SECURITIES AND EXCHANGE COMMISSION

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Public Company Accounting Oversight Board; Notice of Filing of Proposed Rules on Auditing Accounting Estimates, Including Fair Value Measurements, and Amendments to PCAOB Auditing Standards

March 28, 2019.

Pursuant to Section 107(b) of the Sarbanes-Oxley Act of 2002 (the ''Act'' or ''Sarbanes-Oxley Act''), notice is hereby given that on March 20, 2019, the Public Company Accounting Oversight Board (the ''Board'' or ''PCAOB'') filed with the Securities and Exchange Commission (the ''Commission'' or ''SEC'') the proposed rules described in Items I and II below, which items have been prepared by the Board. The Commission is publishing this notice to solicit comments on the proposed rules from interested persons.

I. Board's Statement of the Terms of Substance of the Proposed Rules

On December 20, 2018, the Board adopted a new rule and amendments to auditing standards (collectively, the ''proposed rules''), under which the three existing standards related to auditing estimates, including fair value measurements, will be replaced with a single, updated standard. The text of the proposed rules appears in Exhibit A to the SEC Filing Form 19b–4 and is available on the Board's website at *https://pcaobus.org/Rulemaking/Pages/docket-043-auditing-accounting-estimates-fair-value-measurements.aspx* and at the Commission's Public Reference Room.

II. Board's Statement of the Purpose of, and Statutory Basis for, the Proposed Rules

In its filing with the Commission, the Board included statements concerning the purpose of, and basis for, the proposed rules and discussed any comments it received on the proposed rules. The text of these statements may be examined at the places specified in Item IV below. The Board has prepared summaries, set forth in sections A, B, and C below, of the most significant aspects of such statements. In addition, the Board is requesting that, pursuant to Section 103(a)(3)(C) of the Sarbanes-Oxley Act, the Commission approve the proposed rules for application to audits of emerging growth companies (''EGCs'').[1] The Board's request is set forth in section D.

A. Board's Statement of the Purpose of, and Statutory Basis for, the Proposed Rules

(a) Purpose

Summary

The Board has adopted amendments to its standards for auditing accounting estimates and fair value measurements, under which three existing standards will be replaced with a single, updated standard (''AS 2501 (Revised)'' or the ''new standard''). As discussed in more detail below, in the Board's view, the new standard and related amendments will further investor protection by strengthening audit requirements, applying a more uniform, risk-based approach to an area of the audit that is of increasing prevalence and significance, and updating the standards in light of recent developments.

The financial statements of most companies reflect amounts in accounts and disclosures that require estimation, which may include fair value measurements or other types of estimates. These estimates appear in items like revenues from contracts with customers, valuations of certain financial and non-financial assets, impairments of long-lived assets, allowances for credit losses, and contingent liabilities. As financial reporting frameworks evolve toward greater use of estimates, accounting estimates are becoming more prevalent and more significant, often having a significant impact on a company's reported financial position and results of operations.

By their nature, accounting estimates, including fair value measurements, generally involve subjective assumptions and measurement uncertainty, making them susceptible to management bias. Some estimates involve complex processes and methods. As a result, accounting estimates are often some of the areas of greatest risk in an audit, requiring additional audit attention and appropriate application of professional skepticism. The challenges of auditing estimates may be compounded by cognitive bias, which could lead auditors to anchor on management's estimates and inappropriately weight confirmatory over contradictory evidence.

The Board's oversight activities, which have revealed a recurring pattern of deficiencies in this area, also raise concerns about auditors' application of professional skepticism, including addressing potential management bias, in this area of the audit. Over the years, PCAOB staff has provided guidance for auditors related to auditing accounting estimates, but this area remains challenging and practices among firms vary.

Currently, three PCAOB auditing standards primarily relate to accounting estimates, including fair value measurements. These three standards, which were originally adopted between 1988 and 2003, include common approaches for substantive testing but vary in the level of detail in describing the auditor's responsibilities with respect to those approaches. In addition, because the three standards predate the Board's risk assessment standards, they do not fully integrate risk assessment requirements that relate to identifying, assessing, and responding to the risks of material misstatement in accounting estimates.

The new standard builds on the common approaches in the three existing standards and will strengthen PCAOB auditing standards in the following respects:

- Providing direction to prompt auditors to devote greater attention to addressing potential management bias in accounting estimates, as part of applying professional skepticism.
- Extending certain key requirements in the existing standard on auditing fair value measurements, the newest and most comprehensive of the three existing standards, to other accounting estimates in significant accounts and disclosures, reflecting a more uniform approach to substantive testing for estimates.
- More explicitly integrating requirements with the Board's risk assessment standards to focus auditors on estimates with greater risk of material misstatement.
- Making other updates to the requirements for auditing accounting estimates to provide additional clarity and specificity.
- Providing a special topics appendix to address certain aspects unique to auditing fair values of financial instruments, including the use of pricing information from third parties such as pricing services and brokers or dealers.

The Board has adopted the new standard and related amendments after substantial outreach, including two

[1] The term ''emerging growth company'' is defined in Section 3(a)(80) of the Securities Exchange Act of 1934 (the ''Exchange Act'') (15 U.S.C. 78c(a)(80)). *See also Inflation Adjustments and Other Technical Amendments Under Titles I and III of the JOBS Act,* Release No. 33–10332 (Mar. 31, 2017), 82 FR 17545 (Apr. 12, 2017).

rounds of public comment. Commenters generally supported the Board's objective of improving the quality of audits involving accounting estimates, and suggested areas where the proposed requirements could be modified or clarified. The Board has taken all of these comments, as well as observations from PCAOB oversight activities and the relevant academic literature, into account.

In a separate PCAOB release, the Board also adopted amendments to its standards for using the work of specialists, which are often involved in developing, or assisting in the evaluation of, accounting estimates.[2] Certain provisions of the new standard include references to AS 1210, *Using the Work of an Auditor-Engaged Specialist;* AS 1201, *Supervision of the Audit Engagement;* and AS 1105, *Audit Evidence,* as amended.

In its consideration of the new standard and related amendments, the Board is mindful of the significant advances in technology that have occurred in recent years, including increased use of data analysis tools and emerging technologies. An increased use of technology-based tools, together with future developments in the use of data and technology, could have a fundamental impact on the audit process. The Board is actively exploring these potential impacts through ongoing staff research and outreach.

In the context of this rulemaking, the Board considered how changes in technology could affect the processes companies use to develop accounting estimates, including fair value measurements, and the tools and techniques auditors apply to audit them. The Board believes that the new standard and related amendments are sufficiently principles-based and flexible to accommodate continued advances in the use of data and technology by both companies and auditors. The Board will continue to monitor advances in this area and any effect they may have on the application of the new standard.

The new standard and related amendments apply to all audits conducted under PCAOB standards. Subject to approval by the Commission, the new standard and related amendments will take effect for audits for fiscal years ending on or after December 15, 2020.

[2] *See Amendments to Auditing Standards for Auditor's Use of the Work of Specialists,* PCAOB Release No. 2018–006 (Dec. 20, 2018) (''Specialists Release'').

(b) Statutory Basis

The statutory basis for the proposed rules is Title I of the Act.

B. Board's Statement on Burden on Competition

Not applicable. The Board's consideration of the economic impacts of the proposed rules is discussed in section D below.

C. Board's Statement on Comments on the Proposed Rules Received From Members, Participants or Others

The Board released the proposed rules for public comment in *Proposed Auditing Standard—Auditing Accounting Estimates, Including Fair Value Measurements, and Proposed Amendments to PCAOB Auditing Standards,* PCAOB Release No. 2017–002 (June 1, 2017) (''proposal'' or ''Estimates Proposing Release''). The PCAOB also issued for public comment a Staff Consultation Paper, *Auditing Accounting Estimates and Fair Value Measurements* (Aug. 19, 2014) (''SCP''). Copies of Release No. 2017–002, the SCP, and the comment letters received in response to the PCAOB's requests for comment are available on the PCAOB's website at *https:/pcaobus.org/Rulemaking/Pages/docket-043-auditing-accounting-estimates-fair-value-measurements.aspx.* The PCAOB received 81 written comment letters. The Board's response to the comments received and the changes made to the rules in response to the comments received are discussed below.

Background

Accounting estimates are an essential part of financial statements. Most companies' financial statements reflect accounts or amounts in disclosures that require estimation. Accounting estimates are pervasive to financial statements, often substantially affecting a company's financial position and results of operations. Examples of accounting estimates include certain revenues from contracts with customers, valuations of financial and non-financial assets, impairments of long-lived assets, allowances for credit losses, and contingent liabilities.

The evolution of financial reporting frameworks toward greater use of estimates includes expanded use of fair value measurements that need to be estimated. For purposes of this rulemaking, a fair value measurement is considered a form of accounting estimate because it generally shares many of the same characteristics with other estimates, including subjective assumptions and measurement uncertainty.

Rulemaking History

The PCAOB has engaged in extensive outreach to explore the views of market participants and others on the potential for improvement of the auditing standards related to accounting estimates. This includes discussions with the Board's Standing Advisory Group (''SAG'') and the Pricing Sources Task Force. In addition, in August 2014, the PCAOB issued the SCP, to solicit comments on various issues, including the potential need for standard setting and key aspects of a potential new standard and related requirements.

In June 2017, the Board proposed to replace three auditing standards that primarily relate to accounting estimates, including fair value measurements, with a single standard. The proposal included a special topics appendix addressing certain matters relevant to auditing the fair value of financial instruments and amendments to several PCAOB standards to align them with the single standard. A number of commenters across many affiliations supported the Board's efforts to strengthen auditing practices and update its standards in this area.

In addition to this outreach, the Board's approach has been informed by, among other things, observations from PCAOB oversight activities and SEC enforcement actions and consideration of academic research, the standard on auditing accounting estimates recently adopted by the International Auditing and Assurance Standards Board (''IAASB''), and the extant standard on auditing accounting estimates of the Auditing Standards Board (''ASB'') of the American Institute of Certified Public Accountants.

Overview of Existing Requirements

The primary PCAOB standards that apply specifically to auditing accounting estimates, including fair value measurements are:

- AS 2501, *Auditing Accounting Estimates* (originally issued in April 1988) (''accounting estimates standard'')—applies to auditing accounting estimates in general.
- AS 2502, *Auditing Fair Value Measurements and Disclosures* (originally issued in January 2003) (''fair value standard'')—applies to auditing the measurement and disclosure of assets, liabilities, and specific components of equity presented or disclosed at fair value in financial statements.
- AS 2503, *Auditing Derivative Instruments, Hedging Activities, and Investments in Securities* (originally issued in September 2000) (''derivatives

standard'')—applies to auditing financial statement assertions for derivative instruments, hedging activities, and investments in securities. Its scope includes requirements for auditing the valuation of derivative instruments and securities, including those measured at fair value.

The accounting estimates standard, fair value standard, and derivatives standard are referred to collectively as the ''estimates standards.''

In addition, the Board's risk assessment standards,[3] which set forth requirements for the auditor's assessment of and response to risk in an audit, include requirements that relate to accounting estimates. These requirements involve procedures regarding identifying and assessing risks of material misstatement in accounting estimates,[4] identifying and evaluating misstatements in accounting estimates,[5] and evaluating potential management bias associated with accounting estimates.[6] PCAOB standards also set forth requirements for the auditor to plan and perform his or her work with due professional care, which includes the application of professional skepticism.[7]

Both the accounting estimates standard and the fair value standard provide that the auditor may apply one or a combination of three approaches to substantively test an accounting estimate:

- *Testing management's process.* This generally involves:
- Evaluating the reasonableness of assumptions used by management that are significant to the estimate, and testing and evaluating the completeness, accuracy, and relevance of data used;[8] and
- Evaluating the consistency of management's assumptions with other information.[9]
- *Developing an independent estimate.* This generally involves using management's assumptions, or alternative assumptions, to develop an independent estimate or an expectation of an estimate.[10]
- *Reviewing subsequent events or transactions.* This generally involves using events or transactions occurring subsequent to the balance sheet date, but prior to the date of the auditor's report, to provide evidence about the reasonableness of the estimate.[11]

In general, the fair value standard, which is the most recent of the estimates standards, sets forth more detailed procedures for the common approaches described above. The level of detail within the fair value standard, however, varies.[12] For example, the fair value standard sets forth a number of different requirements for testing management's process but only a few general requirements for developing an independent estimate.[13]

The derivatives standard primarily addresses auditing derivatives. This standard also includes requirements for auditing the valuation of derivatives and investment securities, including valuations based on an investee's financial results, and testing assertions about securities based on management's intent and ability.[14]

Existing Practice

The PCAOB's understanding of audit practice at both larger and smaller audit firms under existing PCAOB standards has been informed by, among other things, the collective experience of PCAOB staff, observations from oversight activities of the Board, enforcement actions of the SEC, comments received on the SCP and proposal, and discussions with the SAG and audit firms.

Overview of Existing Practice

The PCAOB has observed through its oversight activities that some audit firms' policies, procedures, and guidance (''methodologies'') use approaches that apply certain of the basic procedures for auditing fair value measurements to other accounting estimates (*e.g.,* evaluating the method used by management to develop estimates).[15] The PCAOB has also observed that when testing management's process, some auditors have developed expectations of certain significant assumptions as an additional consideration in evaluating the reasonableness of those assumptions.

Over the past few years, some audit firms have updated their methodologies, often in response to identified inspection deficiencies. For example, in the area of auditing the fair value of financial instruments, some firms have directed resources to implement more rigorous procedures to evaluate the process used by third-party pricing sources to determine the fair value of financial instruments.

The PCAOB has observed diversity in how audit firms use information obtained from third-party sources in auditing fair value measurements. Such third-party sources include pricing services and brokers or dealers, which provide pricing information related to the fair value of financial instruments.[16]

Some larger audit firms have implemented centralized approaches to developing independent estimates of the fair value of financial instruments. These firms may use centralized, national-level pricing desks or groups to assist in performing procedures relating to testing the fair value of financial instruments. The level of information provided by these centralized groups to engagement teams varies. In some cases, the national-level pricing desk obtains pricing information from pricing services at the request of the engagement team. Additionally, national-level pricing desks may periodically provide information about a pricing service's controls and methodologies, and provide information on current market conditions for different types of securities to inform an engagement team's risk assessment. In other cases, the national-level pricing desk itself may develop estimates of fair value for certain types of securities, assist audit teams with evaluating the specific methods and assumptions related to a particular instrument, or evaluate differences between a company's price and price from a pricing source. Smaller audit firms that do not have a national pricing group may engage valuation specialists to perform some or all of these functions. Some smaller firms use a combination of external valuation specialists and internal pricing groups.

Commenters generally did not disagree with the description of current practice in the proposal. A few commenters pointed to additional areas where company and firm size and available resources can result in diverse audit approaches (*e.g.,* impairment testing, estimates of environmental

[3] The Board's ''risk assessment standards'' include AS 1101, *Audit Risk;* AS 1105; AS 1201; AS 2101, *Audit Planning;* AS 2105, *Consideration of Materiality in Planning and Performing an Audit;* AS 2110, *Identifying and Assessing Risks of Material Misstatement;* AS 2301, *The Auditor's Responses to the Risks of Material Misstatement;* and AS 2810, *Evaluating Audit Results.*

[4] *See generally* AS 2110.13.

[5] *See* AS 2810.13.

[6] *See* AS 2810.27.

[7] *See generally* paragraph .07 of AS 1015, *Due Professional Care in the Performance of Work.*

[8] *See generally* AS 2501 and AS 2502.26–.39.

[9] *Id.*

[10] *See generally* AS 2501.12 and AS 2502.40.

[11] *See generally* AS 2501.13 and AS 2502.41–.42.

[12] *See generally* AS 2502.26–.40.

[13] *See generally* AS 2502.40.

[14] *See generally* AS 2503.28–.34 and .56–.57.

[15] Notably, most of those firms base their methodologies largely on the standards of the IAASB or the ASB, both of which have adopted one standard for auditing both fair value measurements and other accounting estimates.

[16] Another type of third-party source—specialists who develop independent estimates or assist in evaluating a company's estimate or the work of a company's specialist—is addressed separately in the Specialists Release. *See supra* note 2.

liabilities, and obtaining evidence related to complex transactions).

Observations From Audit Inspections

Through its oversight activities, the PCAOB has historically observed numerous deficiencies in auditing accounting estimates. Audit deficiencies have been observed in both larger and smaller audit firms.[17]

PCAOB inspections staff has observed audit deficiencies in issuer audits related to a variety of accounting estimates, including revenue-related estimates and reserves, the allowance for loan losses, the fair value of financial instruments, the valuation of assets and liabilities acquired in a business combination, goodwill and long-lived asset impairments, inventory valuation allowances, and equity-related transactions. Examples of such deficiencies include failures to (1) sufficiently test the accuracy and completeness of company data used in fair value measurements or other estimates, (2) evaluate the reasonableness of significant assumptions used by management, and (3) understand information provided by third-party pricing sources. In audits of brokers or dealers, deficiencies include failures to (1) obtain an understanding of the methods and assumptions internally developed or obtained by third parties that were used by the broker or dealer to determine fair value of securities, and (2) perform sufficient procedures to test valuation of securities. The observed deficiencies are frequently associated with, among other things, a failure to appropriately apply professional skepticism in auditing the estimates.[18]

More recently, there are some indications in PCAOB inspections of issuer audits that observed deficiencies in this area are decreasing, as compared to earlier years. Some audit firms have updated their audit practices in light of deficiencies identified through inspections. Not all firms have improved their practices in this area, however, and PCAOB inspections staff has continued to observe deficiencies similar to those described above. Inspection observations continue to raise concerns about auditors' application of professional skepticism, including addressing potential management bias, in auditing accounting estimates.

Observations From Enforcement Cases

Over the years, there have been a number of enforcement actions by the PCAOB and SEC for violations of PCAOB standards in auditing accounting estimates, demonstrating the importance of this aspect of the audit. Enforcement actions have been brought against larger and smaller firms, with domestic and international practices.

PCAOB enforcement cases related to auditing estimates have generally involved one or more of the following violations (1) failure to perform any procedures to determine the reasonableness of significant assumptions; (2) failure to test the relevance, sufficiency, and reliability of the data supporting the accounting estimates; (3) failure to perform a retrospective review of a significant accounting estimate to determine whether management's judgments and assumptions relating to the estimate indicated a possible bias; and (4) failure to adequately consider contradictory evidence or perform procedures to obtain corroboration for management representations regarding accounting estimates.[19]

Similarly, the SEC has brought Rule 102(e) proceedings against auditors for substantive failures in auditing accounting estimates, including failures to obtain sufficient appropriate audit evidence for significant accounting estimates in an entity's financial statements and failures to exercise due professional care, including professional skepticism, throughout the audit.[20] In some cases, the auditor (1) obtained little, if any, reliable or persuasive evidence with respect to management's adjustments to stale appraised values; (2) failed to identify and address bias in management's estimates; or (3) failed to evaluate the results of audit procedures performed, including whether the evidence obtained supported or contradicted estimates in the financial statements.[21]

Reasons To Improve Auditing Standards

The Board believes that its standards for auditing accounting estimates, including fair value measurements, can be improved to provide better direction to auditors with respect to both the application of professional skepticism, including addressing potential management bias, and the use of third-party pricing information.

First, the differences in requirements among the three estimates standards suggest that revising PCAOB standards to set forth a more uniform, risk-based approach to auditing estimates can lead to improvements in auditing practices for responding to the risks of material misstatement in accounting estimates, whether due to error or fraud.

Second, because the subjective assumptions and measurement uncertainty of accounting estimates make them susceptible to management bias, the Board believes that PCAOB standards related to auditing accounting estimates will be improved by emphasizing the application of professional skepticism, including addressing potential management bias.

[17] *See, e.g., Annual Report on the Interim Inspection Program Related to Audits of Brokers and Dealers,* PCAOB Release No. 2018–003 (Aug. 20, 2018); *PCAOB Staff Inspection Brief, Preview of Observations from 2016 Inspections of Auditors of Issuers* (Nov. 2017); and *Annual Report on the Interim Inspection Program Related to Audits of Brokers and Dealers,* PCAOB Release No. 2017–004 (Aug. 18, 2017). *See also* Estimates Proposing Release at 12, footnote 39.

[18] Audit deficiencies have also been observed by other regulators internationally. For example, an International Forum of Independent Audit Regulators (''IFIAR'') survey released in 2018 reported that accounting estimates was one of the audit areas with the highest rate and greatest number of findings. The most commonly observed deficiencies related to failures to assess the reasonableness of assumptions, including consideration of contrary or inconsistent evidence where applicable; sufficiently test the accuracy of data used; perform sufficient risk assessment procedures; take relevant variables into account; evaluate how management considered alternative assumptions; and adequately consider indicators of bias. *See* IFIAR, *Report on 2017 Survey of Inspection Findings* (Mar. 9, 2018), at 10 and B–6.

[19] *See, e.g., Deloitte & Touche LLP,* PCAOB Release No. 105–2018–008 (May 23, 2018); *Tarvaran Askelson & Company, LLP, Eric Askelson, and Patrick Tarvaran,* PCAOB Release No. 105–2018–001 (Feb. 27, 2018); *David M. Burns, CPA,* PCAOB Release No. 105–2017–055 (Dec. 19, 2017); *Grant Thornton LLP,* PCAOB Release No. 105–2017–054 (Dec. 19, 2017); *Anthony Kam & Associates Limited, and Anthony KAM Hau Choi, CPA,* PCAOB Release No. 105–2017–043 (Corrected Copy) (Nov. 28, 2017); *BDO Auditores, S.L.P., Santiago Sañé Figueras, and José Ignacio Algás Fernández,* PCAOB Release No. 105–2017–039 (Sept. 26, 2017); *Kyle L. Tingle, CPA, LLC and Kyle L. Tingle, CPA,* PCAOB Release No. 105–2017–027 (May 24, 2017); *Wander Rodrigues Teles,* PCAOB Release No. 105–2017–007 (Mar. 20, 2017); *KAP Purwantono, Sungkoro & Surja, Roy Iman Wirahardja, and James Randall Leali,* PCAOB Release No. 105–2017–002 (Feb. 9, 2017); *HJ & Associates, LLC, S. Jeffrey Jones, CPA, Robert M. Jensen, CPA, and Charles D. Roe, CPA,* PCAOB Release No. 105–2017–001 (Jan. 24, 2017); *Arshak Davtyan, Inc. and Arshak Davtyan, CPA,* PCAOB Release No. 105–2016–053 (Dec. 20, 2016); *David C. Lee, CPA,* PCAOB Release No. 105–2016–052 (Dec. 20, 2016); *Arturo Vargas Arellano, CPC,* PCAOB Release No. 105–2016–045 (Dec. 5, 2016); and *Goldman Kurland and Mohidin, LLP and Ahmed Mohidin, CPA,* PCAOB Release No. 105–2016–027 (Sept. 13, 2016). *See also* Estimates Proposing Release at 13, footnote 41.

[20] *See, e.g., Paritz & Company, P.A., Lester S. Albert, CPA, and Brian A. Serotta, CPA,* SEC Accounting and Auditing Enforcement Release (''AAER'') No. 3899 (Sept. 21, 2017); *KPMG LLP and John Riordan, CPA,* SEC AAER No. 3888 (Aug. 15, 2017); *William Joseph Kouser Jr., CPA, and Ryan James Dougherty, CPA,* AAER No. 3864 (Apr. 4, 2017); *Grassi & Co., CPAs, P.C.,* SEC AAER No. 3826 (Nov. 21, 2016). *See also* Estimates Proposing Release at 14, footnote 42.

[21] *See, e.g., Miller Energy Resources, Inc., Paul W. Boyd, CPA, David M. Hall, and Carlton W. Vogt, III, CPA,* SEC AAER Nos. 3780 (June 7, 2016) and 3673 (Aug. 6, 2015); *Grant Thornton, LLP,* SEC AAER No. 3718 (Dec. 2, 2015).

Although the risk assessment standards and certain other PCAOB standards address professional skepticism and management bias, the estimates standards provide little or no specific direction on how to address those topics in the context of auditing accounting estimates.

Third, existing requirements do not provide specific direction about how to evaluate the relevance and reliability of pricing information from third parties. PCAOB standards should be improved by revising the requirements in this area to drive a level of work effort commensurate with both the risks of material misstatement in the valuation of financial instruments and the relevance and reliability of the evidence obtained.

The Board received 38 comment letters on the proposal. A number of commenters supported the Board's efforts to strengthen auditing practices and update its standards related to estimates and fair value measurements. For example, investor groups asserted that the proposal will strengthen auditor responsibilities, improve audit quality, and further investor protection. Other commenters pointed to better integration and alignment with the risk assessment standards, noting, for example, that a risk-based approach to auditing estimates will help to resolve the differences in requirements among the current standards. Some commenters supported combining the three existing standards into a single standard, for example, because it would make the requirements easier to navigate and comply with. Some commenters also expressed support for the incremental direction in the proposal on matters related to financial instruments, including the use of pricing information from third parties as audit evidence.

Some commenters on the proposal challenged the relevance of inspection experience to the Board's consideration of the new standard. For example, two commenters questioned whether the existence of audit deficiencies related to estimates warrant revision to the estimates standards. Another commenter suggested that development of standards should be based on areas where audit quality can be improved in order to protect the public interest, not just through areas that have been identified during the inspection process. In contrast, other commenters expressed concern over continued audit deficiencies observed in this area and supported the development of the proposal. Another commenter argued that a lack of clarity in the estimates standards might be a contributing factor to the persistence of audit deficiencies associated with auditing estimates and fair value measurements.

The Board believes that a pattern of deficiencies over time raises questions about whether professional skepticism is being appropriately applied and about overall audit quality in this area, and supports the view that estimates are a challenging area of the audit. More specific direction should contribute to more consistent, risk-based execution and improved audit quality.

Some commenters questioned the need for the proposal citing, among other things, insufficient evidence that existing standards are deficient and the loss of certain content from the estimates standards that the commenters considered to be useful. One commenter argued that the standards for fair value measurements should be differentiated from the standards for other accounting estimates because the goals of the standards are fundamentally different.

