainty and require the auditor to take them, and any other relevant factors, into account in the identification and assessment of the risks of material misstatement related to an accounting estimate. Accordingly, these factors are referred to throughout this ISA and this appendix provides additional background information in relation to them. In responding to the assessed risks of material misstatement the auditor is required, in accordance with paragraph 15(b) of this ISA, to perform procedures to obtain sufficient appropriate audit evidence about certain matters, when specified circumstances are applicable, related to each of these factors.

Circumstances Where the Three Factors Are Likely To Be More Prevalent

2. As explained in Appendix 1, the nature of the measurement basis applied and the nature and circumstances of the financial statement item will also influence the extent to which these factors are present and need to be taken into account by management, when applicable, in:

    (a) Making an accounting estimate of the required monetary amount;

    (b) Understanding the sensitivity of the accounting estimate to variation in those factors; and

    (c) Considering the related disclosures that may be required.

3. Estimates are more likely to be affected by the interrelationship of these three factors, and to a greater extent, when the method by which they are made involves complex modelling.

Estimation Uncertainty

4. Estimation uncertainty is the inherent uncertainty that makes accounting estimates susceptible to a lack of precision in their measurement. Depending on the nature of the measurement basis applied and on the nature and circumstances of the financial statement item, the monetary amount of the item may be directly observable before the financial statements are finalized or may only be directly observable at a later date or, in some cases, may not be directly observable at all. Estimation uncertainty arises when the required monetary amount for a financial statement item cannot be determined with precision and the outcome of the estimate is not known before the date the financial statements are finalized.

5. Estimation uncertainty may give rise to variation in the possible methods, data sources and types of assumptions that could be used to make the accounting estimate and therefore may give rise to the need for the use of judgment in making estimates. This in turn may give rise to variation in the possible outcomes of the estimation process (both in the amount of the accounting estimate and in information developed about the sensitivity of that amount to variations in the data or assumptions used). Such variation is relevant in considering how to depict accounting estimates in the financial statements, in accordance with the recognition, measurement, presentation and disclosure requirements of the applicable financial reporting framework.

6. As a result of inherent limitations in information, it is not possible to reduce estimation uncertainty beyond certain limits. Furthermore, most accounting frameworks acknowledge that the information that should be taken into account may also be limited (and that it is therefore not practical to reduce estimation uncertainty beyond this limit) when the cost of obtaining it would exceed the benefits (the cost constraint).

7. The extent to which there is residual estimation uncertainty is reflected in the sensitivity of the amount of the accounting estimate to the use of different methods, to variations in the available data, or in the values for the assumptions that could be used, in making the accounting estimate. Although an estimate subject to higher levels of estimation uncertainty may be less precisely measureable than one subject to lower levels, the accounting estimate may still have significant relevance for users of the financial statements if the description of the nature and extent of the estimation uncertainty in the financial statements is reasonable in the context of the applicable financial reporting framework. Addressing the estimate in the financial statements is accomplished by selecting a reasonable point estimate to use in the financial statements and describing the extent, nature and measurement effect of the estimation uncertainty i.e., the range of possible outcomes. 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 recognized in the financial statements, though there may still be relevant disclosure requirements.

Complexity

8. Complexity in making accounting estimates arises when there are multiple valuation attributes and multiple or non-linear relationships between them. Management may require specialized skills or knowledge may, for example, be needed in relation to:

- Available valuation concepts and techniques that could be used in the context of the measurement basis and objectives or other requirements of the applicable financial reporting framework and how to apply those concepts or techniques;
- Experience of the underlying valuation attributes that may be relevant given the nature and circumstances of the financial statement items for which accounting estimates are being made; or
- Identifying available appropriate sources of data (including data relevant to the development of appropriate assumptions) from internal sources (including from sources outside the general or subsidiary ledgers) or from external information sources, or how to address difficulties in obtaining data from such sources or in maintaining its integrity in applying the method.

9. Complexity in applying valuation concepts or techniques may exist when concepts or techniques involve the use of, for example probability-based methods, option pricing formulae or simulation techniques to predict uncertain future outcomes or hypothetical behaviors. Complexity in relation to the method may also exist when multiple sources of data, assumptions or valuation concepts or techniques need to be used in determining the output(s) of the estimation process, including when such items need to be interpreted or processed to be appropriate for use or to support the development of assumptions.

10. Complexity in applying valuation concepts or techniques may also relate to data (including data relevant to the development of appropriate assumptions), including when the data is inherently difficult to identify, capture, access or understand. For example:

    (a) Data may be difficult to obtain when it relates to transactions that are not generally transparent to the public at large. Even when such data is accessible through an external information source, it may be difficult to understand unless the external information source discloses adequate information about the underlying data sources it has used and about any data processing that has been performed.