The Board believes it is appropriate to apply a more uniform approach to the audit of accounting estimates, including fair value measurements, including by bringing the requirements together into a single standard. The estimates standards already reflect common approaches to substantive testing. While the level of detail varies across the three standards, these differences do not derive from differences in the assessed risks of material misstatement. The Board believes that a single standard will promote auditor performance that is more consistently responsive to risk. The new standard also includes an appendix on valuation of financial instruments that provides specific direction in that area.

Some commenters asserted that the proposal would lead to unnecessary expansion of procedures and thus increased costs. For example, one of those commenters contended that the proposed requirements could affect the ability of smaller accounting firms to audit certain types of issuers. Another commenter cautioned against a one-size-fits-all audit approach, expressing concern about expecting the same level of rigor in developing accounting estimates from both the largest and smallest public companies. One commenter challenged the scalability of the proposal, arguing that auditors will assume that all listed factors and considerations will have to be addressed in every audit, and that nothing in the proposal directed the auditor to consider cost-benefit implications or whether further testing and analysis would meaningfully improve the auditor's ability to assess the reasonableness of an estimate. Other commenters, however, asserted that the standard is sufficiently scalable.

The Board believes that the new standard is well-tailored to address an increasingly significant and challenging area of the audit. The new standard is designed to be scalable because the necessary audit evidence depends on the corresponding risks of material misstatement. The new standard does not prescribe detailed procedures or the extent of procedures, beyond the requirement to respond to risk, including significant risk, and direction for applying the primary approaches to testing. Rather, it builds on the existing requirements of AS 2301 under which the auditor designs procedures that take into account the types of potential misstatements that could result from the identified risks and the likelihood and magnitude of potential misstatement.[22] Specific risk factors associated with the estimates—for example, subjective assumptions, measurement uncertainty, or complex processes or methods[23]—affect the auditor's risk assessment and in turn, the required audit effort.

Aligning the new standard and related amendments with the risk assessment standards directs auditors to focus on estimates with greater risk of material misstatement. The new standard allows auditors to tailor their approach to best respond to identified risks and effectively obtain sufficient appropriate evidence. To the extent the new standard results in increased audit effort, that effort should be scaled in relation to the relevant risks, and any associated costs should be justified in light of the benefits of appropriate audit attention and the appropriate application of professional skepticism.

Some commenters also challenged the anticipated benefits of the proposal, arguing that additional audit work would not improve the quality of financial reporting, given the inherent uncertainty and subjectivity surrounding estimates.

The new standard and related amendments acknowledge that estimates have estimation uncertainty and that it affects the risks of material misstatement. Neither the Board nor auditors are responsible for placing limits on the range of estimation uncertainty. That uncertainty is a function of the estimate's measurement requirements under the applicable financial reporting framework, the economic phenomena affecting that estimate, and the fact that it involves assessments of future outcomes. Under

[22] AS 2301.09.

[23] *See* paragraph AS 2110.60A, as amended, for examples of specific risk factors.

the new standard and related amendments, the auditor will consider estimation uncertainty in assessing risk and performing procedures in response to risk, which involves evaluating whether the accounting estimates are reasonable in the circumstances and in conformity with the applicable financial reporting framework, as well as evaluating potential management bias in accounting estimates, and its effect on the financial statements. These responsibilities align with the auditor's overall responsibility for planning and performing financial statement audits.

Commenters generally acknowledged the Board's efforts to emphasize professional skepticism, including addressing management bias, in the proposal and provided varying views on related aspects of the proposal. Some commenters, for example, indicated that the proposal should place even more emphasis on the need to challenge management or the consideration of management bias, noting the existence of overly optimistic or skewed estimates in financial statements. One commenter advocated for more discussion within the standard of the various types of bias that can affect auditing estimates.

In contrast, other commenters asserted that the proposal overemphasized the need for professional skepticism, or had a negative tone that assumed a predisposition to management bias. One commenter pointed out other practices and requirements that, in the commenter's view, mitigate the risk of management bias, among them CEO and CFO certification, management reporting and auditor attestation on internal control over financial reporting, internal audit, and audit committee oversight. Some of these commenters expressed concern that the emphasis on professional skepticism would lead to unnecessary expansion of audit procedures.

A few commenters also argued that management bias is inherent in accounting estimates and cannot be eliminated. One of the commenters added that, for those reasons, the proposed requirements addressing management bias should not apply to estimates made pursuant to the new accounting standard on credit losses.[24] Another commenter suggested that the proposal should differentiate between limitations that an auditor can address (*e.g.,* analytical ability), those that can be partially addressed (*e.g.,* some features of management bias), and those that cannot be addressed (*e.g.,* time constraints, limits on available information).

The Board acknowledges that given the subjective assumptions and measurement uncertainty inherent in many estimates, bias cannot be eliminated entirely. However, a standard that reinforces the importance of professional skepticism, including addressing the potential for management bias, when auditing estimates will remind auditors of their existing responsibilities to evaluate contradictory evidence and to address the effects of bias on the financial statements.

Some commenters suggested that the standard include guidance on identifying and testing relevant controls over accounting estimates. For example, one commenter suggested guidance related to auditor consideration of management's controls over selection and supervision of a company specialist. Another commenter suggested additional guidance on identification and testing of relevant controls, and identification and response to risks of material misstatement due to fraud in relation to auditing estimates.

The auditor's responsibilities for testing controls are already addressed in AS 2110, AS 2301, and AS 2201, *An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements.* These requirements apply to controls over accounting estimates. Those responsibilities are not altered by the new standard and related amendments. However, after considering the comments, an amendment was made to provide additional direction on testing controls related to auditing estimates.

Overview of Final Rules

The Board has adopted a single standard to replace the accounting estimates standard, the fair value standard, and the derivatives standard. As described in more detail below, AS 2501 (Revised) includes a special topics appendix that addresses certain matters relevant to auditing the fair value of financial instruments. In addition, several PCAOB auditing standards will be amended to align them with the new standard on auditing accounting estimates. The new standard and related amendments will make the following changes to existing requirements:

- Provide direction to prompt auditors to devote greater attention to addressing potential management bias in accounting estimates, as part of applying professional skepticism. In this regard, the new standard and related amendments will:
- Amend AS 2110 to require a discussion among the key engagement team members of how the financial statements could be manipulated through management bias in accounting estimates in significant accounts and disclosures.
- Emphasize certain key requirements to focus auditors on their obligations, when evaluating audit results, to exercise professional skepticism, including evaluating whether management bias exists.
- Remind auditors that audit evidence includes both information that supports and corroborates the company's assertions regarding the financial statements and information that contradicts such assertions.
- Require the auditor to identify significant assumptions used by the company and describe matters the auditor should take into account when identifying those assumptions.
- Provide examples of significant assumptions (important to the recognition or measurement of the accounting estimate), such as assumptions that are susceptible to manipulation or bias.
- Emphasize requirements for the auditor to evaluate whether the company has a reasonable basis for the significant assumptions used and, when applicable, for its selection of assumptions from a range of potential assumptions.
- Explicitly require the auditor, when developing an independent expectation of an accounting estimate, to have a reasonable basis for the assumptions and method he or she uses.
- Require that the auditor obtain an understanding of management's analysis of critical accounting estimates and take that understanding into account when evaluating the reasonableness of significant assumptions and potential management bias.
- Recast certain existing requirements using terminology that encourages maintaining a skeptical mindset, such as ''evaluate'' and ''compare'' instead of ''corroborate.''
- Strengthen requirements for evaluating whether data was appropriately used by a company that build on requirements in the fair value standard, and include a new requirement for evaluating whether a company's change in the source of data is appropriate.
- Clarify the auditor's responsibilities for evaluating data that build on the existing requirements in AS 1105.
- Amend AS 2401, *Consideration of Fraud in a Financial Statement Audit,*

[24] *See* Financial Accounting Standards Board (''FASB'') Accounting Standards Update No. 2016–13, *Financial Instruments—Credit Losses* (Topic 326): *Measurement of Credit Losses on Financial Instruments* (June 2016).

to clarify the auditor's responsibilities when performing a retrospective review of accounting estimates and align them with the requirements in the new standard.

• Extend certain key requirements in the fair value standard to other accounting estimates in significant accounts and disclosures to reflect a more uniform approach to substantive testing. For estimates not currently subject to the fair value standard, this will:

• Refine the three substantive approaches common to the accounting estimates standard to include more specificity, similar to the fair value standard.

• Describe the auditor's responsibilities for testing the individual elements of the company's process used to develop the estimate (*i.e.,* methods, data, and significant assumptions).

• Set forth express requirements for the auditor to evaluate the company's methods for developing the estimate, including whether the methods are:

• In conformity with the requirements of the applicable financial reporting framework; and

• Appropriate for the nature of the related account or disclosure, taking into account the auditor's understanding of the company and its environment.

• Require the auditor to take into account certain factors in determining whether significant assumptions that are based on the company's intent and ability to carry out a particular course of action are reasonable.

• Further integrate requirements with the risk assessment standards to focus auditors on estimates with greater risk of material misstatement. The new standard and related amendments incorporate specific requirements relating to accounting estimates into AS 2110 and AS 2301 to inform the necessary procedures for auditing accounting estimates. Specifically, the new standard and related amendments would:

• Amend AS 2110 to include risk factors specific to identifying significant accounts and disclosures involving accounting estimates.

• Align the scope of the new standard with AS 2110 to apply to accounting estimates in significant accounts and disclosures.

• Amend AS 2110 to set forth requirements for obtaining an understanding of the company's process for determining accounting estimates.

• Require auditors to respond to significantly differing risks of material misstatement in the components of accounting estimates, consistent with AS 2110.

• Remind auditors of their responsibility to evaluate conformity with the applicable financial reporting framework, reasonableness, and potential management bias and its effect on the financial statements when responding to the risks of material misstatement in accounting estimates in significant accounts and disclosures.

• Require the auditor, when identifying significant assumptions, to take into account the nature of the accounting estimate, including related risk factors, the applicable financial reporting framework, and the auditor's understanding of the company's process for developing the estimate.

• Include matters relevant to identifying and assessing risks of material misstatement related to the fair value of financial instruments.

• Add a note in AS 2301 to emphasize that performing substantive procedures for the relevant assertions of significant accounts and disclosures involves testing whether the significant accounts and disclosures are in conformity with the applicable financial reporting framework.

• Add a note to AS 2301 providing that for certain estimates involving complex models or processes, it might be impossible to design effective substantive tests that, by themselves, would provide sufficient appropriate evidence regarding the assertions.

• Make other updates to the requirements for auditing accounting estimates, including:

• Update the description of what constitutes an accounting estimate to encompass the general characteristics of the variety of accounting estimates, including fair value measurements, in financial statements.

• Set forth specific requirements for evaluating data and pricing information used by the company or the auditor that build on the existing requirements in AS 1105.

• Establish more specific requirements for developing an independent expectation that vary depending on the source of data, assumptions, or methods used by the auditor and build on AS 2810 to provide a requirement when developing an independent expectation as a range.

• Relocate requirements in the derivatives standard for obtaining audit evidence when the valuation of investments is based on investee results as an appendix to AS 1105.

• Provide specific requirements and direction to address auditing the fair value of financial instruments, including:

• Establish requirements to determine whether pricing information obtained from third parties, such as pricing services and brokers or dealers, provides sufficient appropriate evidence, including:

• Focus auditors on the relevance and reliability of pricing information from third-party sources,[25] regardless of whether the pricing information was obtained by the company or the auditor.

• Establish factors that affect relevance and reliability of pricing information obtained from a pricing service.

• Require the auditor to perform additional audit procedures to evaluate the process used by the pricing service when fair values are based on transactions of similar financial instruments.

• Require the auditor to perform additional procedures on pricing information obtained from a pricing service when no recent transactions have occurred for either the financial instrument being valued or similar financial instruments.

• Establish conditions under which less information is needed about particular methods and inputs of individual pricing services in circumstances where prices are obtained from multiple pricing services.

• Establish factors that affect the relevance and reliability of quotes from brokers or dealers.

• Require the auditor to understand, if applicable, how unobservable inputs were determined and evaluate the reasonableness of unobservable inputs.

The Board seeks to improve the quality of auditing in this area and believes these changes strengthen and enhance the requirements for auditing accounting estimates.

Commenters largely supported a single, more uniform standard to address auditing accounting estimates, including fair value measurements. For example, one commenter observed that the existence of three related standards in this area made it difficult for auditors to navigate to be certain that all requirements were met. A few commenters, however, asserted that fair value measurements and derivatives are unique and involve different functions. One of those commenters also expressed concern about applying audit procedures in the fair value standard to other accounting estimates. The new standard takes into account the unique

[25] The requirements in this area focus primarily on pricing information from pricing services and brokers or dealers, but also cover pricing information obtained from other third-party pricing sources, such as exchanges and publishers of exchange prices.

aspects of auditing fair value measurements, such as the use of observable and unobservable inputs. Further, the new standard includes a separate appendix that addresses auditing the fair value of financial instruments.

Some commenters requested supplemental or implementation guidance for various requirements presented in the proposed standard and the related amendments. Several commenters also advocated for retaining portions of the derivatives standard that, in their view, provided helpful guidance. Two commenters suggested that the Board consider issuing guidance specific to the audits of brokers and dealers.[26]

A few commenters observed that the proposal did not explicitly address how advances in technology, including use of data analytics, could affect audit procedures. In its consideration of the new standard and related amendments, the Board is mindful of the significant advances in technology that have occurred in recent years, including increased use of data analysis tools and emerging technologies. An increased use of these technology-based tools, together with future developments in the use of data and technology, could have a fundamental impact on the audit process. The Board is actively exploring these potential impacts through ongoing staff research and outreach.[27]

In the context of this rulemaking, the Board considered how changes in technology could affect the approaches to auditing accounting estimates. The Board believes that the new standard and related amendments are sufficiently principles-based and flexible to accommodate continued advances in the use of data and technology by both companies and auditors. The Board will continue to monitor advances in this area and any implications related to the standard.[28]

Some commenters advocated for greater alignment of the proposal with the IAASB's exposure draft on International Standard on Auditing 540 (''ISA 540'') [29] to achieve greater consistency in practice, and suggested continued coordination of efforts in this area. The Board considered the IAASB's ISA 540 project while developing the new standard. While there is some commonality between the new standard and ISA 540 Revised, the new standard is aligned with the Board's risk assessment standards and designed for audits of issuers and SEC-registered brokers and dealers.

Following is a discussion of significant comments received on the proposal along with revisions made by the Board after consideration of those comments and additional guidance on the implementation of the requirements of the new standard. The subsections also include a comparison of the final requirements with the analogous requirements of the following standards issued by the IAASB and the Auditing Standards Board (''ASB'') of the American Institute of Certified Public Accountants:

- ISA 540 Revised, adopted by the IAASB; and
- AU–C Section 540, *Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures* (''AU–C Section 540''), adopted by the ASB of the American Institute of Certified Public Accountants.

The comparison does not necessarily represent the views of the IAASB or ASB regarding the interpretation of their standards. Additionally, the information presented in the subsections does not include the application and explanatory material in the IAASB standards or ASB standards.[30]

AS 2501 (Revised)

Scope of the Standard

See Paragraphs .01–.02

As in the proposal, the new standard applies when auditing accounting estimates in significant accounts and disclosures. Commenters on this topic supported the scope set forth in the standard.

Comparison With Standards of Other Standard Setters

The scope and nature of accounting estimates described in ISA 540 Revised, AU–C Section 540, and the new standard share some common concepts. However, the accounting estimates covered by the new standard are expressly linked to significant accounts and disclosures.

Objective of the Standard

See Paragraph .03

In the proposal, the standard included a detailed objective expressly addressing the fundamental aspects of auditing accounting estimates under the estimates standards: Testing and evaluating whether accounting estimates (1) are reasonable in the circumstances, (2) have been accounted for and disclosed in conformity with the applicable financial reporting framework, and (3) are free from bias that results in material misstatement.

Commenters asserted that including the phrase ''free from bias that results in material misstatement'' as a distinct element of the audit objective was not clear, could imply absolute assurance, or could be interpreted as a broader obligation than what is required under the existing standards. Some commenters recommended deleting the reference to bias from the objective, and others suggested revisions in order to clarify the intent of including the reference to bias in the objective. One commenter suggested that the objective should be for auditors to determine whether accounting estimates and disclosures are reasonable in the context of the applicable financial reporting framework, which in the commenter's view would be broader than the proposed objective.

After consideration of comments, the Board has (1) revised the objective to describe the overall purpose of the procedures required under the new standard and other relevant procedures under the risk assessment standards (specifically, to determine whether accounting estimates in significant accounts and disclosures are properly accounted for and disclosed in financial statements); [31] (2) relocated the description of more specific auditor responsibilities—evaluating conformity with the applicable financial reporting framework, reasonableness, and potential management bias—from the

[26] *See* below for further discussion of the comments received on specific requirements and additional guidance on the implementation of the requirements in the new standard.

[27] For example, the staff is currently researching the effects on the audit of, among other things, data analytics, artificial intelligence, and distributed ledger technology, assisted by a task force of the SAG. *See* Data and Technology Task Force overview page, available on the Board's website.

[28] *See* PCAOB, *Changes in Use of Data and Technology in the Conduct of Audits, available at https://pcaobus.org/Standards/research-standard-setting-projects/Pages/technology.aspx.*

[29] *See* IAASB Exposure Draft, Proposed ISA 540 (Revised), *Auditing Accounting Estimates and Related Disclosures,* (Apr. 20, 2017). In October 2018, the IAASB released the final standard (''ISA 540 Revised'').

[30] Paragraph A59 of ISA 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing,* and paragraph .A64 of AU–C Section 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with Generally Accepted Auditing Standards,* indicate that the related application and other explanatory material ''does not in itself impose a requirement'' but ''is relevant to the proper application of the requirements'' of the respective standards.

[31] This approach to formulating an objective is similar to the approach in other PCAOB standards. *See, e.g.,* paragraph .02 of AS 2410, *Related Parties.*

objective to the requirements;[32] and (3) provided additional context in the requirements to enhance clarity, including citing corresponding requirements in other PCAOB standards. In addition, for conciseness, the new standard and amendments have been revised to consistently use the phrase ''sufficient appropriate evidence,'' which has the same meaning in PCAOB standards as the phrase ''sufficient appropriate audit evidence.''

As discussed in more detail below, the revised objective links more closely with the requirements of the risk assessment standards[33] and continues to focus auditors on their existing obligations to evaluate potential management bias in the context of auditing accounting estimates.

Comparison With Standards of Other Standard Setters

The objective of ISA 540 Revised is to obtain sufficient appropriate audit evidence about whether accounting estimates and related disclosures in the financial statements are reasonable in the context of the applicable financial reporting framework. The objective of AU–C Section 540 is substantially the same but also includes whether related disclosures in the financial statements are adequate.

Identifying and Assessing Risks of Material Misstatement

See Paragraph .04

The proposed standard discussed how the auditor's responsibilities regarding the process of identifying and assessing risks of material misstatement, as set forth in AS 2110 apply to auditing accounting estimates. The proposed requirement provided that, among other things, identifying and assessing risks of material misstatement related to accounting estimates includes determining whether the components of estimates in significant accounts and disclosures are subject to significantly differing risks, and which estimates are associated with significant risks.[34]

One commenter asserted that the term ''components'' should be defined and another commenter observed that ''components of estimates'' could be interpreted to mean inputs used to develop the estimate, or individual accounts that roll up into a financial statement line item.

AS 2501 (Revised) retains paragraph .04 as proposed, including the reference to components of estimates. This reference is not new and derives from the concept in the risk assessment standards that components of a potential significant account or disclosure might be subject to significantly differing risks[35] which would need to be taken into account in designing and performing audit procedures. For example, a valuation allowance in the company's financial statements may include a general component and a specific component with differing risks.

Comparison With Standards of Other Standard Setters

In identifying and assessing the risks of material misstatement, ISA 540 Revised requires the auditor to separately assess inherent risk and control risk. The auditor is required to take into account, in assessing inherent risk (a) the degree to which the accounting estimate is subject to estimation uncertainty, and (b) the degree to which (i) the selection and application of the method, assumptions and data in making the accounting estimate; or (ii) the selection of management's point estimate and related disclosures for inclusion in the financial statements, are affected by complexity, subjectivity, or other inherent risk factors.[36]

AU–C Section 540 requires the auditor to evaluate the degree of estimation uncertainty associated with an accounting estimate in identifying and assessing the risks of material misstatement.

Responding to the Risks of Material Misstatement

See Paragraphs .05–.07

The proposed standard explained how the basic requirement in AS 2301 to respond to the risks of material misstatement applies when performing substantive procedures for accounting estimates in significant accounts and disclosures. Additionally, the proposal provided that responding to risks of material misstatement in the context of accounting estimates involves, among other things, (1) testing whether estimates in significant accounts and disclosures are in conformity with the applicable financial reporting framework, (2) responding to significantly differing risks of material misstatement in the components of an accounting estimate, and (3) applying professional skepticism in gathering and evaluating audit evidence, particularly when responding to fraud risks. The proposed standard also reminded auditors that, as the assessed risk of material misstatement increases, the evidence that the auditor should obtain also increases. The evidence provided by substantive procedures depends on the mix of the nature, timing, and extent of those procedures.

Commenters provided views on various aspects of the proposed requirements. One commenter asked for clarification on the role of professional skepticism in relation to fraud risks and management bias. Another commenter advocated for a framework against which auditor skepticism can be evaluated. Other commenters suggested including requirements to evaluate both corroborative and contradictory audit evidence similar to AS 1105.02. A few commenters also requested clarification of how substantive procedures related to accounting estimates can be performed at an interim date.

The new standard retains the discussion of the auditor's responsibilities for responding to risks associated with estimates substantially as proposed. The statements in the new standard related to responding to the risks of material misstatement are rooted in the Board's risk assessment standards and drew no critical comments.

The new standard reflects two changes from the proposal. As noted above, the description of more specific auditor responsibilities—evaluating conformity with the applicable accounting framework, reasonableness, and potential management bias—has been relocated from the objective to paragraph .05 to provide additional context for responding to risks of material misstatement. Specifically, the new standard states that responding to risks of material misstatement involves evaluating whether the accounting estimates are in conformity with the applicable financial reporting framework and reasonable in the circumstances, as well as evaluating potential management bias in accounting estimates and its effect on the financial statements. Notably, the added language regarding potential management bias is aligned with paragraphs AS 2810.24–.27 to remind auditors of existing requirements.

Additionally, the new standard now includes a reference to AS 1105.02, as suggested by some commenters, reminding auditors that audit evidence consists of both information that

[32] *See* first note to paragraph .05 of the new standard.

[33] *See supra* note 3. The risk assessment standards set forth requirements relating to the auditor's assessment of, and response to, the risks of material misstatement in the financial statements.

[34] *See* AS 2110.70–.71.

[35] *See* AS 2110.63.

[36] ISA 540 Revised and AU–C Section 540 also include requirements related to identification of significant risks related to accounting estimates. AS 2110 sets forth requirements for identifying significant risks under PCAOB standards.

supports and corroborates management's assertions regarding the financial statements and information that contradicts such assertions.

With respect to the comments regarding guidance on professional skepticism and performing procedures at interim dates, other PCAOB standards already address the auditor's responsibilities in those areas, and the new standard does not change that direction with respect to auditing estimates. For example, paragraphs .07–.09 of AS 1015, *Due Professional Care in the Performance of Work,* paragraph .13 of AS 2401, and AS 2301.07 address the appropriate application of professional skepticism, and AS 2301.43–.46 discusses the auditor's responsibilities when performing substantive procedures at an interim date. Those standards apply when auditing accounting estimates.

Scalability of the Standard

In response to questions in the proposal, commenters expressed mixed views on the scalability of the proposed requirements. Some commenters indicated that the proposed requirements were sufficiently scalable, while others identified challenges in scaling the auditor's response to identified risks in accounting estimates and requested additional guidance. For example, some commenters opined that it was not clear how auditors would tailor their response to an estimate that represented a significant risk of material misstatement compared with a lower risk estimate. One commenter advocated for further guidance to address situations where an estimate is deemed to have a low inherent risk. Another commenter indicated that it is important to recognize that the amount of evidence may not necessarily increase, but the persuasiveness and sufficiency of the evidence should increase.

The new standard is designed to be scalable because the necessary audit evidence depends on the corresponding risk of material misstatement. The standard does not prescribe detailed procedures or the extent of procedures, beyond the requirement to respond to the risk, including significant risk, and the direction for applying the primary approaches for testing. Rather, it builds on the requirements of AS 2301 to design procedures that take into account the types of potential misstatements that could result from the identified risks and the likelihood and magnitude of potential misstatement.[37] Specific risk factors associated with the estimates—for example, subjective assumptions, measurement uncertainty, or complex processes or methods[38]—would affect the auditor's risk assessment and in turn, the required audit effort. For example:

- Testing a simple calculation of depreciation expense, including evaluating remaining useful lives, for a group of assets of the same type with similar usage and condition would generally require less audit effort than testing asset retirement obligations that involve significant assumptions about costs not yet incurred based on estimation of the probability of future events.
- In testing the valuation of assets acquired and liabilities assumed in a business combination, more audit effort would need to be directed to assets and liabilities whose valuation involves more subjective assumptions, such as identifiable intangible assets and contingent consideration, than to assets with readily determinable values.

Additionally, the new standard echoes language from AS 2301.37 in stating that, as the assessed risk of material misstatement increases, the evidence from substantive procedures that the auditor should obtain also increases. Consistent with AS 2301, for an individual accounting estimate, different combinations of the nature, timing, and extent of testing might provide sufficient appropriate evidence to respond to the assessed risk of material misstatement for the relevant assertion.

Selection of Approaches

The proposed standard retained the requirement to test accounting estimates using one or a combination of three basic approaches from the estimates standards: (1) Testing the company's process, (2) developing an independent expectation, and (3) evaluating audit evidence from events or transactions occurring after the measurement date. The proposed standard also included a note reminding auditors that their understanding of the process the company used to develop the estimate, along with results of tests of relevant controls, should inform the auditor's decisions about the approach he or she takes to auditing an estimate.

Several commenters expressed support for retaining the three common approaches, as set forth in the proposal. Other commenters indicated that the proposal should emphasize that testing the company's process may not always be the best audit approach; with one commenter noting that the proposed requirement may lead auditors to test management's process substantively, regardless of whether another approach will provide the same or more persuasive audit evidence. Two commenters stressed the importance of developing an independent expectation and suggested this approach be selected in addition to testing the company's process. None of these commenters, however, suggested that the selection of substantive approaches should be limited.

Some commenters sought further direction on how the auditor would obtain sufficient evidence when using a combination of approaches, with some commenters asserting that, for example, the proposed requirement might result in inconsistent application or auditors unnecessarily performing all procedures under each approach. One commenter asked the Board to clarify whether documentation of a specific testing approach is expected.

Some commenters also requested guidance on the application of specific testing approaches. For instance, one commenter suggested that the Board consider directing auditors to always evaluate audit evidence from events or transactions occurring after the measurement date related to the accounting estimate, as, in their view, there would be limited circumstances in which this approach would not provide appropriate audit evidence to determine whether accounting estimates are reasonable. Another commenter added that events occurring after the measurement date may effectively eliminate estimation uncertainty, which affects risk assessment and the audit response related to valuation. This commenter suggested the proposal clarify the extent of additional procedures required, if any, when such events are considered and tested.

One commenter suggested more guidance be provided about how an auditor's understanding of management's process affects the auditor's planned response to assessed risk in accordance with AS 2301. This commenter also observed that the note to paragraph .07 may be read to mean that relevant controls are expected to be tested in all audits and suggested a footnote reference to relevant requirements of AS 2301.

The new standard retains the requirements for testing accounting estimates substantially as proposed, allowing the auditor to determine the approach or combination of approaches appropriate for obtaining sufficient appropriate evidence to support a conclusion about the particular accounting estimate being audited. The

[37] AS 2301.09.

[38] *See* AS 2110.60A, as amended, for examples of specific risk factors.

new standard takes into account that accounting estimates vary in nature and in how they are developed. Therefore, mandating a particular testing approach may not be feasible or practical in the circumstances. For example, in some cases, data and significant assumptions underlying the estimate may be largely based on a company's internal information (*e.g.,* sales projections or employee data), or the estimate may be generated using a customized company-specific model. In those situations, the auditor may not have a reasonable alternative to testing the company's process. Similarly, there may not be any events or transactions occurring after the measurement date related to certain estimates (*e.g.,* the outcome of a contingent liability might not be known for a number of years). Rather than imposing limits on the selection of approaches, the new standard describes the auditor's responsibilities for appropriately applying the selected approach, or combination of approaches, to obtain sufficient appropriate evidence and performing an appropriate evaluation of the evidence obtained.

As under the estimates standards, the new standard allows for the auditor to use a combination of approaches to test an estimate. For example, some estimates consist of multiple components (*e.g.,* valuation allowances) and the auditor may vary the approaches used for the individual components. The auditor may also choose to develop an independent expectation of a significant assumption used by the company in conjunction with testing the company's process for developing the estimate. Whether using a combination of approaches or a single approach, the auditor is required to have a reasonable basis for using alternative methods or deriving his or her own assumptions, as discussed in more detail below. Similarly, when using information produced by the company as audit evidence, the auditor is required to evaluate whether that information is sufficient and appropriate for the purposes of the audit, regardless of the approach the auditor uses to test the estimate.[39]

The new standard also carries forward the point from the accounting estimate standard that the auditor's understanding of the company's process for developing the estimate, and, if relevant controls are tested, the results of those tests, informs the auditor's decision about which approach or approaches to take. AS 2301 describes the auditor's responsibilities for testing controls in a financial statement audit. The new standard does not change those responsibilities, including the circumstances under which the auditor is required to test controls. Rather, the standard emphasizes that the results of the auditor's tests of controls can affect the nature, timing and extent of planned substantive procedures. Further, the auditor's understanding of the company's process related to an estimate can provide insight into the nature and extent of available audit evidence, and thus inform the auditor's selection of approaches.

Lastly, the new standard does not set forth requirements for audit documentation. The auditor's responsibilities with respect to audit documentation are addressed in AS 1215, *Audit Documentation.* Accordingly, audit documentation relevant to selection of approaches should be evident to an experienced auditor, having no previous connection with the engagement.[40]

Comparison With Standards of Other Standard Setters

ISA 540 Revised requires the auditor's procedures to be responsive to the assessed risks of material misstatement at the assertion level, considering the reasons for the assessment given to those risks, and include one or more of the three approaches to substantive testing (similar to the new standard).[41]

ISA 540 Revised also includes a requirement for the auditor to take into account that the higher the assessed risk of material misstatement, the more persuasive the audit evidence needs to be. The auditor is required to design and perform further audit procedures in a manner that is not biased towards obtaining audit evidence that may be corroborative or towards excluding audit evidence that may be contradictory.

AU–C Section 540 requires the auditor to determine whether management has appropriately applied the requirements of the applicable financial reporting framework relevant to the accounting estimate. In responding to the assessed risks of material misstatement, AU–C Section 540 also requires the auditor to undertake one or more of the three approaches discussed above, as well as providing an approach to perform a combination of tests of controls over the estimate along with substantive procedures.

Testing the Company's Process Used To Develop the Accounting Estimate

See Paragraph .09

The proposed standard included an introductory statement explaining the purpose of and steps involved in testing the company's process. Specifically, the standard explained that testing the company's process involves performing procedures to test and evaluate the methods, data, and significant assumptions used to develop the company's estimate in order to form a conclusion about whether the estimate is reasonable in the circumstances, in conformity with the applicable financial reporting framework, and free from bias that results in material misstatement.

Similar to the comments received on the proposed objective, some commenters expressed concerns about the phrase ''free from bias that results in material misstatement'' when describing the auditor's responsibilities in this area. One commenter also asked whether these requirements would apply to assumptions, models, and data provided by a company specialist. Another commenter sought clarification on the meaning of the terms ''test,'' ''data,'' and ''assumptions.''

As with the objective of the standard, paragraph .09 of the new standard was revised to describe an overarching concept for testing the company's process—that is, to form a conclusion about whether the estimate is properly accounted for and disclosed in financial statements. These revisions are responsive to comments and link the auditor's responsibilities more closely to the requirements of the Board's risk assessment standards.

As discussed in more detail below, the new standard directs the auditor to look to the requirements in Appendix A of AS 1105[42] for the auditor's responsibilities with respect to using the work of a company's specialist in the audit. This direction has been modified from the proposal to align with changes to the Specialists Release.

Finally, the meaning of the terms ''test,'' ''data,'' and ''assumptions'' in the new standard is consistent with the meaning of these terms used in the estimates standards and other PCAOB standards.

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that, as part of testing how management made the accounting estimate, the auditor is

[39] *See* AS 1105.10.

[40] *See* AS 1215.06.

[41] ISA 540 Revised also includes requirements for tests of controls. AS 2301 sets forth requirements for tests of controls in financial statement audits under PCAOB standards.

[42] The auditor's responsibilities with respect to using the work of a company specialist are presented as Appendix A of AS 1105. *See supra* note 2.

required to perform procedures to obtain sufficient appropriate audit evidence regarding the risks of material misstatement relating to (a) selection and application of the methods, significant assumptions and the data used by management in making the accounting estimate, and (b) how management selected the point estimate and developed related disclosures about estimation uncertainty.[43]

AU–C Section 540 provides that as part of testing how management made the accounting estimate and the data on which it is based, the auditor should evaluate whether the method of measurement used is appropriate in the circumstances, the assumptions used by management are reasonable in light of the measurement objectives of the applicable financial reporting framework, and the data on which the estimate is based is sufficiently reliable for the auditor's purposes.

Evaluating the Company's Methods

See Paragraphs .10–.11

The proposed standard provided that the auditor should evaluate whether the methods used by the company are (1) in conformity with the applicable financial reporting framework, including evaluating whether the data and significant assumptions are appropriately applied; and (2) appropriate for the nature of the related account or disclosure and the company's business, industry, and environment. The proposed requirements were similar to certain requirements of the fair value standard.[44]

A number of commenters expressed concerns about the requirement to evaluate whether the company's methods are appropriate for the company's ''business, industry, and environment'' because in their view, the requirement seemed to suggest all companies within a particular industry use, or should use, the same method. Two commenters also suggested adding specific requirements—to evaluate models used by the company and test the mathematical accuracy of the calculations used by the company to translate its assumptions into the accounting estimate. One commenter sought clarification on the intent of the requirement to evaluate whether the data and significant assumptions are appropriately applied under the applicable financial reporting framework.

The new standard retains substantially as proposed the requirement to evaluate whether the methods used by the company are in conformity with the applicable financial reporting framework, including evaluating whether the data is appropriately used and significant assumptions are appropriately applied under the framework. The applicable financial reporting framework may prescribe a specific method to develop an estimate or allow for alternative methods, or provide guidance on how to apply the method, including guidance on the selection or use of assumptions or data. Evaluating whether the company's method is in conformity with the financial reporting framework involves evaluating whether the data is appropriately used and significant assumptions are appropriately applied by the method, which, if applicable, would include testing the mathematical accuracy of the calculations under the method.

The methods used by the company may involve the use of a model (*e.g.,* expected future cash flows). The new standard does not prescribe specific procedures for testing models, as suggested by one commenter.[45] The Board believes that requirements specific to models are not necessary because evaluating the method, as discussed above, includes consideration of models to the extent necessary to reach a conclusion on the appropriateness of the method. Under the new standard, the necessary audit procedures to evaluate the method used by the company (which, as appropriate, include models involved in the method) are commensurate with the assessed risks associated with the estimate. For example, the risks associated with a method that uses a commercially available valuation model may relate to whether the model is appropriate for the related estimate under the applicable financial reporting framework, whereas the risks associated with a method that uses an internally-developed company model may include additional risks associated with how the model was developed. In this example, the internally-developed model scenario would require greater audit effort to respond to the broader range of risks, as compared to the commercially available model scenario. In either case, the auditor would evaluate whether the method was used appropriately, including whether adjustments, if any, to the output of the model were appropriate.

After consideration of comments, the requirement regarding evaluating the appropriateness of the method was revised to remove the reference to the company's business and industry. Under the new standard, the auditor is required to evaluate whether the company's method is appropriate for the nature of the related account or disclosure, taking into account the auditor's understanding of the company and its environment. This revised requirement is consistent with the risk assessment standards because the auditor's evaluation of the method (a substantive procedure) is informed by the auditor's understanding of the company and its environment (obtained through the auditor's risk assessment procedures).[46] Notably, part of the auditor's procedures for obtaining an understanding of the company and its environment include obtaining an understanding of relevant industry, regulatory, and other external factors, and evaluating the company's selection and application of accounting principles.[47]

The proposed standard also addressed circumstances in which a company has changed its method for developing an accounting estimate by requiring the auditor to determine the reasons for and evaluate the appropriateness of such change.

One commenter asserted that it would be more appropriate to require the auditor to evaluate whether the company's reasons for making the change are appropriate. This commenter also sought clarification on what constitutes a change in method and on the auditor's responsibility when the company has not made a determination about whether different methods result in significantly different estimates. Another commenter expressed concern that, because of a lack of clarity about the definition of ''method'' and what

[43] The Board's risk assessment standards address the auditor's responsibilities for responding to risks of material misstatement and obtaining sufficient appropriate evidence.

[44] *See* AS 2502.15 and .18.

[45] This commenter advocated for the approach taken by the IAASB regarding models. ISA 540 Revised requires that, when management's application of the method involves complex modeling, the auditor's procedures address whether judgments have been applied consistently and, when applicable, whether (1) the design of the model meets the measurement objective of framework, is appropriate in the circumstances, and changes from the prior period's model are appropriate in the circumstances; and (2) adjustments to the output of the model are consistent with the measurement objective and are appropriate in circumstances.

[46] Additionally, AS 2301.05d requires the auditor to evaluate whether the company's selection and application of significant accounting principles, particularly those related to subjective measurements and complex transactions, are indicative of bias that could lead to material misstatement of the financial statements.

[47] AS 2110.09 and .12–.13.

constitutes a change, the proposed requirement could result in potentially onerous documentation necessary to support changes to methods. Finally, one commenter suggested adding a requirement for the auditor to evaluate whether the company failed to revise its method to recognize changes in facts and circumstances.

The new standard retains as proposed the requirements for the auditor to (1) determine the reasons for changes to the method used by the company and evaluate the appropriateness of such change, and (2) evaluate the appropriateness of methods selected by the company in circumstances where the company has determined that different methods could result in significantly different estimates. The requirements in the new standard are similar to those in the fair value standard [48] and consistent with the auditor's responsibilities to obtain an understanding of the company's process used to develop the estimate, including the methods used.[49] These requirements also take into account that, in some cases, more than one method may be used to develop a particular estimate. It is important for the auditor to understand the basis for the company's change to its method, as changes that are not based on new information or other changes in the company's circumstances could be indicative of management bias (*e.g.,* changing the method to achieve a favorable financial result).[50]

With respect to other comments raised above, a separate requirement to evaluate whether the company failed to revise its method to recognize changes in facts and circumstances is unnecessary as auditors would make this determination when evaluating appropriateness of the method for the nature of the account or disclosure, taking into account the auditor's understanding of the company and its environment. That understanding should inform the auditor about conditions which might indicate that a change in method is needed. For example, the use of a discounted cash flow method to value a financial instrument may no longer be appropriate once an active market is introduced for the instrument. Moreover, changes to the method could result in a change to the corresponding estimate and affect the consistency of the financial statements (as discussed in AS 2820, *Evaluating Consistency of Financial Statements*).[51] In addition, contrary to the views of one commenter, the new standard does not impose any new documentation requirements to the existing provisions of AS 1215.

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that the auditor's procedures shall address (a) whether the method selected is appropriate in the context of the applicable financial reporting framework, and, if applicable, whether changes from the method used in prior periods are appropriate; (b) whether judgments made in selecting the method give rise to indicators of possible management bias; (c) whether the calculations are applied in accordance with the method and are mathematically accurate; and (d) whether the integrity of the significant assumptions and the data has been maintained in applying the method.[52]

AU–C Section 540 requires the auditor to determine whether the methods for making the accounting estimate are appropriate and have been applied consistently, and whether changes, if any, in accounting estimates or in the method for making them from the prior period are appropriate in the circumstances. Further, AU–C Section 540 provides that as part of testing how management made the accounting estimate, and the data on which it is based, the auditor evaluates whether the method of measurement used is appropriate in the circumstance.

Testing Data Used

See Paragraphs .12–.14

The proposed standard discussed the auditor's responsibilities for testing and evaluating both internal and external data. This included (1) reiterating existing requirements in AS 1105 to test the accuracy and completeness of information produced by the company, or to test the controls over the accuracy and completeness of that information; [53] and (2) requiring the auditor to evaluate the relevance and reliability [54] of data from external sources.

The proposed standard also provided that the auditor should evaluate whether the data is used appropriately by the company, including whether (1) the data is relevant to the measurement objective for the accounting estimate; (2) the data is internally consistent with its use by the company in other estimates tested; and (3) the source of the company's data has changed from the prior year and, if so, whether the change is appropriate.

A few commenters called for clarification of various aspects of the proposed requirements pertaining to data. For example, one commenter suggested the requirements clarify that company data supplied to a third party or company specialist is not considered to be data from an external source. This commenter also asked for a framework for evaluating whether the source of the company's data has changed from the prior year and, if so, whether the change is appropriate. Another commenter sought more clarity on whether the requirement applies to all data or may be limited to significant data.

Some commenters also suggested additional requirements in this area. For example, one commenter asserted that the existing requirements related to completeness and accuracy of data in AS 1105 do not themselves constitute a procedure that addresses risks of material misstatement and instead, suggested an express requirement to evaluate whether the data used in the estimate is accurate and complete. Another commenter pointed to the existence of data analytics tools as an alternative to sampling, and advocated for some acknowledgement in the requirements of the importance of the integrity of these tools and the controls over their development. One commenter suggested a requirement to assess whether management has appropriately understood or interpreted significant data.

The new standard retains the requirements for testing and evaluating data substantially as proposed, including requirements to evaluate whether the data is relevant to the measurement objective, internally consistent, and whether the source of the company's data has changed from the prior year and if so, whether the change is appropriate. The new standard builds on the auditor's responsibilities established by AS 1105, including requirements to test the accuracy and completeness of information produced by the company. Contrary to the views of one commenter, AS 1105 currently includes an obligation for the auditor to test company-produced data. Accordingly, an additional requirement to evaluate whether the data used in the estimate is accurate and complete is not necessary. Furthermore, the determination of the data to be tested—and the nature, timing, and extent of that testing—

[48] AS 2502.19.

[49] *See* AS 2110.28, as amended.

[50] *See* AS 2810 for requirements related to evaluating bias in accounting estimates.

[51] *See also* FASB Accounting Standards Codification Topic 250, *Accounting Changes and Error Corrections.*

[52] *See supra* note 45 for additional requirements related to models.

[53] AS 1105.10.

[54] AS 1105.07–.08.

should be based on and responsive to the assessed risks of material misstatement.

Consistent with the proposed standard, AS 2501 (Revised) makes a distinction between procedures to be performed regarding internal data and procedures regarding data from external sources used by the company to develop accounting estimates. Examples of internal data include the company's historical warranty claims and historical losses on defaulted loans. Examples of external data include economic, market, or industry data. Company data supplied by the company to a third party or company specialist is not data from an external source. The new standard also points auditors to Appendix B of AS 1105 for situations in which the valuation of an investment is based on the investee's financial results.

The new standard also retains substantially as proposed requirements to evaluate whether the data was used appropriately by the company. Evaluating the manner in which data was used by the company necessarily builds on the auditor's understanding of the company's process used to develop the estimate. This includes evaluating whether the company's selection and use of data is in conformity with the requirements of the financial reporting framework. Further, devoting audit attention to changes in the data source might reveal potential contradictory evidence and help the auditor identify potential management bias. For example, while a new source of data might result in an estimate that better reflects a company's specific circumstances, a change in data source could also be used by a company to achieve a desired financial result. The new standard has been modified to clarify that evaluating whether the data is used appropriately includes evaluating whether the data is internally consistent with its use by the company in other significant accounts and disclosures based on similar example procedures in the fair value standard.[55]

As noted by one commenter, significant advances in technology have occurred in recent years, including increased use of data analysis tools. The Board considered how changes in technology could affect the approaches to auditing accounting estimates and believes that the new standard and related amendments are sufficiently principles-based and flexible to accommodate continued advances in the use of data and technology by both companies and auditors.

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that the auditor's procedures shall address (a) whether the data is appropriate in the context of the applicable financial reporting framework, and, if applicable, changes from prior periods are appropriate; (b) whether judgments made in selecting the data give rise to indicators of possible management bias; (c) whether the data is relevant and reliable in the circumstances; and (d) whether the data has been appropriately understood or interpreted by management, including with respect to contractual terms.

AU–C Section 540 provides that in testing how management made the accounting estimate, and the data on which it is based, the auditor should evaluate whether the data on which the estimate is based is sufficiently reliable for the auditor's purposes.

Identification of Significant Assumptions

See Paragraph .15

The proposed standard provided that the auditor should identify which of the assumptions used by the company are significant assumptions to the estimate and provided criteria to assist the auditor in making this determination. Furthermore, the proposed standard provided that, if the company has identified significant assumptions used in an estimate, the auditor's identification of significant assumptions should also include those assumptions.

Some commenters expressed concern about one of the factors to be considered in identifying significant assumptions—whether an assumption relates to an identified and assessed risk of material misstatement. The commenters opined that the factor was too broad and could result in an excessive number of assumptions being identified as significant. Some of those commenters suggested adding a note to describe how all of the factors set forth in the proposal work together. A few commenters made other suggestions with respect to this requirement including (1) incorporating the requirement to identify assumptions used by the company which are important to the recognition or measurement of the accounting estimate in the financial statements into AS 2110.28e, as amended; (2) adding a qualifying phrase, such as ''as applicable,'' to the factors because some factors may not always be relevant or may vary in significance; and (3) incorporating the concept described in AS 2502.33 that significant assumptions cover matters that materially affect the estimate.

Some commenters also voiced concerns that the proposed requirement to include as significant those assumptions that the company has identified as significant may not be appropriate because (1) management is not required to designate assumptions as significant, and (2) auditors and company management may reach different conclusions about which assumptions are significant. One commenter expressed the view that the omission of a requirement to identify assumptions beyond what management identified may be inconsistent with the requirements of AS 2110, and suggested the Board clarify the auditor's responsibilities when, for example, management has not considered a specific assumption needed to correctly apply the applicable accounting framework. Another commenter suggested that assumptions identified by the company as significant should be reflected as an additional factor relevant to identifying significant assumptions rather than a requirement.

After consideration of comments received, the requirement was revised. Specifically, the factor regarding whether an assumption relates to an identified and assessed risk of material misstatement was removed. Instead, the new standard requires the auditor to take into account the nature of the accounting estimate, including related risk factors,[56] the requirements of the applicable financial reporting framework, and the auditor's understanding of the company's process for developing the estimate when identifying significant assumptions. Further, the remaining factors from the proposal—sensitivity to variation, susceptibility to manipulation and bias, unobservable data or adjustments, and dependence on the company's intent and ability to carry out specific courses of action—have been reframed in the new standard as examples of assumptions that would ordinarily be significant. The examples provided are not intended to be an exhaustive list of significant assumptions or a substitute for taking into account the auditor's understanding of the nature of the estimate, including risk factors, the requirements of the applicable financial reporting framework, and his or her understanding of the company's process for developing the estimate. Rather, the examples are provided to illustrate how the concepts in the new standard can be applied to identify significant assumptions that are important to the

[55] *See* AS 2502.39.

[56] *See* AS 2110.60–.60A, as amended.

recognition or measurement of an accounting estimate. The revised formulation provides better context for the application of the requirement, as suggested by some commenters, and prompts auditors to consider those assumptions that drive or are associated with identified risks of material misstatement.

The auditor is not expected to document a detailed comparison of each assumption used in the estimate to each factor or example described above. Instead, consistent with AS 1215, the auditor should document the significant assumptions identified and the auditor's rationale for that determination.

In addition, the proposed note—requiring auditors to include as significant those assumptions that the company has identified as significant assumptions—was not included in the new standard. As discussed above, the new standard requires the auditor, in identifying significant assumptions, to take into account the auditor's understanding of the company's process for developing the estimate, which would include understanding the assumptions used by the company in that estimate (whether expressly identified or implicit in the nature of the estimate or method used). This approach addresses commenter concerns about whether the Board was imposing a responsibility on management to identify significant assumptions.

The intent of the proposed requirement to include significant assumptions identified by the company was to provide the auditor with a starting point for the auditor's evaluation (consistent with the fair value standard). However, since the revised requirement already focuses the auditor on understanding the assumptions used by the company to develop the estimate and the associated risk factors, the new standard does not include a new factor for assumptions identified as significant by management, as suggested by a commenter.

Lastly, the requirement to identify significant assumptions was not relocated to AS 2110.28, as suggested by one commenter, because identifying significant assumptions is an inherent part of testing the company's process for developing estimates.

Evaluation of Significant Assumptions

See Paragraphs .16–.18

The proposed standard set forth requirements to evaluate the reasonableness of significant assumptions used by the company, both individually and in combination, including evaluating whether (1) the company has a reasonable basis for those assumptions and, when applicable, the company's selection of assumptions from a range of potential assumptions; and (2) significant assumptions are consistent with, among other things, the company's objectives, historical data, the economic environment, and market information. In circumstances when the auditor develops an expectation of an assumption to evaluate its reasonableness, the proposed standard also provided that the auditor should have a reasonable basis for that expectation.

Some commenters asked for clarification of certain aspects of the requirement. For example, a few commenters asked for clarification on the requirement to assess whether management has a reasonable basis for its assumptions. Another commenter asked for an explanation of what ''reasonable'' is intended to mean in the context of accounting estimates. One commenter sought clarification on how to evaluate differences between management's assumption and the auditor's expectation in circumstances where the auditor develops an expectation of an assumption to evaluate its reasonableness. Another commenter requested that the requirement address factors relevant to evaluating reasonableness of forward-looking information in anticipation of the new accounting standard on credit losses.[57]

With respect to evaluating consistency with baseline information described in the standard, one commenter asked for clarification of how the requirement to evaluate factors in paragraph .16 works with the requirement to ''test'' in paragraph .09. This commenter also asked for clarification of the extent of the procedures to be performed when evaluating the consistency of significant assumptions with the contextual information set forth in the standard, where relevant, asserting that the requirement may be difficult to apply in practice. Another commenter suggested that the auditor be required to *consider* whether the assumptions are consistent with the information provided in order to better align the provision with language used by the IAASB.

One commenter suggested inclusion of a specific requirement to assess significant assumptions for management bias.

The new standard retains the requirements for evaluating reasonableness of significant assumptions substantially as proposed. The requirements recognize that estimates are generally developed using a variety of assumptions and focus the auditor on how the company selects its assumptions.

The auditor's assessment of whether the company has a reasonable basis for a significant assumption (including an assumption based on forward-looking information) relates to whether the assumption used by the company is based on an analysis of relevant information, or determined arbitrarily, with little or no such analysis. The auditor's assessment also involves considering whether the company considered relevant evidence, regardless of whether it corroborates or contradicts the company's assumption.

Under the new standard, the auditor should evaluate whether the significant assumptions are consistent with relevant information such as the company's objectives; historical experience (*e.g.,* prior years' assumptions and past practices), taking into account changes in conditions affecting the company; and other significant assumptions in other estimates tested (*e.g.,* assumptions are consistent with each other and other information obtained). This requirement is consistent with requirements in the fair value standard.[58] In making this evaluation, the auditor uses his or her understanding of the company and its environment, the assessed risks of material misstatement, and his or her understanding of the process used to develop the estimates.