    (b) Data reflecting an external information source's views about future conditions or events, which may be relevant in developing support for an assumption, may be difficult to understand without transparency about the rationale and information taken into account in developing those views.

    (c) Certain types of data may be inherently difficult to understand because they require an understanding of technically complex business or legal concepts, such as may be required to properly understand data that comprises the terms of legal agreements about transactions involving complex financial instruments or insurance products.

Judgment

11. When an accounting estimate is required, the applicable financial reporting framework may not fully specify, for each type of financial statement item and in each possible circumstance, the most appropriate approach to make that accounting estimate. It is also generally not practical for the applicable financial reporting framework to specify all the particular valuation attributes, concepts and techniques that should be used to determine an accounting estimate and related disclosures. As a result, consideration of these matters generally requires the need for the use of judgment by management in making the accounting estimate.

12. Judgments are generally also needed to address the inherent limitations in available information. In some cases, the level or nature of the inherent limitations in available information may introduce a high degree of subjectivity in making some judgments.

13. The applicable financial reporting framework may provide a basis for making certain judgments, such as explicit or implied objectives relating to measurement, disclosure, the unit of account, or the application of a cost constraint. The applicable financial reporting framework may also highlight the importance of such judgments through requirements for related disclosures.

14. Judgments are generally needed in determining some or all of the following:

    - To the extent not specified under the requirements of the applicable financial reporting framework, the appropriate valuation approaches, concepts, techniques and factors to use in the estimation method, having regard to available knowledge;
    - To the extent valuation attributes are observable but there are various potential sources of data available, the appropriate sources of data to use;
    - To the extent valuation attributes are not observable, the appropriate assumptions or range of assumptions to use, having regard to the limited data available, including, for example, market views;

- The range of point estimates that could be reasonable to use in the financial statements and the relative likelihood that certain points within the range would be consistent with the objectives of the measurement basis required by the applicable financial reporting framework; and
- The reasonable amount to use for the accounting estimate, and the reasonable related disclosures to be made, in the financial statements.

15. Management may also need to make judgments about cost constraints, including valuation attributes that need to be taken into account but are not directly observable and about the best information available in the circumstances.

16. Making assumptions about future events or conditions involves the use of judgment, the difficulty of which varies with the extent to which those events or conditions are uncertain. The precision with which it is possible to predict uncertain future events or conditions depends on the extent to which those events or conditions are determinable based on available knowledge, including knowledge of past conditions, events and related outcomes. The lack of precision also contributes to estimation uncertainty, as described above.

17. Not all features of a future outcome may be uncertain and assumptions will only need to be made in respect of those features of the outcome that are uncertain. For example, in considering the measurement of a possible impairment of a receivable for a sale of goods at the balance sheet date, the amount of the receivable may be unequivocally established and directly observable in the related transaction documents. What may be uncertain is the amount, if any, for loss due to impairment. In this case, assumptions may only be required about the likelihood of loss and about the amount and timing of any such loss.

18. However, in other cases, the amounts of cash flows embodied in the rights relating to an asset may be uncertain (for example, the amount of compensation for loss claimed in an ongoing litigation may be highly uncertain). In those cases, assumptions may have to be made about both the amounts of the underlying rights to cash flows and about potential losses due to impairment depending on the creditworthiness of the party against whom the claim is made.

19. Some uncertain outcomes may be relatively easy to predict with a high level of precision for an individual item. For example, the useful life of a production machine may be easily predicted if sufficient technical information is available about its average useful life. When it is not possible to predict a future outcome, such as an individual's life expectancy based on actuarial assumptions, with reasonable precision, it may still be possible to predict that outcome for a group of individuals with greater precision. Measurement bases may, in some cases, indicate a portfolio level as the relevant unit of account for measurement purposes, which may reduce inherent estimation uncertainty.

20. In other cases, it may be necessary to consider information about past conditions and events, together with current trends and expectations about future developments. Past conditions and events provide historical information from which repeating historical patterns of behavior relating to uncertain valuation attributes may be discerned and extrapolated in evaluating future outcomes. Such historical information may also indicate changing patterns of such behavior over time (cycles or trends). These may suggest that the underlying historical patterns of behavior have been changing in somewhat predictable ways that may also be extrapolated in evaluating future outcomes. Other types of

information may also be available that indicate possible changes in historical patterns of such behavior or in related cycles or trends. Difficult judgments may be needed about the predictive value of such information.

21. The extent and nature (including the degree of subjectivity involved) of the judgments taken in making the accounting estimates may create opportunity for management bias in making decisions about the course of action that, according to management, is appropriate in making the accounting estimate. When there is also a high level of complexity or a high level of estimation uncertainty, or both, the risk of, and opportunity for, management bias and the ability to conceal it may also be increased.