In circumstances where the auditor develops an expectation of an assumption to evaluate reasonableness, the auditor is required to have a reasonable basis for that expectation (consistent with the requirements regarding developing independent expectations), taking into account relevant information, including the information set forth in the requirement. The new standard does not prescribe specific follow-up procedures when there are differences between the auditor's expectation and the company's significant assumptions. The nature and extent of procedures would depend on relevant factors such as the reason for the difference and the potential effect of the difference on the accounting estimate.[59]

[57] *See* FASB Accounting Standards Update No. 2016–13, *Financial Instruments—Credit Losses* (Topic 326): *Measurement of Credit Losses on Financial Instruments* (June 2016).

[58] *See generally* AS 2502.29–.36.

[59] *See* AS 2501.30–.31 (Revised).

With respect to the comment regarding management bias, the new standard was revised to provide that responding to risks of material misstatement involves, among other things, evaluating potential management bias in accounting estimates, and its effect on the financial statements (in paragraph .05). Furthermore, the requirements in paragraphs .30–.31 of the new standard, as well as AS 2810.27 address the evaluation of bias in accounting estimates. Therefore, an explicit requirement to evaluate bias as part of evaluating reasonableness of significant assumptions is not necessary.

Intent and Ability

As part of evaluating the reasonableness of significant assumptions, the proposed standard provided that the auditor take into account factors (*e.g.,* company's past history of carrying out stated intentions, written plans or other documentation, stated reasons for course of action, and the company's ability to carry out action based on financial resources, legal restrictions, etc.) that affect the company's intent and ability to carry out a particular course of action when such action is relevant to the significant assumption.

One commenter asserted that compliance with the proposed requirements would not be possible when information described in factors does not exist and suggested adding the phrase ''as applicable'' to the requirement.

The new standard retains, as proposed, the requirement to take into account specific factors in evaluating the reasonableness of significant assumptions when the significant assumption is based on the company's intent and ability to carry out a particular course of action. As in other PCAOB standards, the auditor takes factors into account to the extent they are relevant.

Critical Accounting Estimates

With respect to critical accounting estimates, the proposed standard provided that the auditor should obtain an understanding of how management analyzed the sensitivity of its significant assumptions [60] to change, based on other reasonably likely outcomes that would have a material effect, and to take that understanding into account when evaluating the reasonableness of the significant assumptions and potential for management bias.

Some commenters expressed concern that the proposed requirement may place undue emphasis on, or create an inappropriate linkage with, a company's management discussion and analysis (''MD&A'') disclosure. One commenter also suggested that the requirement may not always apply (if, for example, management were unable to perform a sensitivity analysis), and suggested clarification that the intent was for the auditor to understand whether, and if so, how, management analyzed the sensitivity of significant assumptions to change.

Some commenters suggested the proposed requirement be recast or aligned as a risk assessment procedure. For example, one commenter observed that the auditor's and management's judgment can differ with respect to critical accounting estimates. That commenter also stated that it was unclear whether the auditor should obtain this understanding if choosing a substantive-only testing strategy. One commenter suggested limiting the proposed requirement to critical accounting estimates with significant risks. Another commenter sought clarification that the requirement does not alter the auditor's responsibilities under AS 2710, *Other Information in Documents Containing Audited Financial Statements.*

The new standard retains the requirement substantially as proposed. In consideration of comments, the requirement was clarified to better align with the SEC's requirement for critical accounting estimates [61] by describing that the sensitivity of management's significant assumptions to change is based on other reasonably likely outcomes that would have a material effect on the company's financial condition or operating performance.

Under the new standard, the auditor is not expected to evaluate the company's compliance with the SEC's MD&A requirements, but rather to obtain an understanding of management's analysis of critical accounting estimates and to use this understanding in evaluating the reasonableness of the significant assumptions and potential for management bias in accordance with AS 2810.27. In the Board's view, the sensitivity analysis used by the company in developing the critical accounting estimates disclosures for the year under audit can provide important information about the significant assumptions underlying those estimates.

The Board considered recasting the requirement to obtain an understanding of management's analysis of its critical accounting estimates as a risk assessment procedure, as suggested by some commenters. However, this understanding is a necessary part of evaluating the reasonableness of significant assumptions and the potential for management bias in critical accounting estimates, which is a substantive procedure. Moreover, MD&A disclosures regarding critical accounting estimates might not be available until late in the audit, and therefore could affect the timing of related audit procedures.

The requirements in the new standard with respect to critical accounting estimates would not change the auditor's responsibilities under AS 2710 regarding other information in documents containing audited financial statements.

Although there may be significant overlap between estimates with significant risks identified by the auditor and the critical accounting estimates identified by management, the requirements for auditors under paragraph .18 of the new standard are not limited to estimates with significant risks as suggested by one commenter. Rather, the paragraph is consistent with the requirements to evaluate the reasonableness of assumptions in significant accounts and disclosures. The MD&A disclosures regarding critical accounting estimates can provide relevant information to inform the auditor's evaluation of the reasonableness of the significant assumptions and potential for management bias.

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that the auditor's procedures shall address (a) whether the significant assumptions are appropriate in the context of the applicable financial reporting framework, and, if applicable, changes from prior periods are appropriate; (b) whether judgments made in selecting the significant assumptions give rise to indicators of management bias; (c) whether the significant assumptions are consistent with each other and with those used in other accounting estimates, or with related assumptions used in other areas of the entity's business activities, based on the auditor's knowledge obtained in the

[60] For the purposes of this requirement, significant assumptions identified by the company may not necessarily include all of those identified by the auditor as significant.

[61] *See Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations,* Release No. 33–8350 (Dec. 19, 2003), 68 FR 75056 (Dec. 29, 2003), at Section V (''Critical Accounting Estimates'') for management's responsibilities related to critical accounting estimates.

audit; and (d) when applicable, whether management has the intent to carry out specific courses of action and has the ability to do so.

ISA 540 Revised also requires the auditor to address whether, in the context of the applicable financial reporting framework, management has taken appropriate steps to (a) understand estimation uncertainty; and (b) address estimation uncertainty by selecting an appropriate point estimate and by developing related disclosures about estimation uncertainty. When, in the auditor's judgment based on the audit evidence obtained, management has not taken appropriate steps to understand or address estimation uncertainty, ISA 540 Revised requires the auditor to, among other things, request management to perform additional procedures to understand estimation uncertainty or to address it by reconsidering the selection of management's point estimate or considering providing additional disclosures relating to the estimation uncertainty, and evaluate management's response. If the auditor determines that management's response to the auditor's request does not sufficiently address estimation uncertainty, to the extent practicable, the auditor is required to develop an auditor's point estimate or range.

AU–C Section 540 provides that as part of testing how management made the accounting estimate, and the data on which it is based, the auditor shall evaluate whether the assumptions used by management are reasonable in light of the measurement objectives of the applicable financial reporting framework. Further, for accounting estimates that give rise to significant risks, AU–C Section 540 requires the auditor to evaluate: (a) How management considered alternative assumptions or outcomes and why it rejected them, or how management has otherwise addressed estimation uncertainty in making accounting estimates; (b) whether the significant assumptions used by management are reasonable; and (c) where relevant to the reasonableness of the significant assumptions used by management or the appropriate application of the applicable financial reporting framework, management's intent to carry out specific courses of action and its ability to do so.

AU–C Section 540 further provides that if, in the auditor's professional judgment, management has not addressed adequately the effects of estimation uncertainty on the accounting estimates that give rise to significant risks, the auditor should, if considered necessary, develop a range with which to evaluate the reasonableness of the accounting estimate.

Company's Use of a Specialist or Third-Party Pricing Information

See Paragraphs .19–.20

The proposed standard would have required the auditor to also take into account the work of a company's specialist used in developing an accounting estimate when determining the evidence needed in testing the company's process. The proposed standard also referenced Appendix B of AS 1105 [62] for testing and evaluating the work of a company's specialist when that work is used to support a conclusion regarding a relevant assertion, such as a relevant assertion related to an accounting estimate.

In addition, when third-party pricing information used by the company is significant to the valuation of financial instruments, the proposed standard required the auditor to evaluate whether the company has used that information appropriately and whether it provides sufficient appropriate evidence.

One commenter expressed concern that the proposed requirement would result in practical challenges as it would require the auditor to test the methods, data, and significant assumptions used or developed by a company specialist in the same manner that the auditor would if the accounting estimate was developed without the assistance of a company specialist. Another commenter advocated for closer alignment with the proposed requirements of Appendix B of AS 1105, citing, for example, requirements for testing the accuracy and completeness of company-produced data used by the specialists and evaluating the relevance and reliability of data obtained from external sources.

One commenter advocated for requiring auditors to consider whether company specialists possess specific credentials as part of auditing estimates under the proposed standard.

With respect to circumstances when third-party pricing information used by the company is significant to the valuation of financial instruments, one commenter requested additional guidance or criteria for evaluating whether the company has used third-party pricing information ''appropriately'' when assessing whether the information provides sufficient appropriate evidence.

In consideration of comments (including those received on the Specialists Proposal), the new standard requires the auditor to look to the requirements of Appendix A of AS 1105 that discuss the auditor's responsibilities for using the work of company specialists.[63] Appendix A of AS 1105 sets forth, among other things, procedures to be performed in evaluating the data, assumptions, and methods used by a company's specialist. Further, rather than addressing specific credentials of the specialist, Appendix A of AS 1105 requires the auditor to assess the knowledge, skill, and ability of the company's specialist.

The new standard retains as proposed the requirement to evaluate, when third-party pricing information used by the company is significant to the valuation of financial instruments, whether the company has used third-party pricing information appropriately and whether it provides sufficient appropriate evidence. The auditor's determination as to whether third-party pricing information was used appropriately by the company includes whether the information is in conformity with the applicable financial reporting framework.

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that when using the work of a management's expert, the requirements in paragraphs 21–29 of ISA 540 Revised [64] may assist the auditor in evaluating the appropriateness of the expert's work as audit evidence for a relevant assertion in accordance with paragraph 8(c) of ISA 500, *Audit Evidence.*[65] In evaluating the work of the management's expert, the nature, timing, and extent of the further audit procedures are affected by the auditor's

[62] In a separate proposal, the Board proposed to amend its standards regarding the auditor's use of the work of specialists, including specialists employed or engaged by the company (''company's specialist''). *See Proposed Amendments to Auditing Standards for the Auditor's Use of the Work of Specialists,* PCAOB Release No. 2017–003 (''Specialists Proposal''). The Specialists Proposal set forth these amendments in Appendix B of AS 1105.

[63] The auditor's responsibilities with respect to using the work of a company's specialist are presented as Appendix A of AS 1105. *See* Specialists Release, *supra* note 2. The analogous proposed requirements were originally presented as Appendix B of AS 1105 in the Specialists Proposal.

[64] Paragraphs 21–29 of ISA 540 Revised describe the requirements for obtaining audit evidence from events occurring up to the date of the auditor's report; testing how management made the accounting estimate; and developing an auditor's point estimate or range.

[65] ISA 540 Revised provides that in obtaining audit evidence regarding the risks of material misstatement relating to accounting estimates, irrespective of the sources of information to be used as audit evidence, the auditor shall comply with the relevant requirements in ISA 500.

evaluation of the expert's competence, capabilities and objectivity, the auditor's understanding of the nature of the work performed by the expert, and the auditor's familiarity with the expert's field of expertise.

Developing an Independent Expectation of the Estimate

See Paragraph .21

The proposal sought to retain the general approach in the estimates standards for developing an independent expectation,[66] and more explicitly tailored the requirements to the different sources of the methods, data, and assumptions used by the auditor. Those sources include (1) independent assumptions and methods of the auditor, (2) data and assumptions obtained from a third party, and (3) the company's data, assumptions, or methods.

Additionally, while seeking to retain the requirement under the fair value standard for an auditor to understand management's assumptions to ensure that his or her independent estimate takes into consideration all significant variables,[67] the proposal expressly required the auditor to take into account the requirements of the applicable financial reporting framework.

The proposal also replaced certain terms used in the estimates standards to describe audit procedures with more neutral language (such as replacing ''corroborate'' with ''compare'') to reduce the risk of confirmation bias or anchoring bias when auditing accounting estimates.

Commenters on this topic were generally supportive of the proposed requirement for developing an independent expectation, indicating that the requirement is clear and sufficient. One commenter asked the Board to clarify situations where developing an independent expectation of the estimate would be appropriate. Another commenter indicated that using the phrase ''developing an independent expectation'' implies that the auditor would reach this expectation independently, without reference to management's methods, data, and assumptions, and recommended that the Board consider changing this phrasing to developing a ''comparative estimate'' or a ''point estimate'' to better reflect the procedures described.

After consideration of these comments, the requirement is adopted substantially as proposed. The determination of when to use an approach or a combination of approaches is at the auditor's discretion based on the relevant facts and circumstances. In addition, the use of the phrase ''developing an independent expectation of the estimate'' is consistent with the concept in the estimates standards. The intention of the requirement is not to imply that the auditor could (or should) develop an expectation of the estimate without reference to the company's methods, data, and assumptions, but rather to more explicitly acknowledge that, in developing an independent expectation of the estimate, an auditor could use methods, data, and assumptions obtained from different sources.

Consistent with the proposal, the new standard tailors the requirements to develop an independent expectation to the different sources of the methods, data, and assumptions used by the auditor as set forth in the table below and discussed further in the sections that follow.

Auditor's independent expectation developed using:	Auditor responsibility under the new standard:
Assumptions and methods of the auditor	Have a reasonable basis for the assumptions and methods.
Data and assumptions obtained from a third party	Evaluate the relevance and reliability of the data and assumptions.
Company data, assumptions, or methods	Test and evaluate in the same manner as when testing the company's process.

This approach provides more direction to auditors in light of the various ways in which auditors develop an independent expectation of accounting estimates.

The new standard also expressly prompts the auditor to take into account the requirements of the applicable financial reporting framework when developing an independent expectation. By taking into account the requirements of applicable financial reporting framework, the auditor might identify additional considerations relevant to the estimate that the company did not take into account in its own process for developing the estimate. As with the proposal, the new standard also uses more neutral terms, such as ''evaluate'' and ''compare'' to mitigate the risk of confirmation bias or anchoring bias when auditing accounting estimates. For example, the new standard requires the auditor to compare the auditor's independent expectation to the company's accounting estimate instead of developing an independent fair value estimate ''for corroborative purposes.''[68]

Independent Assumptions and Methods of the Auditor

See Paragraph .22

The proposal recognized that, when developing an independent expectation of an estimate, the auditor can independently derive assumptions or use a method that differs from the company's method. In those situations, the auditor should have a reasonable basis for his or her assumptions and methods used.

Commenters on this topic were generally supportive of the proposed requirement that the auditor have a reasonable basis for the assumptions and methods used when developing an independent expectation of the estimate. The requirement is adopted as proposed.

Under the new requirement, the auditor is required to have a reasonable basis for the assumptions and methods used to develop an independent expectation. Having a reasonable basis would reflect consideration of, among other things, the nature of the estimate; relevant requirements of the applicable financial reporting framework; the auditor's understanding of the company, its environment, and the company's process for developing the estimate; and other relevant audit evidence, regardless of whether the evidence corroborates or contradicts the company's assumptions.

Data and Assumptions Obtained From a Third Party

See Paragraph .23

The proposal directed the auditor to the existing requirements in AS 1105 when evaluating the relevance and reliability of data or assumptions obtained from a third party. This approach is consistent with the requirements for evaluating data from external sources as described above.

The proposal also directed the auditor to comply with the requirements of proposed AS 1210 when the third party

[66] *See* AS 2501.12, AS 2502.40, and AS 2503.40.

[67] *See* AS 2502.40.

[68] *See* AS 2502.40.

is a specialist engaged by the auditor.[69] The proposal did not set forth specific requirements related to methods obtained from a third party that is not a specialist.

One commenter expressed concern that the proposed requirements were too restrictive and somewhat impractical and that it may not be possible or necessary to obtain data and assumptions from a third party and to create assumptions independent of those of the company. The commenter recommended that the Board retain the extant direction allowing the auditor to use management's assumptions when developing independent expectations.

After consideration of the comment, the requirement is adopted as proposed. As described below, consistent with the estimates standards and the proposal, the new requirement continues to allow the use of company data, assumptions, or methods while also allowing the auditor to use other sources.[70]

Also consistent with the proposal, the new standard does not set forth specific requirements related to methods obtained from a third party, as the Board understands that auditors typically use either the company's methods or their own (which may include specialists' methods) in developing an independent expectation.

Use of Company Data, Assumptions, or Methods

See Paragraph .24

The proposal sought to retain the existing requirements for the auditor to test data from the company and evaluate the company's significant assumptions for reasonableness, when used by the auditor to develop an independent estimate.[71] The proposal also required the auditor to evaluate the company's method, if the auditor uses that method to develop an independent expectation. The proposal recognized that auditors may use a portion or a combination of data, assumptions, and method provided by the company in developing their expectations. If the company's data, assumptions, or methods are those of a company's specialist, the proposal also directed the auditor to comply with the requirements in proposed Appendix B of AS 1105 for using the work of a company specialist as audit evidence.

One commenter suggested that the Board clarify that when developing an independent expectation of an estimate, the auditor's testing of management's process is limited to those areas on which the auditor intends to rely for purposes of developing the expectation.

This provision is adopted substantially as proposed. Under the new standard, when an auditor chooses to develop an independent expectation using certain of the company's data, significant assumptions, or methods, the auditor is required to test such data or evaluate such assumptions or methods, using the corresponding procedures that apply when the auditor tests the company's process. In response to comments, the text was revised from the proposal to clarify the scope of the obligation to test. The new standard also includes a note referring the auditor to look to the requirements in Appendix A of AS 1105 in situations where the company's data, assumptions or methods were those of a company's specialist.[72]

Comparison With Standards of Other Standard Setters

When the auditor develops a point estimate or a range to evaluate management's point estimate and related disclosures about estimation uncertainty, ISA 540 Revised provides that the auditor's further audit procedures include procedures to evaluate whether the methods, assumptions or data used are appropriate in the context of the applicable financial reporting framework. ISA 540 Revised also provides that regardless of whether the auditor uses management's or the auditor's own methods, assumptions or data, further audit procedures be designed and performed to address the matters in paragraphs 23–25 of ISA 540 Revised.[73]

AU–C Section 540 provides that if the auditor uses assumptions or methods that differ from management's, the auditor shall obtain an understanding of management's assumptions or methods sufficient to establish that the auditor's point estimate or range takes into account relevant variables and to evaluate any significant differences from management's point estimate.

Developing an Independent Expectation as a Range

See Paragraph .25

The proposal provided that, if the auditor's independent expectation consisted of a range rather than a point estimate, the auditor should determine that the range was appropriate for identifying a misstatement of the company's accounting estimate and was supported by sufficient appropriate audit evidence.[74]

Some commenters asked for clarification or guidance on how to determine that a range is appropriate for identifying a misstatement. Some commenters stated that the proposed requirement implied a level of precision within a range that may not be feasible. Some commenters suggested expressly acknowledging situations where the range is greater than the materiality threshold by including, for example, language similar to IAASB's Exposure Draft, Proposed ISA 540 (Revised) (''ED 540''), paragraph A134.[75] One of these commenters argued that for certain highly judgmental estimates, additional audit work cannot reduce the size of the range below the materiality threshold, and that the proposed requirement could lead to excessive work. Another commenter suggested that the proposed standard did not sufficiently address estimation uncertainty, including what constitutes a reasonable range of estimation uncertainty and how auditors are to address and disclose such uncertainty.

After considering the comments, the requirement has been revised to clarify that, when establishing an independent expectation as a range, the auditor should determine that the range encompasses only reasonable outcomes, in conformity with applicable financial reporting framework, and is supported by sufficient appropriate evidence.

Also, a footnote has been added to paragraph .26 of the new standard reminding auditors that, under AS 2810.13, if a range of reasonable estimates is supported by sufficient appropriate evidence and the recorded estimate is outside of the range of

[69] *See* paragraph .08 of the proposed standard.

[70] Appendix A of AS 2501 (Revised) applies when the auditor develops an independent expectation of the fair value of financial instruments using pricing information from a third party. These requirements are discussed further below.

[71] *See* AS 2502.40.

[72] *See* Specialists Release, *supra* note 2.

[73] Paragraphs 23–25 of ISA 540 Revised describe the auditor's further procedures for addressing methods, significant assumptions, and data.

[74] The estimates standards provide for the development of an independent point estimate as one approach for testing accounting estimates, but these standards do not discuss developing an independent expectation as a range of estimates. AS 2810 provides for developing a range of possible estimates for purposes of the auditor's evaluation of misstatements relating to accounting estimates.

[75] ED 540, paragraph A134 stated that ''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.'' Substantially similar guidance appears in paragraph A125 of ISA 540 Revised.

reasonable estimates, the auditor should treat the difference between the recorded accounting estimate and the closest reasonable estimate as a misstatement.

The requirement that the range should be supported by sufficient appropriate evidence is consistent with the principle in the new standard that the auditor should have a reasonable basis for the data, assumptions, and methods used in developing an independent expectation. The sufficiency and appropriateness of the evidence needed will depend on the relevant circumstances, including the nature of the accounting estimate, the requirements of the applicable financial reporting framework, and the number and nature of significant assumptions and data used in the independent expectation.

Notably, the new standard does not restrict the size of the auditor's range to the level of materiality for the financial statements as a whole determined under AS 2105 (''financial statement materiality''). An appropriate range in accordance with paragraph .25 of the new standard might be very large, even exceeding financial statement materiality. For example, under certain market conditions, comparable transactions for some assets, even after appropriate adjustment, might indicate a wide range of fair value measurements. As another example, some accounting estimates are highly sensitive to one or more assumptions, such that a small change in an assumption can result in a large change in the value of the estimate. In those situations, the auditor's responsibility is to determine an appropriate range based on the criteria set forth in the new standard.

The Board considered the comments asking for a statement in the standard acknowledging that an independent expectation as a range could exceed the materiality level determined under AS 2105. However, such a statement was not added because it would not have changed the auditor's responsibility under the new standard.

Finally, with respect to estimation uncertainty, the new standard and related amendments acknowledge that estimates have estimation uncertainty, which affects the risks of material misstatement. Neither the Board nor auditors are responsible for placing limits on the range of estimation uncertainty. That uncertainty is a function of the estimate's measurement requirements under the applicable financial reporting framework, the economic phenomena affecting that estimate, and the fact that estimates involve assessments of future outcomes. Under the new standard, the auditor's responsibility is to consider estimation uncertainty in assessing risk and performing procedures in response to risk, which involves evaluating whether the accounting estimates are reasonable in the circumstances and in conformity with the applicable financial reporting framework, as well as evaluating management bias in accounting estimates, and its effect on the financial statements. These responsibilities are better aligned with the auditor's overall responsibility for planning and performing financial audits.[76]

Comparison With Standards of Other Standard Setters

ISA 540 Revised provides that if the auditor develops an auditor's range, the auditor shall (a) determine that the range includes only amounts that are supported by sufficient appropriate audit evidence and have been evaluated by the auditor to be reasonable in the context of the measurement objectives and other requirements of the applicable financial reporting framework; and (b) design and perform further audit procedures to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement relating to the disclosures in the financial statements that describe the estimation uncertainty.

AU–C Section 540 provides that if the auditor concludes that it is appropriate to use a range, the auditor should narrow the range, based on audit evidence available, until all outcomes within the range are considered reasonable.

Comparing the Auditor's Independent Expectation to the Company's Accounting Estimate

See Paragraph .26

The proposal set forth the requirement for the auditor to compare the auditor's independent expectation to the company's estimate and evaluate the differences in accordance with AS 2810.13.[77]

No comments were received on this topic. The requirement is adopted substantially as proposed, with an expanded footnote reminding auditors that under AS 2810.13, if a range of reasonable estimates is supported by sufficient appropriate evidence and the recorded estimate is outside of the range of reasonable estimates, the auditor should treat the difference between the recorded accounting estimate and the closest reasonable estimate as a misstatement.

Evaluating Audit Evidence From Events or Transactions Occurring After the Measurement Date

See Paragraphs .27–.29

The proposal noted that events and transactions that occur after the measurement date can provide relevant evidence to the extent they reflect conditions at the measurement date. The proposal provided that the auditor should evaluate whether the audit evidence from events or transactions occurring after the measurement date is sufficient, reliable, and relevant to the company's accounting estimate and whether the evidence supports or contradicts the company's estimate.

Commenters were generally supportive of the proposed requirements, indicating they were clear and sufficient. Two commenters requested additional clarity regarding the assessment of whether the audit evidence is sufficient, reliable, and relevant to the company's accounting estimate, one in the context of subsequent events and one more generally. Another commenter suggested including cautionary language with respect to fair value estimates indicating that fair value measurements are derived from information that would be known or knowable to a market participant at the measurement date.

The Board considered these comments and determined that the requirements in the proposal are sufficiently clear and has adopted the requirements as proposed.

The new standard, as with the proposal, requires the auditor to evaluate whether audit evidence from events or transactions occurring after the measurement date is sufficient, reliable, and relevant to the company's accounting estimate and whether the evidence supports or contradicts the company's estimate. This would include evaluating pertinent information that is known or knowable at the measurement date. For example, the sale of a bond shortly after the balance-sheet date (which in this case is also the measurement date) may provide relevant evidence regarding the company's fair value measurement of the bond as of the balance sheet date if the intervening market conditions remain the same. As another example, when a business combination occurred during the year, events occurring

[76] Auditors may also have disclosure and reporting responsibilities in relation to these matters. *See* AS 3101, *The Auditor's Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion,* and AS 1301, *Communications with Audit Committees.*

[77] *See* additional discussion of evaluating audit results below.

subsequent to the measurement date, such as the cash settlement of short-term receivables, may provide relevant evidence about the accounting estimate as of the measurement date if they reflect conditions at the measurement date. In those situations, the audit procedures would be focused on evaluating the relevance and reliability of the evidence provided by the subsequent event, including the extent to which the subsequent event reflects conditions existing at the measurement date.

Additionally, the new standard requires the auditor to take into account changes in the company's circumstances and other relevant conditions between the event or transaction date and the measurement date. It also notes that as the length of time from the measurement date increases, the likelihood that events and conditions have changed during the intervening period also increases.

Comparison With Standards of Other Standard Setters

The corresponding ISA 540 Revised requirement provides that when the auditor's further audit procedures include obtaining audit evidence from events occurring up to the date of the auditor's report, the auditor shall evaluate whether such audit evidence is sufficient and appropriate to address the risks of material misstatement relating to the accounting estimate, taking into account that changes in circumstances and other relevant conditions between the event and the measurement date may affect the relevance of such audit evidence in the context of the applicable financial reporting framework.

AU–C Section 540 provides that the auditor should determine whether events occurring up to the date of the auditor's report provide audit evidence regarding the accounting estimate.

Evaluating Audit Results

See Paragraphs .30–.31

The proposed standard incorporated existing requirements of AS 2810 for evaluating the results of audit procedures performed on accounting estimates, including evaluating bias in accounting estimates (both individually and in the aggregate).

One commenter noted that the requirements could be interpreted as a presumption that bias always exists in accounting estimates or a requirement to determine whether actual bias exists, and suggested that the standard include the word ''potential'' when referencing bias, similar to the requirements of AS 2810. Another commenter sought clarification as to whether the proposed standard required the auditor to evaluate bias in individual assumptions.

The new standard retains paragraphs .30 and .31 regarding evaluating audit results substantially as proposed. In consideration of comments, paragraphs .30 and .31 were revised to include a reference to potential bias, consistent with AS 2810.24–.27. The requirements in the new standard are intended to remind auditors of their existing responsibilities to evaluate potential bias in accounting estimates (both individually and in the aggregate) and its effect on the financial statements. For example, indicators of management bias may affect the assessed risk of material misstatement and the auditor's conclusions about whether accounting estimates are reasonable in the circumstances. As discussed above, individual assumptions that are susceptible to manipulation or bias are ordinarily considered significant and evaluated for reasonableness.[78]

Comparison With Standards of Other Standard Setters

ISA 540 Revised requires the auditor to evaluate whether judgments and decisions made by management in making the accounting estimates included in the financial statements, even if they are individually reasonable, are indicators of possible management bias. When indicators of possible management bias are identified, the auditor shall evaluate the implications for the audit. Where there is intention to mislead, management bias is fraudulent in nature.[79]

AU–C Section 540 requires the auditor to review the judgments and decisions made by management in the making of accounting estimates to identify whether indicators of possible management bias exist.

Both ISA 540 Revised and AU–C Section 540 provide that the auditor should determine whether the accounting estimates and related disclosures are reasonable in the context of the applicable financial reporting framework, or are misstated.

[78] *See* discussion of identification of significant assumptions above.

[79] ISA 540 Revised further requires the auditor to evaluate, based on the audit procedures performed and audit evidence obtained, whether (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.

Appendix A—Special Topics

Introduction

Appendix A of the proposed standard set forth requirements for the auditor to perform specific procedures when auditing the fair value of financial instruments, focusing on the use of pricing information from third parties such as pricing services and brokers or dealers. The proposal also incorporated and built on topics discussed in the derivatives standard, including certain procedures for auditing the valuation of derivatives and securities measured at fair value. The proposed requirements were informed by outreach, including the Pricing Sources Task Force, and publications of other standard setters.

Paragraph .A1 of Appendix A prompts the auditor to obtain an understanding of the nature of the financial instruments being valued in order to identify and assess risks of material misstatement related to the fair value of those instruments. Paragraph .A2 provides the general framework, specifically, the auditor's responsibility to determine whether the pricing information from a third party[80] provides sufficient appropriate evidence to respond to the risks of material misstatement.

Paragraphs .A3–.A9 provide more specific direction for cases where pricing information from pricing services and brokers or dealers are used. Paragraph .A10 sets forth factors for the auditor to take into account when obtaining an understanding of how unobservable inputs were determined and evaluating the reasonableness of unobservable inputs when the unobservable inputs are significant to the valuation of financial instruments.

A number of commenters expressed general support for the proposed Appendix A but commented on specific aspects of the proposed requirements. These comments are addressed below in a section-by-section discussion of the proposal and the new standard. In addition, there were two areas of comment that relate to several aspects of the proposed Appendix: (1) The extent to which audit procedures could be performed over groups or classes of financial instruments, rather than individual instruments; and (2) the role played by centralized groups within an accounting firm, such as a pricing desk, in performing procedures related to

[80] Appendix A focuses primarily on pricing information from pricing services and brokers or dealers, but paragraph .A2 also covers pricing information obtained from other third-party sources, such as exchanges and publishers of exchange prices.

testing the fair value of financial instruments.

On the first area of comment, commenters asked for clarification on whether all of the required procedures in Appendix A were to be applied to financial instruments individually; expressing concerns that doing so would lead to excessive work. Some commenters suggested clarifying changes to the proposed Appendix, such as inserting ''type of'' or ''types of'' before the term ''financial instrument'' in various requirements in the appendix. One commenter suggested adding a note indicating that the procedures in paragraphs .A4–.A8 of the proposal were not required to be applied to each individual financial instrument. Another commenter suggested that auditors be allowed to understand and evaluate the methods and inputs used by pricing services at the level of the asset class for financial instruments with lower estimation uncertainty.

The Board did not intend that all required procedures in Appendix A be applied to individual financial instruments in all cases. Rather, the Board intended that financial instruments with similar characteristics and risks of material misstatement could be grouped for purposes of applying substantive procedures. In some circumstances, however, it may not be appropriate to group financial instruments (for example, where financial instruments are dissimilar, or where the auditor does not have a reasonable basis upon which to base the grouping). As discussed in greater detail below, Appendix A of the new standard has been revised to clarify areas where it may be appropriate for procedures to be performed over groups of financial instruments rather than individual financial instruments.

On the second area, commenters asked for additional guidance about the role of centralized groups that the largest accounting firms often use to assist in performing procedures related to testing the fair value of financial instruments. The specific services performed and the nature and level of detail of information provided by centralized groups to engagement teams can vary. Some commenters suggested that the proposal further address how the requirements apply when a centralized pricing desk is used and raised specific issues regarding the use of centralized groups under the proposed requirements. One commenter advocated for more precise requirements about the degree to which procedures may be executed by a centralized group. The new standard does not prescribe the role or responsibilities of centralized pricing groups in audits, and Appendix A does not provide specific direction in that regard. Instead, the new standard allows engagement teams to continue seeking assistance from centralized groups when performing the procedures required under the new standard. This approach gives audit firms the flexibility to determine the most appropriate way to use their centralized pricing groups on an audit to satisfy the requirement of the new standard.

As under the proposal, centralized groups within the firm that assist engagement teams with evaluating the specific methods and assumptions related to a particular instrument, identifying and assessing risks of material misstatement, or evaluating differences between a company's price and a pricing service's price generally would be subject to the supervision requirements of AS 1201.[81]

Identifying and Assessing Risks of Material Misstatement Related to the Fair Value of Financial Instruments

See Paragraph .A1

Under the proposal, the auditor was to obtain an understanding of the nature of the financial instruments being valued to identify and assess the risks of material misstatement related to their fair value, taking into account specified matters.

Commenters were generally supportive of the proposed requirement. One commenter suggested that the auditor should be permitted to stratify financial instruments into groups as part of identifying and assessing risks of material misstatement, and suggested reframing one of the required procedures to refer to the type of financial instruments. Paragraph .A1 is not intended to require auditors to obtain an understanding of each financial instrument one-by-one. The language has been revised to refer to financial instruments (plural) or type of financial instruments to make this clear. The new standard allows auditors, where appropriate, to stratify financial instruments into groups with similar characteristics for purposes of performing procedures to evaluate pricing information for financial instruments. In those situations, the auditor's stratification is to be based on his or her understanding of the nature of the financial instruments obtained under paragraph .A1.

[81] Additionally, centralized groups may periodically provide general information within the firm about a pricing service's controls and methodologies or general information on current market conditions for different types of securities. Such general information may inform engagement teams' risk assessments, to the extent that the information is reliable and relevant to their engagements. The activities of centralized groups to obtain and communicate such general information are different in nature from the engagement-specific services provided by the centralized groups, which are subject to supervision. Thus, it is important for firm quality control systems to have policies and procedures related to the accuracy of such general information from centralized groups.

Use of Pricing Information From Third Parties as Audit Evidence

See Paragraphs .A2–.A3

The proposal addressed pricing information from organizations that routinely provide uniform pricing information to users, generally on a subscription basis (pricing services), and brokers or dealers. The proposal provided that when the auditor uses pricing information from a third party to develop an independent expectation or tests pricing information provided by a third party used by management, the auditor should perform procedures to determine whether the pricing information provides sufficient appropriate audit evidence to respond to the risks of material misstatement.

Commenters on this topic were generally supportive of the proposed requirement. One commenter questioned whether the use of the word ''tests'' is appropriate in relation to pricing information provided by a third party used by management, because it might be inconsistent with other requirements in the proposed standard. The commenter requested clarification as to whether the use of the word ''tests'' in paragraph .A2 is intended to set out a different work effort than what AS 1105 would require to evaluate information from external sources.

Another commenter questioned whether receiving prices from a third-party service, in and of itself, amounts to using a service organization. The commenter claimed that, based solely on the criteria in paragraph .03 of AS 2601, *Consideration of an Entity's Use of a Service Organization,* without the context provided by AS 2503.11–.14, it is likely that third-party pricing services would often be considered service organizations, and that this outcome is not warranted given the relatively low risks involved. The same commenter asked about how paragraph .A3 would be applied to situations in which pricing services prepare pricing information upon client request, but follow uniform procedures that cause the preparer of the specific information to be unaware of the identity of the user, such that bias of the user would not be introduced.

Paragraphs .A2 and .A3 of the standard are adopted as proposed, except for the revision discussed below. Under the new standard, as with the proposal, when the auditor uses pricing information from a third party to develop an independent expectation or evaluates pricing information provided by a third party that is used by the company, the auditor is required to perform procedures to determine whether the pricing information provides sufficient appropriate evidence to respond to the risks of material misstatement. This approach focuses auditors on assessing the relevance and reliability of the pricing information regardless of whether it is obtained by the company or the auditor, which should lead to more consistency in practice. The new standard also includes a reminder that under AS 2301.09, the auditor should design audit procedures to obtain more persuasive audit evidence the higher the auditor's assessment of risk. This added reminder reinforces the principle that the required procedures are scalable based on the assessed risks of material misstatement. In general, fair values of financial instruments based on trades of identical financial instruments in an active market have a lower risk of material misstatement than fair values derived from observable trades of similar financial instruments or unobservable inputs. Thus, the necessary audit response would also differ. For example, for exchange-traded securities in active markets, quoted prices obtained from a stock exchange may provide sufficient appropriate evidence.

After consideration of comments, the word ''tests'' has been replaced with ''evaluates'' to clarify that the requirement is consistent with the work effort ordinarily required by AS 1105 when evaluating information from external sources.

As is the case under existing PCAOB standards, a pricing service would continue to be a service organization if the services it provides to a subscriber are part of the subscriber's information system over financial reporting.[82] In those instances, the auditor would apply the requirements of the new standard when performing substantive testing and look to the requirements of AS 2601 regarding his or her responsibilities for understanding and evaluating controls of the pricing service. The Board does not intend that the new standard would change practice in this area, given that the criteria for being a service organization under PCAOB standards have not changed.

The applicability of either Appendix A or the requirements for using the work of specialists to pricing services depends on the nature of the service provided and the characteristics of the instrument being valued. Appendix A applies when the auditor uses uniform pricing information from pricing services that is routinely provided to their users, generally on a subscription basis. This pricing information may be generated at various points in time and is available to all subscribers including both companies and audit firms. In general, financial instruments covered by these services tend to be those with more direct or indirect observable inputs.

As with the proposal, the new standard includes a footnote providing that, when a pricing service is engaged by a company or auditor to individually develop a price for a specific financial instrument not routinely priced for subscribers, the requirements in Appendix A of AS 1105 (company-engaged specialists) or AS 1210 (auditor-engaged specialists) apply, depending on who engaged the pricing service.[83] In general, financial instruments covered by these services have few direct or indirect observable market inputs (for example, because of an issuer's default, a delisting, or a major change in liquidity of the related asset class).

Using Pricing Information From Pricing Services

See Paragraph .A4

The proposal set forth a number of factors that affect the reliability of pricing information provided by a pricing service. These factors built on existing requirements for evaluating the reliability of audit evidence under AS 1105.

Some commenters suggested changes to or asked for clarification of the proposed factors for assessing the reliability of pricing information from pricing services. For example, some commenters asked for clarification or guidance regarding the required work effort to evaluate the pricing service, such as the nature and extent of procedures to evaluate the expertise and experience of the pricing service and whether the required procedures were to be applied separately for each financial instrument. Also, one commenter made specific suggestions regarding factors to be considered in evaluating the reliability and relevance of third-party pricing information. One commenter argued that the requirements of paragraphs .A4b, .A5c, and .A7 are unrealistic in some cases because auditors will not have access to the details of pricing service methodology, data, and assumptions. According to the commenter, requiring auditors to perform additional procedures in such cases without further guidance on procedures to be performed is unhelpful to the smaller companies who, in the commenter's view, are most likely to be unable to obtain an independent valuation, and to smaller audit firms without a pricing desk.

Additionally, some commenters requested guidance on how the auditor should determine that the pricing service, broker or dealer does not have a relationship with the company that could directly or indirectly or significantly influence the pricing service or broker or dealer. Other commenters suggested that auditors consider the results of their procedures regarding related parties under AS 2410 when considering the relationship of a pricing service or broker or dealer to the issuer. Other commenters suggested clarifying that a price challenge by management based on substantive information that causes the pricing service to change its price should not generally be deemed significant influence by management.

After consideration of the comments received, the new standard has been revised as follows:

- The requirements have been revised to clarify that the procedures in this paragraph are not required to be applied separately for each instrument (*e.g.,* through the use of phrases such as ''types of financial instruments'').
- The new standard includes a note[84] clarifying that procedures performed under AS 2410 should be taken into account in determining whether the pricing service has a relationship with the company by which company management has the ability to directly or indirectly control or significantly influence the pricing service as described in paragraph .A4c. The Board believes that pricing information from parties not considered to be related parties would ordinarily be more reliable than pricing information from sources determined to be related parties. The results of procedures performed under AS 2410 would provide information about whether the pricing service is a related party and, if so, the nature of relationships between the company and the pricing service. The

[82] *See* AS 2601.03.

[83] *See* Specialists Release, *supra note* 2.

[84] *See* first note to paragraph .A4 in AS 2501 (Revised).

nature and extent of further procedures that might be needed depend on the relevant circumstances. For example, if the results of AS 2410 procedures identified relationships between the company and pricing service, the auditor would need to evaluate whether the relationships gave company management the ability to directly or indirectly control or significantly influence the pricing service. Also, additional procedures might be needed to ascertain whether the pricing service was economically dependent on the company's business, if the pricing service was a smaller entity with few subscribers.

• The new standard also includes a note [85] clarifying that the existence of a process by which subscribers can challenge a pricing service's pricing information does not, by itself, mean that company management has the ability to directly or indirectly control or significantly influence that pricing service. The Board agrees with commenters that the existence of such a price challenge process ordinarily would not, on its own, suggest significant influence over the pricing service.

• The new standard also includes a note [86] indicating that if the auditor performs procedures to assess the reliability of pricing information provided by a pricing service at an interim date, the auditor should evaluate whether the pricing service has changed its valuation process relative to the types of financial instruments being valued, and, if so, the effect of such changes on the pricing information provided at period end. The Board understands that firms may perform procedures at various times during the year with respect to the methodology used by pricing service. The note reminds auditors that if the pricing service changes its process, *e.g.,* because of changes in market conditions, it is important for the auditor to evaluate the effect of such changes on the pricing information provided at period end to determine whether the pricing service continues to provide relevant evidence at that date.

As with the proposal, the new standard recognizes that pricing information that is routinely provided by a pricing service with experience and expertise relative to the type of financial instrument being valued is generally more reliable than a price developed by a pricing service that has limited or no experience. The Board agrees with the commenters that the number and financial industry experience levels of evaluators employed by the pricing service, the extent of informational resources that the pricing service provides to assist users in understanding its data and evaluation methodologies, and the pricing service's evaluation quality controls and price challenge processes, among other things, are relevant considerations when evaluating experience and expertise. However, the absence of lengthy experience pricing a particular instrument does not necessarily mean that the pricing service is incapable of providing relevant audit evidence. The evaluation of experience and expertise should be based on the relevant facts and circumstances including the need to obtain more persuasive audit evidence as the assessed risk of material misstatement increases.

Similar to the proposal, the new standard contemplates that pricing services use different methodologies to determine fair value. The Board understands, based on observation from oversight activities and outreach that many pricing services provide information to their subscribers about their methodology, which can be assessed to determine whether that methodology is in conformity with the applicable financial reporting framework. Under the new standard, the evaluation of pricing service methodology can be performed for groups of financial instruments, provided that certain conditions set forth in the Appendix are met. When an auditor is unable to obtain information about the methodology used by the pricing service to determine fair values of the types of financial instruments being valued, additional or alternative procedures to obtain the necessary evidence may include, for example, obtaining and evaluating pricing information from a different pricing source, obtaining evidence about the inputs used from public data about similar trades, or developing an independent expectation.

The new standard, as with the proposal, also provides that the procedures in Appendix A apply to pricing information obtained from pricing sources used by the company in their estimation process as well as from those obtained by the auditor for the purpose of developing an independent expectation.[87] This approach focuses on assessing the relevance and reliability of the pricing information obtained, rather than of the third party itself, and is better aligned with the assessed risks of material misstatement.

See Paragraph .A5

The proposal set forth certain factors that are important to the auditor's assessment of the relevance of pricing information provided by a pricing service.

Two commenters suggested that the description of the factors seemed to indicate that auditors need to understand how each financial instrument in the portfolio is valued individually, whereas in their view, auditors should be able to assess these factors based on the asset class and other characteristics.

The Board did not intend to require auditors to assess the factors set forth in this paragraph individually for each financial instrument in all cases, but rather, where applicable, to allow auditors to consider the factors for groups of financial instruments with similar characteristics and risks of material misstatement. Accordingly, the new standard has been revised to use the plural term ''financial instruments'' to clarify where a broader application is intended.

Like the proposal, the new standard provides direction on evaluating the relevance of pricing information provided by a pricing service, building on the requirements related to the relevance of audit evidence under AS 1105.[88] Under the new standard, the procedures to be performed generally depend on whether there is available information about trades in the same or similar securities.

Fair values based on quoted prices in active markets for identical financial instruments. The relevance of pricing information depends on the extent to which the information reflects market data as of the measurement date. Recent trades of identical financial instruments generally provide relevant audit evidence.

Fair values based on transactions of similar financial instruments. Only a fraction of the population of financial instruments is traded actively. For many financial instruments, the available audit evidence consists of market data for trades of similar financial

[85] *See* second note to paragraph .A4 in AS 2501 (Revised).

[86] *See* third note to paragraph .A4 in AS 2501 (Revised).

[87] An auditor's ability to use sampling methodologies and pricing information obtained from pricing sources used by the company may differ under other requirements, such as interpretive releases issued by the SEC. *See, e.g.,* SEC, *Codification of Financial Reporting Policies Section 404.03, Accounting, Valuation and Disclosure of Investment Securities,* Accounting Series Release No. 118 (Dec. 23, 1970), which provides requirements for audits of SEC-registered investment companies.

[88] *See* AS 1105.07.

instruments or trades of the identical instruments in an inactive market. This is the context in which the Board thinks it is most likely that procedures would be performed for groups of financial instruments of a similar nature (taking into account the matters in paragraph .A1) that are priced by the pricing service using the same process.

How a pricing service identifies and considers transactions comparable to the financial instrument being valued affects the relevance of the pricing information provided as audit evidence. When fair values are based on transactions of similar instruments, the new standard requires the auditor to perform additional audit procedures to evaluate the process used by the pricing service, including evaluating how transactions are identified, considered comparable, and used to value the types of financial instruments selected for testing, as discussed below.

No recent transactions have occurred for the same or similar financial instruments. When no recent transactions have occurred for either the financial instrument being valued or similar financial instruments, pricing services may develop prices using broker quotes or models. How a pricing service develops prices for these financial instruments, including whether the inputs used represent the assumptions that market participants would use when pricing the financial instruments, affects the relevance of the pricing information provided as audit evidence.

When pricing information from a pricing service indicates no recent trades for the financial instrument being valued or similar instruments, the new standard requires the auditor to perform additional audit procedures, including evaluating the appropriateness of the valuation method and the reasonableness of the observable and unobservable inputs used by the pricing service, as discussed below. These types of financial instruments would generally be valued individually.

See Paragraph .A6

The proposal provided that when the fair values are based on transactions of similar financial instruments, the auditor should perform additional audit procedures to evaluate the process used by the pricing service.

Some commenters requested clarification or guidance on the additional procedures to be performed when evaluating the process used by a pricing service, and guidance for situations in which the auditor is unable to perform the procedures. Another commenter asked for clarification regarding firm-level due diligence over pricing services, arguing that the standard as proposed would preclude the use of centralized pricing desks or firm-level due diligence procedures in evaluating a pricing service's process.

After consideration of comments received, this paragraph in the new standard has been revised in two respects. First, a phrase was added to clarify that the additional procedures to be performed relate to how transactions of similar instruments are identified, considered comparable, and used to value the types of financial instruments selected for testing.

Second, in light of previously discussed comments requesting clarification about the unit of testing, a note was added to paragraph .A6 of the new standard providing that that when a pricing service uses the same process to price a group of financial instruments, the audit procedures to evaluate the process can be performed for those financial instruments as a group, rather than for each instrument individually, if the financial instruments are similar in nature (taking into account the matters in paragraph .A1 of the new standard). The note was included with this paragraph because, as previously noted, these are the situations in which the Board believes auditors would be most likely to perform procedures at a group level. To address the use of group-level procedures in other contexts, a footnote was added to the note indicating that other procedures required by the Appendix may also be performed at a group level, provided that the conditions described in the note are met.

The new standard does not prescribe detailed procedures because the necessary audit procedures will vary in nature and extent depending on a number of factors, including the relevant risks and the process used by the pricing service (*e.g.,* matrix pricing, algorithm, or cash flow projections). For example, evaluating the reasonableness of a fair value based on the estimated cash flows from a pool of securitized mortgage loans would differ from evaluating an input derived from adjusted observable data. Procedures may include for example, evaluating how comparable transactions are selected and monitored or how matrix pricing is developed.

Additionally, the new standard does not prescribe who is to perform the procedures with respect to pricing services. It is the Board's understanding of current practice that, in large firms, firm-level due diligence over pricing services is typically performed centrally by a national-level pricing desk and not undertaken by each engagement team. The determination of whether the due diligence procedures over a pricing service should be performed by an engagement team or by the national office centralized group is at the discretion of the auditor, based on the relevant facts and circumstances. The Board does not intend that the new standard would give rise to a change in current practice in this area.

See Paragraph .A7

The proposal provided that when there are no recent transactions either for the financial instrument being valued or for similar financial instruments, the auditor should perform additional audit procedures, including evaluating the appropriateness of the valuation method and the reasonableness of observable and unobservable inputs used by the pricing service.

One commenter requested clarification or guidance on the additional procedures to be performed in circumstances when no recent transactions have occurred for either the financial instrument or similar financial instruments, expressing concern about smaller firms' ability to comply with the proposed requirement.

The requirement has been adopted substantially as proposed. Given the diverse nature of financial instruments that fall into this category, prescribing detailed procedures is impractical. The necessary audit procedures to evaluate the valuation methods and inputs will vary based on the relevant risks, type of inputs, and valuation methods involved.

Additionally, when an auditor is unable to obtain information from a pricing service about the method or inputs used to develop the fair value of a financial instrument when no recent transactions have occurred for either the financial instrument being valued or for similar financial instruments, the auditor is required under the new standard to perform additional procedures, such as obtaining and evaluating pricing information from a different pricing source, obtaining evidence about the inputs used from public data about similar trades, or developing an independent expectation.

Using Pricing Information From Multiple Pricing Services

See Paragraph .A8

The proposal provided direction for using pricing information from multiple pricing services to assess the valuation of financial instruments. Specifically, the proposal set forth certain conditions under which less information is needed about the particular methods and inputs used by the individual pricing services when pricing information is obtained from multiple pricing services. In general, these factors relate to situations in which there is reasonably consistent pricing information available from several sources with ample observable inputs.

Commenters on this paragraph generally supported the underlying principle that less evidence may be needed when pricing information is obtained from multiple pricing services. Some commenters questioned one of the conditions set forth in the proposal, related to the methods used to value the financial instruments. Those commenters suggested that requiring the auditor to understand the valuation methods used was inconsistent with the concept of obtaining less information. One commenter suggested that sufficient appropriate audit evidence could be obtained solely on the basis of two of the conditions: That the instruments are routinely priced by several pricing services, and the prices obtained are reasonably consistent. Some commenters asked for clarification on whether the conditions can be applied on a group basis or would be required to be applied to individual financial instruments, expressing concern that the latter approach would lead to excessive work.

Other commenters sought clarification or offered suggestions regarding the wording of some of the conditions set forth in the proposal. One commenter suggested consistently using the terms ''multiple'' and ''several'' in relation to pricing services. Another commenter asked for clarification of the meaning of the phrase ''reasonably consistent between or among the pricing services from which pricing information is obtained,'' specifically, whether the phrase referred to consistent over a period of time or as of a point in time.

Another commenter suggested a different set of conditions for when less evidence may be needed. In that commenter's view, the auditor would have obtained sufficient appropriate audit evidence with respect to the valuation of a financial instrument if: (i) The auditor assesses the financial instrument to have ''lower estimation uncertainty'' (*e.g.,* based on the asset class and other characteristics of the financial instrument), (ii) the auditor obtains multiple prices from pricing services for the financial instrument, (iii) those pricing services routinely price that type of financial instrument, (iv) the prices obtained are reasonably consistent, and (v) the auditor has obtained an understanding of the pricing services' methodologies at an asset class level of the financial instrument.

Another commenter suggested that the standard should require taking the average of a reasonable number of available prices, excluding outliers, and that procedures such as those outlined in paragraph .A4 should be performed for at least one pricing source. The same commenter also requested clarification of whether and how pricing sources like Google and Yahoo Finance may be used.

After consideration of the comments received, paragraph .A8 in the new standard has been revised to remove the reference to valuation methods and to make other wording changes that, along with the footnote to paragraph .A6, clarify that procedures under this paragraph can be performed at a group level, provided that the conditions described in the note to paragraph .A6 are met.

Regarding the comment on usage of the terms ''multiple'' and ''several'' in Paragraph .A8, the term ''multiple'' refers to more than one pricing service. The term ''several'' is used to clarify that, under the condition in paragraph .A8, pricing information is to be obtained from more than two pricing services, all of which routinely price the instruments.

The new standard includes the condition that prices obtained are reasonably consistent across pricing services (as of a relevant point in time), taking into account the nature and characteristics of the financial instruments being valued and market conditions. For example, the range of prices that would be reasonably consistent would be narrower for a type of financial instrument with a number of observable market inputs, such as recent trades of identical or substantially similar instruments, than for a type of instrument with relatively few observable market inputs.

The suggestion to compute averages of prices from different sources was not included in the new standard because averages could obscure a wide range of price variation and no consideration would be given to whether certain prices are more indicative of the fair value of the instrument than others. The Board considered the other factors suggested by commenters and determined that those factors generally were similar in nature to requirements in Appendix A. For example, the suggested factor based on lower estimation uncertainty is, in the Board's view, subsumed in the other listed factors.

Websites that publish, for the general public, prices for exchange-traded securities in active markets are not pricing services as described in the new standard, and the auditor's responsibility for information from those sources is set forth in paragraph .A2 of the new standard. Evaluating whether securities prices from these websites provide sufficient appropriate evidence includes evaluating whether the websites obtain the prices directly from original sources (*e.g.,* stock exchanges).

Using Pricing Information From a Broker or Dealer

See Paragraph .A9

The proposal set forth certain factors that affect the relevance and reliability of the evidence provided by a quote from a broker or dealer. In addition, the proposal included an amendment to AS 1105.08 to more broadly address restrictions, limitations, and disclaimers in audit evidence from third parties.

Some commenters asked for guidance on the proposed requirement to evaluate the relationship of the source of the pricing information with the company, including the factors to be evaluated. Another commenter suggested that the standard state that the list of factors affecting relevance and reliability is not all inclusive, although the commenter did not suggest additional factors to be included. One commenter asserted that the proposal would result in a significant change in practice, and suggested that the Board should consider whether there were lower risk circumstances for which a broker quote may be sufficient appropriate audit evidence without meeting all criteria. Another commenter noted that the first sentence of the paragraph reads as though it applies only when the auditor tests the company's price based on a quote from a broker or dealer. The commenter suggested that the proposal should clarify whether the requirement would also apply when the auditor develops an independent expectation using a broker quote.

The new standard has been revised to include a note providing that auditors should take into account the results of the procedures performed under AS 2410, *Related Parties,* when determining whether the broker or dealer has a relationship with the company by which company management has the ability to directly or indirectly control or significantly influence the broker or dealer. Otherwise, the requirements in the new standard have been adopted substantially as proposed. The Board believes that the factors set forth in the standard provide sufficient direction to the auditor to evaluate the relevance and reliability of the evidence provided by the quote, in order to determine whether the quote provides sufficient appropriate evidence in light of the risks of material misstatement.

The requirements in the proposal were framed in terms of when the company's fair value measurement is based on a quote from a broker or dealer because the Board understands that this is the situation typically encountered in practice. However, the factors set forth in the standard relate to the relevance and reliability of audit evidence from those quotes, and thus are equally applicable to those less common situations when the auditor uses a broker quote to develop an independent expectation. The requirement in the new standard has been revised to remove the reference to the ''company's'' measurement.

If the broker quote does not provide sufficient appropriate evidence, the auditor would be required to perform procedures to obtain relevant and reliable pricing information from another source (for example, obtaining a quote from a different broker or dealer, obtaining pricing information from a pricing service, or developing an independent expectation).

Unobservable Inputs

See Paragraph .A10

The proposal set forth a requirement for the auditor to obtain an understanding of how unobservable inputs were determined and to evaluate the reasonableness of those inputs. This understanding would involve, among other things, taking into account the assumptions that market participants would use when pricing the financial instrument, including assumptions about risk, and how the company determined its fair value measurement, including whether it appropriately considered available information. For example, if management adjusts interest rates, credit spread, or yield curves used to develop a fair value measurement, the auditor would be required to evaluate whether the adjustments reflect the assumptions that market participants would ordinarily use when pricing that type of financial instrument.

The two commenters on this paragraph expressed opposing views. One commenter supported the requirement while the other commenter suggested deleting the paragraph.

The requirement is adopted as proposed. By providing factors that the auditor takes into account, the new standard provides additional direction in an area that is inherently subjective and judgmental in nature and therefore poses a higher risk of material misstatement.

Additional Amendments to PCAOB Auditing Standards

The Board has also adopted amendments to several of its existing auditing standards to conform to the new standard, as reflected in Exhibit A to the SEC Filing Form 19b–4, available on the Board's website at *https://pcaobus.org/Rulemaking/Pages/docket-043-auditing-accounting-estimates-fair-value-measurements.aspx* and at the Commission's Public Reference Room. Significant amendments are described below.[89]

Amendments to AS 1015, Due Professional Care in the Performance of Work

The proposed amendments to AS 1015.11 included two changes to the discussion of reasonable assurance when auditing accounting estimates (1) clarifying that many (although not all) accounting presentations contain accounting estimates, the measurement of which is inherently uncertain and depends on the outcome of future events; and (2) providing that, in auditing accounting estimates, the auditor considers information through the date of the auditor's report, which under PCAOB standards is a date no earlier than the date on which the auditor has obtained sufficient appropriate evidence.[90]

One commenter advocated for including language in AS 1015 that explains inherent limitations that an auditor may face with regard to identifying and evaluating management bias in accounting estimates. In this commenter's view, financial reporting frameworks do not distinguish between reasonable judgment latitude, subconscious management bias, and willful biased manipulation.

The amendments are adopted substantially as proposed. The Board acknowledges that various circumstances can give rise to management bias and that, given the subjective assumptions and uncertainty inherent in many estimates, bias cannot be eliminated entirely. The new standard, as well as other PCAOB standards, address the auditor's responsibilities for evaluating potential management bias in accounting estimates and its effect on financial statements.

Amendments to AS 1105, Audit Evidence

The proposed amendment to AS 1105.08 would require the auditor to evaluate the effect of any restrictions, limitations, or disclaimers imposed by a third party on the reliability of evidence provided by that party.

A few commenters sought guidance on how to apply the requirement, including how the auditor would determine if the evidence was sufficiently reliable.

The amendment to AS 1105.08 is adopted as proposed. Third-party information often contains restrictions, limitations, or disclaimers as to the use of such information and its conformity with the applicable financial reporting framework. The nature of the restriction, limitation, or disclaimer and how the information provided is being used would inform the auditor's assessment of whether the evidence provided by the third-party information is sufficiently reliable, or whether additional procedures need to be performed (and, if so, the nature and extent of such procedures). For example, language in a business valuation disclaiming responsibility for company-provided data used to prepare the valuation may not affect the reliability of that valuation as long as the auditor performs audit procedures to test company-provided data used.

Appendix B, Audit Evidence Regarding Valuation of Investments Based on Investee Financial Results

The proposal set forth amendments to add Appendix A, *Audit Evidence Regarding Valuation of Investments Based on Investee Financial Condition or Operating Results,* to AS 1105. The proposed amendments would have retained and updated certain requirements from the derivatives standard for situations in which the valuation of an investment selected for testing is based on the investee's financial condition or operating results, including certain investments accounted for by the equity method and investments accounted for by the cost method for which there is a risk of material misstatement regarding impairment.

Commenters expressed concerns that the updated requirements in the proposal were written in a manner that was overly prescriptive, impracticable, burdensome, or inconsistent with the application of a risk-based approach. For example, commenters asserted that certain procedures involving interaction

[89] The discussion that follows excludes conforming amendments that make reference to the new standard.

[90] *See* paragraph .01 of AS 3110, *Dating of the Independent Auditor's Report.*

with investee management or the investee auditor were not practicable because the investor company's auditor might not have access to those parties. Commenters also sought clarification on the intent and application of several procedures set forth in the appendix.

After consideration of comments, the Board has decided to retain the existing requirements from the derivatives standard, with only limited conforming changes. The requirements are set forth as Appendix B, *Audit Evidence Regarding Valuation of Investments Based on Investee Financial Results,* to AS 1105. The intent of updating the requirements from the derivatives standard was to better align the required procedures with the risk assessment standards, not to substantively change audit practice in this area. Retaining the language of the existing requirements is consistent with the intention not to change audit practice. The requirements of the risk assessment standards continue to be applicable to investments audited under Appendix B of AS 1105.

Amendment to AS 1205, Part of the Audit Performed by Other Independent Auditors

AS 1205.14 discusses the applicability of that standard to situations where the company being audited has an investment accounted for under the equity method or the cost method and the investee is audited by another auditor. In consideration of comments on the appendix to AS 1105 discussed above, the Board is also amending AS 1205 to help auditors determine the appropriate standard to apply in those situations. Specifically, the amendment provides that the auditor should look to the requirements of Appendix B of AS 1105 for situations in which the valuation of an investment selected for testing is based on the investee's financial results and neither AS 1201 nor AS 1205 applies. The amendment clarifies that Appendix B of AS 1105 applies when AS 1205, by its terms, does not apply and the investee auditor is not supervised under AS 1201.

Amendments to AS 2110, Identifying and Assessing Risks of Material Misstatement

The proposal included a number of amendments to AS 2110 related to:

- Obtaining an understanding of the processes used to develop accounting estimates and evaluating the use of service organizations that are part of a company's information system;
- Discussing how the financial statements could be manipulated through management bias; and
- Assessing additional risk factors specifically for accounts and disclosures involving accounting estimates.

One commenter suggested that requirements related to identifying and assessing risks of material misstatements in accounting estimates should be in one standard (*i.e.,* new standard) rather than amending the various risk assessment standards. In contrast, another commenter expressed support for amending other PCAOB standards as a result of a new standard on accounting estimates.

The amendments to AS 2110, described in more detail below, are adopted substantially as proposed.

Information and Communication

The proposed amendment to AS 2110.28 would require the auditor, as part of obtaining an understanding of a company's information system and related business processes, to obtain an understanding of the processes used to develop accounting estimates, including (1) the methods used, which may include models; (2) the data and assumptions used, including the source from which they are derived; and (3) the extent to which the company uses specialists or other third parties, including the nature of the service provided and the extent to which the third parties use company data and assumptions.

The proposed amendment also included a note emphasizing that the requirements in AS 2601 with respect to the auditor's responsibilities for obtaining an understanding of controls at a service organization would apply when the company uses a service organization that is part of the company's information system over financial reporting. In addition, for critical accounting estimates, the proposed amendment referenced a requirement in the proposed standard for the auditor to obtain an understanding of how management analyzed the sensitivity of its significant assumptions to change, based on other reasonably likely outcomes that would have a material effect.

One commenter suggested a requirement for the auditor to obtain an understanding of how management identifies and addresses the risk of management bias. Another commenter suggested adding language similar to the existing note on evaluation of risk and controls within the information system to clarify that a service organization is part of the evaluation, not a separate consideration.

In light of related amendments to AS 2110 in the Board's rulemaking on the auditor's use of specialists, the amendment to AS 2110.28 was revised to clarify that the auditor's understanding of the processes used to develop accounting estimates includes the extent to which the company uses third parties other than specialists.[91]

The amendment emphasizes elements of assessing the risks of material misstatement that are specifically relevant to accounting estimates, recognizing that the methods, data and assumptions used by the company in its process to develop accounting estimates, including how they are selected and applied, drive the risk associated with the estimate. In addition, as part of obtaining an understanding the information system, the amendment reminds the auditor to consider whether the requirements of AS 2601 are applicable to the third party used by the company in developing an accounting estimate.

A separate requirement for the auditor to obtain an understanding of how management identifies and addresses the risk of management bias was not necessary as the new standard requires the auditor to evaluate management bias and its effect on financial statements as part of responding to risks of material misstatements in accounting estimates.

Comparison With Standards of Other Standard Setters

Similar to this amendment, ISA 540 Revised sets forth requirements to obtain an understanding of how management identifies the relevant methods, assumptions or sources of data, and the need for changes in them, 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 use of models; (b) selects the assumptions to be used, including consideration of alternatives, and identifies significant assumptions; and (c) selects the data to be used.

Discussion of the Potential for Material Misstatement Due to Fraud

AS 2110.52 requires the key engagement team members to discuss the potential for material misstatement due to fraud. The proposed amendment to AS 2110.52 would require the auditor to include, as part of this discussion, how the financial statements could be manipulated through management bias in accounting estimates in significant accounts and disclosures.

[91] *See* the Specialists Release, *supra* note 2, for a discussion of auditors' responsibilities with respect to specialists.

Commenters that addressed this topic were generally supportive of the amendment but provided some suggestions for refinements. One commenter suggested that the standard include discussion of different types of bias. Another commenter also indicated that, in their view, the consideration of bias may be better placed in paragraphs .49–.51 of AS 2110 as part of the overall discussion of the susceptibility of the financial statements to material misstatement. Further, in one commenter's view, the requirement implied that the auditor should seek out bias in every accounting estimate. This commenter suggested the language be revised to focus on estimates that are ''more susceptible'' to material misstatement from management bias or where management bias is ''more likely to'' result in a material misstatement.

The amendment to AS 2110.52 is adopted as proposed. Contrary to the view of one commenter, the requirement does not direct the auditor to seek out bias in each estimate. Rather, by including the potential for management bias (regardless of type) as part of the engagement team's overall brainstorming discussion, the requirement focuses the auditor's attention on a risk that is particularly relevant to accounting estimates in significant accounts and disclosures. In addition, including the requirement as part of paragraph .52 provides additional context as to the nature of the discussion about susceptibility of the company's financial statements to material misstatement due to fraud.

Identifying Significant Accounts and Disclosures and Their Relevant Assertions

AS 2110.60 provides risk factors relevant to the identification of significant accounts and disclosures and their relevant assertions. The proposed amendment to AS 2110.60 provided the auditor with additional risk factors that are relevant to identifying significant accounts and disclosures involving accounting estimates, including (1) the degree of uncertainty associated with the future occurrence or outcome of events and conditions underlying the assumptions; (2) the complexity of the process for developing the accounting estimate; (3) the number and complexity of significant assumptions associated with the process; (4) the degree of subjectivity associated with significant assumptions (for example, because of significant changes in the related events and conditions or a lack of available observable inputs); and (5) if forecasts are important to the estimate, the length of the forecast period and degree of uncertainty regarding trends affecting the forecast.

One commenter suggested including additional factors such as (1) the extent to which the process involves specialized skills or knowledge; (2) the complexity of the data used for developing the accounting estimate, including the difficulty, if any, in obtaining relevant and reliable data and maintaining the integrity of the data; and (3) the potential for management bias. Another commenter questioned whether the Board intends management bias to extend beyond a fraud risk, suggesting the requirement highlight management bias as a specific risk factor. A different commenter asked for clarification on how instances of high measurement uncertainty are contemplated.

One commenter sought clarity on whether the above risk factors are intended to be considered when identifying and assessing the risks of material misstatement related to accounting estimates (in addition to identifying significant accounts and disclosures).

The amendment to AS 2110.60 is adopted as proposed. The additional risk factors included in the amendment describe those characteristics and conditions that are associated with accounting estimates and that can affect the auditor's determination of the likely sources of potential misstatement. While the factors assist the auditor in identifying significant accounts and disclosures and their relevant assertions, these factors also prompt auditors to appropriately assess the associated risks in the related accounts and disclosures and develop appropriate audit responses. As discussed above, AS 2810 requires the auditor to evaluate management bias and its effect on the financial statements. In circumstances where management bias gives rise to a fraud risk, the auditor looks to the requirements of AS 2301 to respond to those risks.

The factors were not expanded to include extent of specialized skills used, potential for management bias, or complexity of the data used, as suggested by one commenter. These characteristics are already captured within the factors presented in the amendment or elsewhere in the risk assessment standards. For example, assessing the complexity of the process for developing an accounting estimate would necessarily include understanding the data and assumptions that are used within the process. Further, as discussed above, the new standard and related amendments recognize that the degree of uncertainty associated with some estimates affect the assessed risks and direct auditors to plan and perform audit procedures to respond to those risks.

Amendments to AS 2301, the Auditor's Responses to the Risks of Material Misstatement

The proposal included a note to AS 2301.36 emphasizing that performing substantive procedures for the relevant assertions of significant accounts and disclosures involves testing whether the significant accounts and disclosures are in conformity with the applicable financial reporting framework.

Commenters did not express concerns with the proposed amendment. However, some commenters called for additional guidance on identifying and testing relevant controls over accounting estimates. For example, one commenter suggested guidance related to auditor consideration of management controls over selection and supervision of a company specialist. Another commenter suggested additional guidance on identification and testing of relevant controls, and identification and response to risks of material misstatement due to fraud in relation to auditing estimates. This commenter expressed the view that testing the operating effectiveness of controls, including controls over complex models or methods used, can be critical in auditing accounting estimates and, in some circumstances, may be required (*e.g.,* in situations in which substantive procedures alone do not provide sufficient appropriate evidence).

The auditor's responsibilities for testing controls are addressed in AS 2110, AS 2301, and AS 2201, *An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements.* These requirements would apply to controls over accounting estimates. Nonetheless, in the Board's view, providing additional direction on the need to test controls related to accounting estimates could help promote an appropriate audit response in cases where only a financial statement audit is performed. Accordingly, after consideration of comments, the Board is amending AS 2301.17 to include a note reminding auditors that for certain accounting estimates involving complex models or processes, it might be impossible to design effective substantive tests that, by themselves, would provide sufficient appropriate evidence regarding relevant assertions.

The amendment to AS 2301.36 is also adopted as proposed.

Amendments to AS 2401, Consideration of Fraud in a Financial Statement Audit

To better align requirements with the scope of the proposed standard, the proposed amendment to AS 2401.64 would have deleted reference to ''significant accounting estimates reflected in the financial statements'' and clarified that, when an auditor performs a retrospective review, the review should be performed for accounting estimates in significant accounts and disclosures. The proposed amendment would also have clarified that the retrospective review involves a comparison of the prior year's estimates to actual results, if any, to determine whether management's judgments and assumptions relating to the estimates indicate a possible bias on the part of management.

Some commenters expressed concern that the proposed amendment would expand the population of accounting estimates subject to retrospective review, resulting in excessive work. Other commenters suggested either including the requirement to perform a retrospective review within the proposed standard, or providing a clearer linkage between the proposed standard and the requirements for retrospective review in AS 2401. One commenter suggested a requirement to evaluate the accuracy of management's prior estimates going back a minimum of three years.

After consideration of comments, the amendment to AS 2401.64 was revised to further clarify that the accounting estimates selected for testing should be those for which there is an assessed fraud risk. The scope of the retrospective review, as amended, is better aligned with the new standard and focuses the auditor on accounting estimates already identified through the risk assessment process as being susceptible to material misstatement due to fraud.

A separate requirement for performing a retrospective review is not necessary in the new standard as the requirement in AS 2401 would achieve the same objective. Further, for some estimates, the outcome of the estimate may not be known within a reporting period to facilitate such a review. Similarly, requiring a review over multi-year period would not be feasible for some estimates. Obtaining an understanding of the company's process for developing an estimate would necessarily provide information about the company's ability to make the estimate. In addition, the new standard requires the auditor to evaluate whether the company has a reasonable basis for significant assumptions used in accounting estimates.

Comparison With Standards of Other Standard Setters

ISA 540 Revised requires the auditor to review the outcome of previous accounting estimates, or, where applicable, their subsequent re-estimation to assist in identifying and assessing the risks 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.

AU–C Section 540 includes a similar requirement.

Amendment to AS 2805, Management Representations

The proposed amendment to AS 2805.06 would require the auditor to obtain specific representations related to accounting estimates in connection with an audit of financial statements presented in conformity with generally accepted accounting principles. Consistent with the fair value standard, the auditor would obtain representations about the appropriateness of the methods, the consistency in application, the accuracy and completeness of data, and the reasonableness of significant assumptions used by the company in developing accounting estimates. Commenters did not address the requirement and the Board has adopted this amendment as proposed.

Amendment To Rescind AI 16, Auditing Accounting Estimates: Auditing Interpretations of AS 2501

As discussed in the proposal, the Board is rescinding AI 16. That interpretation addresses performance and reporting guidance related to fair value disclosures, primarily voluntary disclosures including fair value balance sheets. Fair value disclosure requirements in the accounting standards have changed since the issuance of this interpretation, and fair value balance sheets covered by the interpretation are rarely included in issuer financial statements. Accordingly, this interpretation is unnecessary. Commenters did not object to rescinding this interpretation.

Effective Date

The Board determined that AS 2501 (Revised) and related amendments will take effect, subject to approval by the SEC, for audits of financial statements for fiscal years ending on or after December 15, 2020.

The Board sought comment on the amount of time auditors would need before the proposed standard and amendments would become effective, if adopted by the Board and approved by the SEC. A number of commenters recommended that the Board provide an effective date two years after SEC approval, which they asserted would give firms the necessary time to update firm methodologies, develop and implement training, and ensure effective quality control process to support implementation. Some commenters supported an earlier effective date, with one commenter indicating that the proposed standard should be effective contemporaneously with the implementation of the new accounting standard on credit losses. One commenter also suggested a phased in approach for EGCs. Two commenters noted that the proposal should be effective at the same time as any amendments related to the auditor's use of the work of specialists.

While recognizing other implementation efforts, the effective date determined by the Board is designed to provide auditors with a reasonable period of time to implement the new standard and related amendments, without unduly delaying the intended benefits resulting from these improvements to PCAOB standards. The effective date is also aligned with the effective date of the amendments being adopted in the Specialists Release.

D. Economic Considerations and Application to Audits of Emerging Growth Companies

The Board is mindful of the economic impacts of its standard setting. The economic analysis describes the baseline for evaluating the economic impacts of the new standard, analyzes the need for the changes adopted by the Board, and discusses potential economic impacts of the new standard and related amendments, including the potential benefits, costs, and unintended consequences. The analysis also discusses the alternatives considered. There are limited data and research findings available to estimate quantitatively the economic impacts of discrete changes to auditing standards in this area, and furthermore, no additional data was identified by commenters that would allow the Board to generally quantify the expected economic impacts (including expected incremental costs related to the proposal) on audit firms or companies. Accordingly, the Board's discussion of the economic impact is qualitative in nature.

The Board sought information relevant to economic consequences over the course of the rulemaking. The Board has considered all the comments received and has developed an economic analysis that evaluates the potential benefits and costs of the final requirements and facilitates comparison to alternative actions considered.

Commenters who discussed the economic analysis in the Board's proposal provided a range of views. A number of commenters agreed with the economic analysis relating to the need for the proposal. Some commenters agreed with the potential benefits outlined in the proposal, including an increase in investor confidence and consistency in the application of requirements. At the same time, other commenters cautioned against raising expectations among investors about the impact of the proposal on audit quality by noting various inherent limitations that the auditor faces in auditing estimates. A number of commenters suggested that additional audit work required by the new standard would increase cost without necessarily improving audit quality related to auditing estimates. In addition, some commenters expressed concern that some of the increase in cost might be passed through to companies in the form of increased audit fees.

Baseline

Section C above discusses the Board's current requirements for auditing accounting estimates, including fair value measurements, and current practices in the application of those requirements. This section expands on the current practices of the profession and currently observed patterns.

As discussed in Section C, the PCAOB has historically observed numerous deficiencies in auditing accounting estimates. PCAOB staff gathered data from reported inspection findings related to issuer audits between 2008 and 2016 for the eight accounting firms that have been inspected every year since the PCAOB's inspection program began.[92] The chart below shows the number of audits with deficiencies related to the accounting estimates standard and fair value standard based on the 2008–2016 reported inspection findings[93] for those eight firms.[94]

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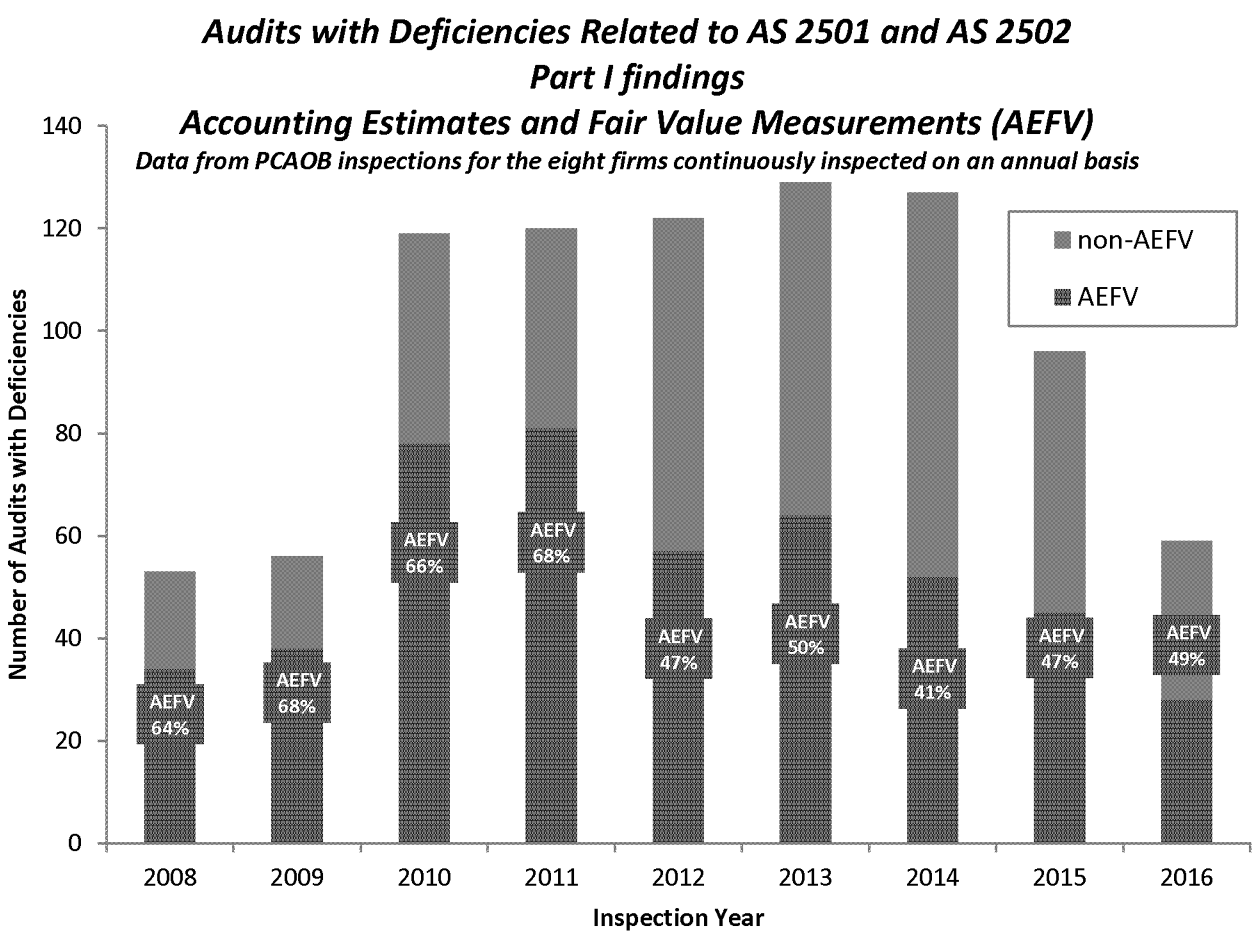

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[92] The eight accounting firms are BDO USA, LLP; Crowe Horwath LLP; Deloitte & Touche LLP; Ernst & Young LLP; Grant Thornton LLP; KPMG LLP; PricewaterhouseCoopers, LLP; and RSM US LLP (formerly McGladrey, LLP).

[93] Deficiencies related to the derivatives standard were infrequent over the inspection period reviewed, and therefore considered insignificant for purposes of this analysis.

[94] The chart identifies the audits with deficiencies reported in the public portion of inspection reports. It shows the relative frequency of audits with deficiencies citing the existing accounting estimates standard or the existing fair value standard compared to the total audits with deficiencies for that year. For example, in inspection year 2010, 66% of all audits with deficiencies had at least one deficiency related to the accounting estimates standard or the fair value standard (total 2016 reported inspection findings are based on preliminary results).

Audits that had deficiencies related to the estimates standards represent a significant number of total audits with deficiencies (including deficiencies in audits of internal control over financial reporting) although the overall percentage has declined since 2011.[95] This is consistent with a recent PCAOB Staff Inspection Brief, which observed that during the 2016 inspection cycle, inspections staff continued to find high numbers of deficiencies and ''identify instances in which auditors did not fully understand how the issuer's estimates were developed or did not sufficiently test the significant inputs and evaluate the significant assumptions used by management.'' [96] Given the pattern of the data, one can conclude that, although deficiencies were increasing in the early periods, more recently they have declined. Despite this recent decline, the deficiencies have remained high over an extended period.

Accounting estimates are prevalent and significant in financial reporting, as confirmed by academic research and supported with empirical evidence. For example, Griffith et al. note that complex accounting estimates, including fair value measurements, impairments, and valuation allowances, are increasingly important to financial statements.[97] In addition, some studies provide evidence on the significance of accounting estimates by using large samples of critical accounting policy (''CAP'') disclosures and critical accounting estimate (''CAE'') disclosures.[98] Levine and Smith, using a large sample of CAP disclosures from annual filings, estimate that on average issuers disclose 6.46 policies as critical, with a median of 6.[99] Their analysis shows that issuers most frequently disclose policies relating to fair value measurements and estimates.[100] Glendening, in his 2017 study, uses a large sample of CAE disclosures data covering 2002–2010 and finds that on average about half of the issuers in his sample disclose such estimates every year, with the disclosure rate increasing over time.[101] In Glendening's sample, on average, firms disclose between two and three critical accounting estimates. Also, commenters generally agreed with the characterization that financial reporting has continued to require more accounting estimates that involve complex processes and have a significant impact on companies' operating results and financial positions.

Academic research also confirms the challenges auditors face in auditing estimates, including fair value measurements. Griffith et al., in providing a brief summary of the relevant literature, note that, while accounting estimates are increasingly important to financial statements, auditors experience ''difficulty in auditing complex estimates, suggesting that audit quality may be low in this area.'' [102] Martin, Rich, and Wilks attribute much of the difficulty in auditing fair value measurements to estimation based on future conditions and events and also note that auditors face many of the same challenges when auditing other accounting estimates.[103] Cannon and Bedard, using a survey of auditors, find that features such as ''management assumptions, complexity, subjectivity, proprietary valuations, and a lack of verifiable data . . . all contribute to the challenges in auditing [fair value measurements].'' [104] Other studies point to the lack of sufficient knowledge on the part of auditor or management as a contributing factor to auditing challenges. Griffith et al. report that ''[i]nsufficient valuation knowledge is problematic in that relatively inexperienced auditors, who also likely lack knowledge of how their work fits into the bigger picture, perform many audit steps, even difficult ones such as preparation of independent estimates.'' [105] Glover et al. find similar issues with expertise from management's side, with results that indicate that a majority of audit partners participating in their survey reported encountering problems with ''management's lack of valuation process knowledge.'' [106]

In addition to the findings regarding auditing challenges, academic research provides evidence on auditors' use of the available approaches for testing an accounting estimate. A study by Griffith et al. suggests that, among the three approaches available under current standards, auditors primarily choose to test management's process, rather than use subsequent events or develop an independent estimate.[107] In doing so, some auditors tend to verify management's assertions on a piecemeal basis; the authors of the study argue that this may result in overreliance on management's process rather than a critical analysis of the estimate. Another study by Glover et al., however, finds that auditors primarily use the approach of testing management's process when auditing lower-risk or typical complex estimates and are more likely to use a combination of substantive approaches as the complexity and associated risk of the estimate increase.[108]

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[95] PCAOB inspection reports for the same eight firms covering the inspection period from 2004 to 2009 similarly found deficiencies in auditing fair value measurements, including impairments and other estimates. *See also* Bryan Church and Lori Shefchik, *PCAOB Inspections and Large Accounting Firms,* 26 Accounting Horizons 43 (2012).

[96] *See* PCAOB Staff Inspection Brief, *Preview of Observations from 2016 Inspections of Auditors of Issuers,* at 7. For a more detailed discussion of observations from audit inspections, *see* Section C.

[97] *See* Emily Griffith, Jacqueline S. Hammersley, Kathryn Kadous, and Donald Young, *Auditor Mindsets and Audits of Complex Estimates,* 53 Journal of Accounting Research 49 (2015).

[98] *Disclosure in Management's Discussion and Analysis about the Application of Critical Accounting Policies,* Release No. 33–8098 (May 10, 2002), 67 FR 35619 (May 20, 2002); and *Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations,* Release No. 33–8350.

[99] *See* Carolyn B. Levine and Michael J. Smith, *Critical Accounting Policy Disclosures,* 26 Journal of Accounting, Auditing & Finance 39, 48 (2011).

[100] *Id.* at 49–50.

[101] *See* Matthew Glendening, *Critical Accounting Estimate Disclosures and the Predictive Value of Earnings,* 31 (4) Accounting Horizons 1, 12 (2017).

[102] *See* Griffith et al., *Auditor Mindsets and Audits of Complex Estimates* 50.

[103] *See* Roger D. Martin, Jay S. Rich, and T. Jeffrey Wilks, *Auditing Fair Value Measurements: A Synthesis of Relevant Research,* 20 Accounting Horizons 287, 289 (2006).

[104] *See* Nathan Cannon and Jean C. Bedard, *Auditing Challenging Fair Value Measurements: Evidence from the Field,* 92 The Accounting Review 81, 82 (2017).

[105] *See* Emily Griffith, Jacqueline S. Hammersley, and Kathryn Kadous, *Audits of Complex Estimates as Verification of Management Numbers: How Institutional Pressures Shape Practice,* 32 Contemporary Accounting Research 833, 836 (2015).

[106] *See* Steven M. Glover, Mark H. Taylor, and Yi-Jing Wu, *Current Practices and Challenges in Auditing Fair Value Measurements and Complex Estimates: Implications for Auditing Standards and the Academy,* 36 Auditing: A Journal of Practice & Theory 63, 82 (2017).

[107] *See* Griffith et al., *Audits of Complex Estimates as Verification of Management Numbers: How Institutional Pressures Shape Practice* 841.

[108] *See* Glover et al., *Current Practices and Challenges in Auditing Fair Value Measurements and Complex Estimates: Implications for Auditing Standards and the Academy* 65. *See also* Cannon and Bedard, *Auditing Challenging Fair Value Measurements: Evidence from the Field* 81, 82–83. Glover et al. provide additional insight regarding auditor's selection of substantive testing approaches, specifically, the use of developing independent estimates and reviewing subsequent events and transactions. Glover et al., *Current Practices and Challenges in Auditing Fair Value Measurements and Complex Estimates: Implications for Auditing Standards and the Academy* 69, 71. The study shows that, in developing independent estimates, availability of independent data, availability of verifiable data, and the reliability of management's estimates are the most commonly cited factors that drive auditors' decisions to use management's versus the audit team's assumptions. Regarding the use of reviewing subsequent events and transactions, over 96% of the participating auditors in the study report using the most recent trades that have occurred in the market to support the fair values of recorded securities.

Need for the Rulemaking

From an economic perspective, the primary reasons to improve PCAOB standards for auditing accounting estimates are as follows:

- The subjective assumptions and measurement uncertainty of accounting estimates make them susceptible to potential management bias. The Board believes that PCAOB standards related to auditing accounting estimates will be improved by emphasizing the application of professional skepticism, including addressing potential management bias. Although the risk assessment standards and certain other PCAOB standards address professional skepticism and management bias, the estimates standards provide little or no specific direction on how to address those topics in the context of auditing accounting estimates.
- Existing requirements do not provide specific direction about how to evaluate the relevance and reliability of pricing information from third parties and might have led to additional work and cost for some audits. PCAOB standards should be improved by revising the requirements in this area to drive a level of work effort commensurate with both the risks of material misstatement in the valuation of financial instruments and the relevance and reliability of the evidence obtained.
- The differences among the three existing estimates standards suggest that revising PCAOB standards to set forth a more uniform, risk-based approach to auditing estimates should lead to improvements in auditing practices in responding to the risks of material misstatement in accounting estimates, whether due to error or fraud.

Economic theory provides an analytical framework for the Board's consideration of these potential needs, as discussed below.

Principal-Agent Problems and Bounded Rationality

Principal-agent theory is commonly used to describe the economic relationship between investors and managers, and the attendant information and incentive problems that result from the separation of ownership and control.[109] The presence of information asymmetry [110] in such a principal-agent relationship results in an inherent incentive problem (moral hazard) [111] where the objectives of the agent (management) may differ from the objectives of the principal (investors), such that the actions of management may be suboptimal from the investors' perspective. For example, academic research suggests that management may engage in earnings management, in which they choose reporting methods and estimates that do not adequately reflect their companies' underlying economics, for a variety of reasons, including to increase their own compensation and job security.[112] The information asymmetry between investors and managers also leads to an information problem (adverse selection) [113] resulting in a higher cost of capital,[114] because investors may not be able to accurately assess the quality of management or of management reporting.

In addition to the potential incentive problem, cognitive biases, such as management optimism or overconfidence, can manifest themselves in managerial behavior.[115] The academic literature suggests that individuals often overstate their own capacity and rate their attributes as better than average.[116] Moreover, evidence indicates that, on average, CEOs and CFOs tend to be more optimistic than the broader population.[117] For example, managerial overconfidence has been linked to aggressive earnings forecasts by management.[118]

Given the degree of subjectivity in many financial statement estimates, these incentive and information issues, coupled with cognitive biases, present particular problems in the context of estimates. Managerial biases (conscious or otherwise) may lead managers to pick a more favorable estimate within the permissible range.[119] That is, incentive problems and cognitive biases may push management toward the most favorable estimates, either with respect to specific accounts or in the overall presentation.

Audits are one of the mechanisms for mitigating the information and incentive problems arising in the investor-management relationship.[120] Audits are intended to provide a check of management's financial statements, and thus reduce management's potential

[109] For studies of principal-agent relationships and the attendant information and incentive problems in the context of the separation of ownership and control of public companies and its implications in financial markets, *see, e.g.,* Michael C. Jensen and William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure,* 3 Journal of Financial Economics 305 (1976).

[110] Economists often describe ''information asymmetry'' as an imbalance, where one party has more or better information than another party. For a discussion of the concept of information asymmetry, *see, e.g.,* George A. Akerlof, *The Market for ''Lemons'': Quality Uncertainty and the Market Mechanism,* 84 The Quarterly Journal of Economics 488 (1970).

[111] The moral hazard problem is also referred to as a hidden action, or agency problem in economics literature. The term ''moral hazard'' refers to a situation in which an agent could take actions (such as not working hard enough) that are difficult to monitor by the principal and would benefit the agent at the expense of the principal. To mitigate moral hazard problems, the agent's actions need to be more closely aligned with the interests of the principal. Monitoring is one mechanism to mitigate these problems. *See, e.g.,* Bengt Holmström, *Moral Hazard and Observability,* 10 The Bell Journal of Economics 74 (1979).

[112] *See* Paul M. Healy and James M. Wahlen, *A Review of the Earnings Management Literature and Its Implications for Standard Setting,* 13 (4) Accounting Horizons 365 (1999). For a seminal work on the agency problem between managers and investors, *see* Jensen and Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure.*

[113] Adverse selection (or hidden information) problems can arise in circumstances where quality is difficult to observe, including in principal-agent relationships where the principal's information problem means it cannot accurately assess the quality of the agent or the agent's work. In addition to diminishing the principal's ability to optimally select an agent, the problem of adverse selection can manifest in markets more broadly, leading to an undersupply of higher-quality products. For a discussion of the concept of adverse selection, *see, e.g.,* Akerlof, *The Market for ''Lemons'': Quality Uncertainty and the Market Mechanism.*

[114] *See, e.g.,* Richard A. Lambert, Christian Leuz, and Robert E. Verrecchia, *Information Asymmetry, Information Precision, and the Cost of Capital,* 16 (1) Review of Finance 1, 21 (2012).

[115] For a discussion of the manifestation of overconfidence in managerial behavior, *see, e.g.,* Anwer S. Ahmed and Scott Duellman, *Managerial Overconfidence and Accounting Conservatism,* 51 (1) Journal of Accounting Research 1 (2013); Itzhak Ben-David, John R. Graham, and Campbell R. Harvey, *Managerial Miscalibration,* 128 (4) The Quarterly Journal of Economics 1547 (2013); and Catherine M. Schrand and Sarah L.C. Zechman, *Executive Overconfidence and the Slippery Slope to Financial Misreporting,* 53 Journal of Accounting and Economics 311, 320 (2012).

[116] This and other biases are discussed in, among others, Gilles Hilary and Charles Hsu, *Endogenous Overconfidence in Managerial Forecasts,* 51 Journal of Accounting and Economics 300 (2011).

[117] *See* John R. Graham, Campbell R. Harvey, and Manju Puri, *Managerial Attitudes and Corporate Actions,* 109 Journal of Financial Economics 103, 104 (2013). Managerial attitude has been linked to a variety of corporate decisions, including corporate investment and mergers & acquisitions. *See* Ulrike Malmendier and Geoffrey Tate, *CEO Overconfidence and Corporate Investment,* 60 The Journal of Finance 2661 (2005); and Ulrike Malmendier and Geoffrey Tate, *Who Makes Acquisitions? CEO Overconfidence and the Market's Reaction,* 89 Journal of Financial Economics 20 (2008).

[118] *See* Paul Hribar and Holly Yang, *CEO Overconfidence and Management Forecasting,* 33 Contemporary Accounting Research 204 (2016).

[119] For purposes of this discussion, a ''favorable'' estimate can reflect either an upward or a downward bias, for example in earnings, depending on management incentives.

[120] *See* Paul M. Healy and Krishna G. Palepu, *Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature,* 31 Journal of Accounting and Economics 405, 406 (2001). *See also* Mark DeFond and Jieying Zhang, *A Review of Archival Auditing Research,* 58 Journal of Accounting and Economics 275 (2014).

incentive to prepare and disclose biased or inaccurate financial statements. Audit reports and auditing standards provide information to the market that may affect perceptions about the reliability of the financial statements and therefore mitigate investors' information problem, potentially lowering the company's cost of capital.[121]

The auditor is also an agent of investors, however, and the information asymmetry between investors and auditors can also give rise to risks of moral hazard and adverse selection. Auditors have incentives that align their interests with those of investors, such as legal considerations, professional responsibilities, and reputational concerns. However, they may also have incentives to behave sub-optimally from investors' point of view by, for example, (1) not sufficiently challenging management's estimates or underlying assumptions in order not to disturb the client relationship; (2) shirking, if they are not properly incentivized to exert the effort considered optimal by shareholders; or (3) seeking to maximize profits and/or minimize costs—sometimes at the expense of audit quality. As a result of such misaligned incentives, auditors may engage in practices that do not align with investors' needs and preferences.

In addition to the auditor's potential moral hazard problem, the presence of bounded rationality can inject another layer of challenges into auditing estimates. In economic theory, bounded rationality refers to the idea that when individuals make decisions, their rationality may be limited by certain bounds, such as limits on available information, limits on analytical ability, limits on the time available to make the decision, and inherent cognitive biases.[122] Even if incentives between principal and agent are aligned, the agent, being boundedly rational, may be unable to execute appropriately. Hence, some auditors may find auditing certain estimates challenging because, like all individuals, they may have limits on their ability to solve complex problems and to process information,[123] especially when faced with time constraints.[124] Research has shown that even sell-side research analysts, generally understood to be sophisticated financial experts, have trouble assessing the impact on earnings of companies' derivative instruments, where the associated financial reporting involves fair value measurements.[125]

In the context of auditing estimates, one such bound may be the ability of auditors to analyze and integrate different existing standards or process the information required to audit estimates that involve complex processes, which may require sophisticated analytical and modeling techniques. In the presence of bounded rationality, individuals may resort to heuristics (*i.e.,* rules of thumb).[126] In particular, auditors facing challenges in auditing an accounting estimate may resort to simplifications that might increase the potential for biases or errors that have seeped into financial statements to go undetected.[127]

The literature has linked cognitive issues to auditors' actions and attitudes, specifically to professional skepticism.[128] For example, ''research in psychology and accounting has identified that auditors' judgments are vulnerable to various problems, such as difficulty recognizing patterns of evidence, applying prior knowledge to the current judgment task, weighting evidence appropriately, and preventing incentives from affecting judgment in unconscious ways.'' [129] As a result, cognitive limitations may pose a threat to professional skepticism [130] and ''[b]ias-inducing tendencies can lead even the brightest, most experienced professionals, including auditors, to make suboptimal judgments.'' [131] Accordingly, the existence of bounded rationality and, in particular, some inherent cognitive biases might affect auditor judgment when auditing accounting estimates, even separate from any potential conflict of interest.

Some of the biases that might affect auditors include, but are not limited to:

• Anchoring Bias—decision makers anchor or overly rely on specific information or a specific value and then adjust to that value to account for other elements of the circumstance, so that there is a bias toward that value. In the auditing of estimates, the potential exists for anchoring on management's

[121] *See, e.g.,* Richard A. Lambert, Christian Leuz, and Robert E. Verrecchia, *Accounting Information, Disclosure, and the Cost of Capital,* 45 Journal of Accounting Research 385 (2007).

[122] For a seminal work in this field, *see* Herbert A. Simon, *A Behavioral Model of Rational Choice,* 69 The Quarterly Journal of Economics 99 (1955). Simon introduced this theory and argued that individuals cannot assimilate and process all the information that would be needed to maximize their benefits. Individuals do not have access to all the information required to do so, but even if they did, they would be unable to process it properly, since they are bound by cognitive limits.

[123] Daniel Kahneman refers to the mind as having two systems, System 1 and System 2. ''System 1 operates automatically and quickly . . . '' System 2 is the slower one that ''can construct thoughts in an orderly series of steps.'' System 2 operations ''require attention and are disrupted when attention is drawn away.'' Daniel Kahneman, *Thinking, Fast and Slow* 4, 20–22 (1st ed. 2011). Examples of System 2 operations include ''[f]ill[ing] out a tax form'' and ''[checking] the validity of a complex logical argument,'' both of which require time and attention. Without time, one cannot dedicate attention to a task and fully engage System 2, and hence is left with the automatic instinctual operation of System 1, which can lead to use of rules of thumb (heuristics) and ''biases of intuition.'' *Id.*

[124] Time is an essential limitation to problem solving, being fundamental to the definition of bounded rationality—''[t]he principle that organisms have limited resources, such as time, information, and cognitive capacity, with which to find solutions to the problems they face.'' Andreas Wilke and R. Mata, *Cognitive Bias,* as published in The Encyclopedia of Human Behavior 531 (2nd ed. 2012).

[125] *See* Hye Sun Chang, Michael Donohoe, and Theodore Sougiannis, *Do Analysts Understand the Economic and Reporting Complexities of Derivatives?* 61 Journal of Accounting and Economics 584 (2016). For a discussion of the bounded rationality of audit judgments, *see* Brian Carpenter and Mark Dirsmith, *Early Debt Extinguishment Transactions and Auditor Materiality Judgments: A Bounded Rationality Perspective,* 17 (8) Accounting, Organizations and Society 709, 730 (1992) (''[T]he self-reported actions taken by auditors on actual engagements appear to reveal less complexity in the sense that they are boundedly rational and tend to emphasize only a single judgment criterion than do the cognitive judgment processes of which they are capable.'').

[126] ''The essence of bounded rationality is thus to be a 'process of thought' rather than a 'product of thought': Individuals have recourse to reasonable procedures rather than to sophisticated computations which are beyond their cognitive capacities.'' Bertrand Munier, Reinhard Selten, D. Bouyssou, P. Bourgine et al., *Bounded Rationality Modeling,* 10 Marketing Letters 233, 234 (1999). In ''[s]ituations where evolved task-general procedures are helpful (heuristics, chunks) . . . agents have difficulty finding even qualitatively appropriate responses . . . agents are then left with heuristics . . . '' *Id.* at 237.

[127] For a discussion and examples of heuristics used by auditors, *see, e.g.,* Stanley Biggs and Theodore Mock, *An Investigation of Auditor Decision Processes in the Evaluation of Internal Controls and Audit Scope Decisions,* 21 (1) Journal of Accounting Research 234 (1983).

[128] Nelson argues that ''[p]roblem-solving ability, ethical predisposition, and other traits like self-confidence and tendency to doubt are all related to [professional skepticism] in judgment and action,'' and, furthermore ''[c]ognitive limitations affect [professional skepticism] in predictable ways.'' Mark Nelson, *A Model and Literature Review of Professional Skepticism in Auditing,* 28 Auditing: A Journal of Practice & Theory 1, 2 (2009).

[129] *Id.* at 6.

[130] ''[A]uditors' judgments can be flawed because, like all people, sometimes they do not consistently follow a sound judgment process and they fall prey to systematic, predictable traps and biases. People, including experienced professionals . . . often unknowingly use mental ''shortcuts'' . . . to efficiently navigate complexity . . . [S]ituations can arise where they systematically and predictably lead to suboptimal judgments and potentially inhibit the application of appropriate professional skepticism.'' Steven M. Glover and Douglas F. Prawitt, *Enhancing Auditor Professional Skepticism* (Nov. 2013) (a report commissioned by the Standards Working Group of the Global Public Policy Committee), at 10.

[131] *Id.*

estimates.[132] This can be seen as a manifestation of findings that auditors may, at times, experience difficulties weighting evidence appropriately.[133]

• Confirmation Bias—a phenomenon wherein decision makers have been shown to actively seek out and assign more weight to evidence that confirms their hypothesis, and ignore or underweight evidence that could disconfirm their hypothesis. As such, confirmation bias can be thought of as a form of selection bias in collecting evidence. It becomes even more problematic in the presence of anchoring bias, since auditors may anchor on management's estimate and may only seek out information to corroborate that value (or focus primarily on confirming, rather than challenging, management's model).[134] For example, in the accounting estimates standard, as one of the available three approaches in evaluating the reasonableness of an estimate, the auditor is instructed to ''develop an independent expectation of the estimate to *corroborate* the reasonableness of management's estimate'' (emphasis added).[135]

• Familiarity Bias—''Familiarity is associated with a general sense of comfort with the known and discomfort with—even distaste for and fear of—the alien and distant.'' [136] In the context of auditing accounting estimates, auditors may be biased toward procedures, methods, models, and assumptions that seem more familiar to them, and auditors' familiarity with management may lead them to tend to accept management's assertions without sufficient challenge or consideration of other options.[137]

All of these cognitive biases would pose a threat to the proper application of professional skepticism and an appropriate focus on the potential for management bias in accounting estimates. Academic research illustrates how cognitive biases may affect auditing. Griffith et al. find that auditors focus primarily on confirming, rather than challenging, management's model, and appear to accept management's model as a starting point and then verify aspects of that model.[138] None of the auditors in the study indicated that he or she considered whether additional factors beyond the assumptions made by management should be included in management's model. This type of behavior is suggestive of anchoring bias.[139]

Importantly, bounded rationality and the associated biases exist in addition to any incentive problems (moral hazard). Cognitive biases and moral hazard could work in the same direction to increase the likelihood of auditors agreeing with management, not considering contradictory evidence, or discounting the potential importance or validity of alternative methods, data, and assumptions. It is important for auditors to be wary of their own biases as well as management's biases when auditing accounting estimates (*e.g.,* in order to avoid merely searching for evidence that corroborates management's assertions).[140]

It is also logical to conclude that the potential for bias increases in the presence of measurement uncertainty, since there is more latitude in recording an estimate in such circumstances. Academic studies find that the measurement uncertainty associated with accounting estimates can be substantial.[141] Martin, Rich, and Wilks point out that fair value measurements frequently incorporate forward-looking information as well as judgments, and that, since future events cannot be predicted with certainty, an element of judgment is always involved.[142] The measurement uncertainty inherent in estimates allows room for both management bias and error to affect preparers' valuation judgments, and estimates become less useful to capital market participants as they become less reliable.[143]

To help auditors overcome, or compensate for, potential biases and identify situations where management is consistently optimistic, and to discourage shirking, the new standard emphasizes the auditor's existing responsibility to apply professional skepticism, including addressing potential management bias. It does so by emphasizing these professional obligations in the specific context of auditing accounting estimates. It also includes revised terminology to describe the nature of the auditor's responsibility and the new requirements described in Section C to guide the auditor in the appropriate application of professional skepticism, including addressing potential management bias, when auditing estimates.

Some commenters on the proposal were supportive of a new standard taking into consideration management bias and emphasizing the application of professional skepticism while some others highlighted the difficulties in evaluating and identifying management bias in accounting estimates due to the uncertainty and subjectivity involved. Some commenters were critical of ''negative'' tone or overemphasis on management bias and the application of professional skepticism. Some commenters, on the other hand, recommended that the new standard further expand the discussion and emphasis of management bias and the need to challenge management's assertions. As discussed above, the Board believes that reinforcing the importance of professional skepticism when auditing estimates, in light of the potential for management bias, will remind auditors of their responsibilities to evaluate contradictory evidence and

[132] For a discussion on anchoring biases and some evidence, *see, e.g.,* Robert Sugden, Jiwei Zheng, and Daniel John Zizzo, *Not All Anchors Are Created Equal,* 39 Journal of Economic Psychology 21 (2013).

[133] Nelson, *A Model and Literature Review of Professional Skepticism in Auditing* 6.

[134] For a discussion of confirmation bias, *see, e.g.,* Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises,* 2 Review of General Psychology 175 (1998). For a discussion of the manifestation of this bias in auditing, *see, e.g.,* Griffith et al., *Audits of Complex Estimates as Verification of Management Numbers: How Institutional Pressures Shape Practice.*

[135] AS 2501.10b.

[136] Gur Huberman, *Familiarity Breeds Investment,* 14 Review of Financial Studies 659, 678 (2001).

[137] Academic research also argues and provides evidence that some level of auditor familiarity with the client can help the auditing process. *See* Wuchun Chi and Huichi Huang, *Discretionary Accruals, Audit-Firm Tenure and Audit-Partner Tenure: Empirical Evidence from Taiwan,* 1 (1) Journal of Contemporary Accounting and Economics 65, 67 (2005). Although the study does not address familiarity bias, the results indicate that auditor familiarity with the client produces higher earnings quality as it has an effect on learning experience and increases client-specific knowledge, while excessive familiarity impairs audit quality, resulting in lower earnings quality.

[138] *See* Griffith et al., *Audits of Complex Estimates as Verification of Management Numbers: How Institutional Pressures Shape Practice.*

[139] The problem resulting from this bias can be ameliorated, but not completely eliminated. The audit, by its nature, uses the company's financial statements as a starting point. For that reason, starting with management's number is often unavoidable since the auditor is opining on whether the company's financial statements are fairly presented, in all material respects, in conformity with the applicable financial reporting framework. When reference is made to anchoring bias in this release, it is therefore not intended to refer to the auditor's responsibility to start with management's financial statements, but instead to the auditor's potential failure to effectively challenge management.

[140] *See, e.g.,* Martin et al., *Auditing Fair Value Measurements: A Synthesis of Relevant Research.*

[141] *See, e.g.,* Brant E. Christensen, Steven M. Glover, and David A. Wood, *Extreme Estimation Uncertainty in Fair Value Estimates: Implications for Audit Assurance,* 31 Auditing: A Journal of Practice & Theory 127 (2012); Cannon and Bedard, *Auditing Challenging Fair Value Measurements: Evidence from the Field.*

[142] *See* Martin et al., *Auditing Fair Value Measurements: A Synthesis of Relevant Research.*

[143] *See, e.g.,* Russell Lundholm, *Reporting on the Past: A New Approach to Improving Accounting Today,* 13 Accounting Horizons 315 (1999); and Griffith et al., *Audits of Complex Estimates as Verification of Management Numbers: How Institutional Pressures Shape Practice.*

to address the effects of bias on the financial statements.

Fostering a More Efficient Audit

Tailoring Requirements for Different Types of Pricing Information

The new standard requires different audit procedures for the different types of third-party pricing information used for fair value measurements of financial instruments, and is intended to drive a level of work effort commensurate with both the risks of material misstatement in the valuation of financial instruments and the relevance and reliability of the evidence obtained. Existing requirements do not provide specific direction about how to evaluate the relevance and reliability of pricing information from third parties and might have led to additional work and cost for some audits and insufficient work and effort for some audits. Under the new standard, auditors will be prompted to direct more effort toward pricing information that may be more subject to bias or error based on the type of instrument being valued and how or by whom the pricing information is generated. For certain types of third parties—specifically, pricing services and brokers or dealers—the new standard provides more specific direction.

The Board understands that pricing information generated by pricing services generally tends to have three main characteristics not shared by other estimates (1) uniformity of product (with little to no differentiation across users, so there is less risk of inherent bias); (2) work of the pricing service that, in most cases, is not prepared at the direction of a particular client; and (3) buyers of the product with little, if any, market power. These characteristics reduce the risk of bias, unless the pricing service has a relationship with the company by which company management has the ability to directly or indirectly control or significantly influence the pricing service. The potential for bias is further attenuated for pricing services since there is monitoring by the market as a whole, and most of the prices provided by these services are for traded securities or for securities for which quotes are available or for which similar securities are traded. Overall, the Board believes that these characteristics contribute to a lower risk of bias in information provided by pricing services relative to other estimates and warrant tailored audit requirements.

The Board believes that there also are differences between the information provided by pricing services on the one hand, and brokers or dealers on the other, that warrant differential treatment. Based on outreach and observations from the Board's oversight activities, the Board understands that pricing services tend to accumulate overall market information, rather than engage directly in market transactions, and typically have well-defined methodologies that are used consistently over time. Therefore, they tend to provide customers with more uniform pricing information. Brokers or dealers, on the other hand, are in the business of providing liquidity to the market (by acting as a buyer or seller) and connecting buyers and sellers. As such, it is likely their pricing is more idiosyncratic (*i.e.,* dependent on the party asking for a quote, timing, and other factors related to the business operations of the broker or dealer) and brokers or dealers may occasionally be less transparent in pricing the instruments. In addition, not all brokers or dealers necessarily have a firm-wide methodology, as they typically provide prices on an as-requested basis. Therefore, the Board believes that auditors' consideration of pricing information obtained from a broker or dealer should differ from their consideration of pricing information from a pricing service.

The issue of different types of pricing information provided by third-party sources is addressed in the special topics appendix of the new standard. This appendix more broadly addresses auditing financial instruments and includes procedures specific to an auditor's use of evidence from third-party pricing sources. These procedures allow the auditor to use pricing information from pricing sources used by the company in some circumstances (*e.g.,* generally in cases where the company uses a pricing service based on trades of similar instruments to value securities with a lower risk of material misstatement). This would be an appropriate risk-based audit response, since there is a lower chance of management bias when the company uses a pricing service.

One commenter who provided views on the third-party pricing information agreed that the reliability of the pricing information from the third-party pricing sources may differ and that factors covered in the proposal captured that variability. A few commenters also asserted that third-party pricing services generally provide pricing that is free from influence of any one user of the services, and one of these commenters opined that this absence of management bias increased the relevance and reliability of the evidence. In addition, one commenter suggested inclusion of differences in valuation approaches of pricing services as an additional factor in evaluating reliability. Although the differences in valuation approaches could create biased valuations, auditors are required to evaluate the relevance and reliability of pricing information provided by pricing services.

Multiple Standards With Overlapping Requirements

Having multiple standards with similar approaches but varying levels of detail in procedures may create unnecessary problems. Perceived inconsistencies among existing standards may result in (1) different auditor responsibilities for accounts for which a similar audit approach would seem appropriate; (2) inconsistent application of standards; and (3) inappropriate audit responses.

Academic research speaks to the undesirable nature of overlapping standards addressing the same issue, which adds to task difficulty [144] and may, therefore, create unnecessary additional costs, as it is costly to sift through the standards and reconcile potential conflicts. These costs may exacerbate the principal-agent and cognitive challenges discussed above. For example, auditors might, consciously or otherwise, apply the standards in a manner that satisfies their objectives but not those of investors (*e.g.,* auditors may choose an approach with fewer procedures and requirements to minimize audit cost, or for expediency, hence maximizing their profits). The existence of overlapping requirements might also lead to uncertainty about compliance, if auditors do not understand what is required. Finally, overlapping requirements may increase perceived uncertainty about audit quality, since market participants may not fully understand what standard is being, or even should be, applied.

To address the issues stemming from having multiple, overlapping estimates standards, the new standard replaces the existing three standards related to auditing accounting estimates. Moreover, it aligns the requirements with the risk assessment standards through targeted amendments to promote the development of appropriate responses to the risks of material

[144] *See* Brian Bratten, Lisa Milici Gaynor, Linda McDaniel, Norma R. Montague, and Gregory E. Sierra, *The Audit of Fair Values and Other Estimates: The Effects of Underlying Environmental, Task, and Auditor-Specific Factors,* 32 Auditing: A Journal of Practice & Theory 7, 15–16 (2013).

misstatement related to accounting estimates.

A number of commenters supported the development of a single standard to replace the three existing standards. For example, some noted that a single, consistent set of requirements aligned with the risk assessment standards would provide greater uniformity and clarity and eliminate the need to navigate among three related standards in order to ensure that all requirements were met. On the other hand, one commenter cautioned that a single standard would lead to a one-size-fits-all audit approach and not allow the tailoring of audit procedures based on the issuer-specific risks of material misstatement. By aligning with the risk assessment standards and describing the basic requirements for testing and evaluating estimates, the Board believes the new standard is designed to allow auditors to tailor their procedures in order to respond to specific risks of material misstatement.

Lack of Market Solutions

The issues discussed above are not, and cannot efficiently be, addressed through market forces alone because the auditor may not be fully incentivized to address them and market forces may not be effective in making the auditor more responsive to investors' concerns regarding the auditing of estimates. The auditor may not be fully incentivized because auditors may incur additional costs to produce higher audit quality but would earn lower profits on the audit, since audit quality may not be observable [145] and auditors may be unable to charge more for better audits.[146] Furthermore, because investors are diverse and geographically distributed, they face a potential collective action problem that creates additional barriers to jointly negotiating with auditors over requirements for auditing accounting estimates.

For the mitigation of this collective action problem and other potential sources of market failure,[147] investors generally rely on auditing standards that are based on investor and public interests. PCAOB auditing standards establish performance requirements that, if not implemented, can result in costly penalties to the auditor in the form of litigation and reputational risk.

Economic Impacts

Benefits

The new standard should lead to two broad categories of benefits. The first relates directly to audit quality and the second relates to fostering an efficient risk-based approach to auditing accounting estimates, including fair value measurements. The new standard strengthens auditor responsibilities for auditing accounting estimates, including fair value measurements, which should increase the likelihood that auditors detect material misstatements, and more explicitly integrates the risk assessment standards, which should encourage a uniform approach to achieve a more efficient and risk-based audit response. These improvements should enhance audit quality and, in conjunction with the clarification of the procedures the auditor should perform, should provide greater confidence in the accuracy of companies' financial statements.[148] From a capital market perspective, an increase in the information quality of companies' financial statements resulting from improved audit quality can reduce the non-diversifiable risk to investors and generally should result in investment decisions by investors that more accurately reflect the financial position and operating results of each company, increasing the efficiency of capital allocation decisions.[149]

The extent of these benefits, which are discussed further below, will largely depend on the extent to which firms have to change their practices and methodologies. Benefits will be less in the case of firms that have already adopted practices and methodologies similar to the requirements being proposed.

First, the new standard should reduce the problems generated by moral hazard and potential cognitive biases by strengthening the performance requirements for auditing accounting estimates and by emphasizing the importance of addressing potential management bias and the need to maintain a skeptical mindset while auditing accounting estimates. Reinforcing the need for professional skepticism should encourage auditors, for example, to ''refram[e] hypotheses so that confirmation biases favor [professional skepticism],'' and thereby mitigate the effect of such biases on auditor judgment.[150] It should encourage auditors to be more conscious when weighing audit evidence and should reduce instances where auditors fail to consider contradictory evidence. For example, the use of terms such as ''evaluate'' and ''compare'' instead of ''corroborate,'' and greater emphasis on auditors identifying the significant assumptions in accounting estimates should promote a more deliberative approach to auditing estimates, rather than a mechanical process of looking for evidence to support management's assertions. Academic research also provides evidence on the effect of framing in the context of auditors' fair value judgments.[151] In an experimental

[145] An ''audit is a credence service in that its quality may never be discovered by the company, the shareholders or other users of the financial statements. It may only come into question if a 'clean' audit report is followed by the collapse of the company.'' *See* Alice Belcher, *Audit Quality and the Market for Audits: An Analysis of Recent UK Regulatory Policies,* 18 Bond Law Review 1, 5 (2006). Credence services are difficult for users of the service (such as investors in the context of company audit services) to value because their benefits are difficult to observe and measure. *See also* Monika Causholli and W. Robert Knechel, *An Examination of the Credence Attributes of an Audit,* 26 Accounting Horizons 631 (2012).

[146] The general effect of cost pressures on audit quality has been studied in the academic literature with varying empirical findings. *See, e.g.,* James L. Bierstaker and Arnold Wright, *The Effects of Fee Pressure and Partner Pressure on Audit Planning Decisions,* 18 Advances in Accounting 25 (2001); B. Pierce and B. Sweeney, *Cost-Quality Conflict in Audit Firms: An Empirical Investigation,* 13 European Accounting Review 415 (2004); and Scott D. Vandervelde, *The Importance of Account Relations When Responding to Interim Audit Testing Results,* 23 Contemporary Accounting Research 789 (2006).

[147] For a discussion of the concept of market failure, *see, e.g.,* Francis M. Bator, *The Anatomy of Market Failure,* 72 The Quarterly Journal of Economics 351 (1958); and Steven G. Medema, *The Hesitant Hand: Mill, Sidgwick, and the Evolution of the Theory of Market Failure,* 39 History of Political Economy 331 (2007).

[148] For a discussion on the relationship between audit quality and financial reporting quality, *see* DeFond and Zhang, *A Review of Archival Auditing Research* 275, 281 (''. . . [A]udit quality is a component of financial reporting quality, because high audit quality increases the credibility of the financial reports. This increased credibility arises through greater assurance that the financial statements faithfully reflect the [company's] underlying economics.'').

[149] *See, e.g.,* Lambert et al., *Accounting Information, Disclosure, and the Cost of Capital,* 388 (finding that information quality directly influences a company's cost of capital and that improvements in information quality by individual companies unambiguously affect their non-diversifiable risks.); and Ahsan Habib, *Information Risk and the Cost of Capital: Review of the Empirical Literature,* 25 Journal of Accounting Literature 127, 128 (2006) (''[H]igh quality auditing could provide credible information in the market regarding the future prospect of the [company] and hence could reduce the cost of capital in general, and cost of equity capital in particular.''). *See also* Jukka Karjalainen, *Audit Quality and Cost of Debt Capital for Private Firms: Evidence from Finland,* 15 International Journal of Auditing 88 (2011).

[150] Nelson, *A Model and Literature Review of Professional Skepticism in Auditing* 2. In addition, another experimental study found other factors, such as improved cognitive tools, might be necessary to enhance the use of professional judgment and critical thinking skills. *See* Anthony Bucaro, *Enhancing Auditors' Critical Thinking in Audits of Complex Estimates,* Accounting, Organizations and Society 1, 11 (2018).

[151] *See* Jeffrey Cohen, Lisa Gaynor, Norma Montague, and Julie Wayne, *The Effect of Framing on Information Search and Information Evaluation in Auditors' Fair Value Judgments* (Feb. 2016) (working paper, available in Social Science Research Network).

study, Cohen et al. found that when one group of auditors were instructed to ''support and oppose'' management's assertions, they recommended significantly different fair value estimates than another group of auditors who were instructed to ''support'' management's assertions.

Several commenters on the proposal supported the emphasis on professional skepticism and one commenter agreed that the new requirements would prompt auditors to devote greater attention to identifying and addressing management bias. Moreover, some commenters confirmed that raising awareness of cognitive biases and including reminders of professional skepticism could help mitigate the effects of auditors' own biases. In addition, a few commenters supported the change in terminology and agreed that it would further reinforce the application of professional skepticism by moving from a corroborative mindset to an evaluation mindset, while one commenter expressed skepticism about the impact of terminology on auditor behavior. Some commenters noted the difficulties and limitations in evaluating and identifying management bias in accounting estimates due to the uncertainty and subjectivity involved. Given the subjective assumptions and inherent measurement uncertainty in many estimates, bias may not be eliminated entirely. However, the Board believes that a standard that reinforces the application of professional skepticism and reminds auditors of risk of management bias and their responsibilities to evaluate contradictory evidence and to address the effects of bias can help ameliorate the problems resulting from this bias.

Second, requirements specific to the use of pricing information from third parties as audit evidence should lead to a more efficient audit as these new requirements will prompt more tailored audit procedures (including by performing procedures over groups of similar instruments, where appropriate) and direct more audit effort toward pricing information that may be more subject to bias or error.

Third, in addition to achieving these efficiencies, the new standard should lead to a better allocation of auditing resources more generally by aligning more closely with the risk assessment standards, with more hours, effort, and work being dedicated to higher-risk areas. Essentially, the new standard should lead to increased audit quality for harder-to-measure estimates (*e.g.,* estimates with high inherent subjectivity) due to enhanced procedures and should lead to an increase in efficiency for easier-to-measure and lower-risk estimates.

Fourth, uniformity of the standards should lead to benefits to auditors and users of financial statements. A single, consistent set of requirements should lead to more consistent and efficient audits with greater comparability since there should be no doubt as to what requirements to apply, and no need to navigate among multiple standards to make sure that all relevant requirements are met. In turn, assuming that firms comply with the new requirements, this should increase and make more uniform the quality of the information presented in the financial statements. Having a uniform set of requirements might also enhance the audit committee's understanding of the auditor's responsibilities and, therefore, potentially facilitate communications between the audit committee and the auditor. Moreover, a single standard will facilitate the development of timely guidance for specific issues when needed.

Finally, establishing more clarity and specificity in requirements for estimates should lead to efficiency gains by providing auditors with a better understanding both of their duties and of the Board's expectations, reducing the risk that auditors would perform unnecessary or ineffective procedures. Hence, holding audit quality constant, auditors should gain efficiencies.

Overall, these changes should lead to greater confidence in financial statements, reducing investors' information asymmetry. Reinforcing and clarifying auditors' responsibilities should enhance investors' trust that auditors are obtaining sufficient appropriate evidence regarding management's accounting estimates, thereby increasing investors' confidence in companies' financial statements and the corresponding audit work performed. Also, the new standard may lead to fewer restatements as a result of increased audit quality for higher-risk estimates and, hence, increase investor confidence in financial statements. Increased confidence in companies' financial statements should ameliorate investors' information asymmetry problem (adverse selection) and allow for more efficient capital allocation decisions.

Some commenters on the proposal cautioned against raising investor expectations about the impact of auditing procedures on the reliability and accuracy of accounting estimates and expressed skepticism about potential benefits related to investor confidence and audit quality. For example, citing the inherent uncertainty and judgment involved in estimates, some argued that unreasonable bias would be difficult to detect and a level of bias and uncertainty would remain irrespective of the level of audit effort. While auditing cannot eliminate the uncertainty and judgment involved in estimates, it can help identify material omissions and errors. Furthermore, even if more robust auditing procedures do not yield more accuracy and precision for each individual estimate, to the extent that any pattern of bias or error can be eliminated, this should result in more reliable financial reporting. The financial statements as a whole may not be fairly presented if the most optimistic estimates are consistently selected by the preparer even when each individual estimate is within a reasonable range. Emphasizing the risk of management bias in accounting estimates and the auditor's responsibility to apply professional skepticism can help focus auditors on the effects of management bias on financial statements.

Costs

The Board recognizes that imposing new requirements may result in additional costs to auditors and the companies they audit. In addition, to the extent that auditors pass on any increased costs through an increase in audit fees, companies and investors could incur an indirect cost.

Auditors may incur certain fixed costs (costs that are generally independent of the number of audits performed) related to implementing the new standard and related amendments. These include costs to update audit methodologies and tools, prepare training materials, and conduct training. Larger firms are likely to update methodologies using internal resources, whereas smaller firms are more likely to purchase updated methodologies from external vendors.

In addition, auditors may incur certain variable costs (costs that are generally dependent on the number of audits performed) related to implementing the new standard. These include costs of implementing the standard at the audit engagement level (*e.g.,* in the form of additional time and effort spent on the audit). For example, the new standard requires, in some instances, performing more procedures related to assessing risk and testing the company's process, such as evaluating which of the assumptions used by the company are significant. This could impose additional costs on auditors and require additional management time.

Recurring costs (fixed or variable) may also increase if firms decide to increase their use of specialists in response to the final auditing requirements. If this were to occur, it may in particular affect firms that do not currently employ or engage specialists and instead rely on the work of company specialists for some of their audit engagements, potentially affecting the competitiveness of such firms for such audit engagements.[152]

To the extent the new standard and related amendments require new or additional procedures, they may increase costs. For example, the amendment to AS 2110.52 requires the auditor to include, as part of the key engagement team members' discussion of the potential for material misstatement due to fraud, how the financial statements could be manipulated through management bias in accounting estimates in significant accounts and disclosures. The new requirement focuses the auditor's attention on a risk that is particularly relevant to accounting estimates and further underscores the importance of applying professional skepticism in this area. The additional requirement could increase costs.

The new standard's impact on the auditor's fixed and variable costs will likely vary depending on, among other things, the extent to which the requirements have already been incorporated in accounting firms' audit methodologies or applied in practice by individual engagement teams. For example, the new standard sets minimum requirements when using pricing information obtained from third-party pricing sources, so audit firms that are doing less than the minimum requirements will likely experience higher cost increases. In addition, the standard's impact could vary based on the size and complexity of an audit. All else equal, any incremental costs generally are expected to be scalable: Higher for larger, more complex audits than for smaller, less complex audits.

The economic impact of the new standard on larger accounting firms and smaller accounting firms may differ. For example, larger accounting firms will likely take advantage of economies of scale by distributing fixed costs (*e.g.,* updating audit methodologies) over a larger number of audit engagements. Smaller accounting firms will likely distribute their fixed costs over fewer audit engagements. However, larger accounting firms will likely incur greater variable costs than smaller firms, because larger firms more often perform larger audits and it seems likely that these larger audits will more frequently involve accounting estimates with complex processes. It is not clear whether these costs (fixed and variable), as a percentage of total audit costs, will be greater for larger or for smaller accounting firms. One commenter on the proposal cautioned that the costs associated with implementing the new standard might be significant for some smaller firms; however, this commenter also noted that many of the smaller firms applying analogous requirements of other standard setters (*e.g.,* ISA 540) would already have methodologies in place that addressed many of the requirements in the new standard. Another commenter asserted that any new standard would have a disproportionate impact on medium-sized accounting firms and their clients, as compared with larger firms and their clients. Additionally, one commenter noted that passing any incremental costs on to clients might be especially difficult for smaller firms. The Board believes that the new standard and related amendments are risk-based and scalable for firms of all sizes, and that any related cost increases are justified by expected improvements in audit quality.

In addition to the auditors, companies being audited may incur costs related to the new standard and related amendments, both directly and indirectly. Companies could incur direct costs from engaging with or otherwise supporting the auditor performing the audit. Some companies could face costs of providing documents and responding to additional auditor requests for audit evidence, due to a more rigorous evaluation of the company's assumptions and methods. Companies may also incur costs if, as a result of the new standard, auditors need to discuss additional information with audit committees relating to accounting estimates. In addition, to the extent that auditors are able to pass on at least part of the increased costs they incur by increasing audit fees, companies and investors could incur an indirect cost. Some commenters on the proposal raised concerns that some of the increased costs, including the costs associated with requests for additional data and pricing information from third parties, might be passed through to companies in the form of increased audit fees. One commenter asserted that the proposal would in effect require some companies to increase their use of quantitative models that employ mathematical and statistical techniques producing precise calculations. The Board acknowledges the possibility of increased costs to companies related to the new requirements, but believes that it is reasonable to expect corresponding increases in audit quality, which will benefit companies and investors as well as auditors, as discussed in the previous section.

Some commenters argued that the new requirements would likely lead to significant expansion of audit procedures, documentation, and/or use of specialists, with limited incremental benefit. In addition, a few commenters raised concerns that the requirements could result in increased or duplicative work for issuers with no perceived benefit. The Board believes that the scalable, risk-based approach of the new standard allows auditors to tailor their procedures to respond to the risks. By aligning with the risk assessment standards and setting forth a framework for testing and evaluating procedures, the new standard is designed to require more audit effort for accounting estimates with higher risk of material misstatement, where greater benefits are expected, and less audit effort for estimates with lower risk of material misstatement, where lower potential benefits are expected. In some areas, such as evaluating the relevance and reliability of pricing information provided by third-party pricing sources, the new standard may result in decreased audit effort and decreased costs, where justified by lower risk of material misstatement.

Unintended Consequences

One potential unintended consequence of replacing three existing standards with one standard might be a perceived loss of some explanatory language, since the new standard is intended to eliminate redundancies in the current standards. The Board believes that the new standard and related amendments, interpreted as described in this release, should provide adequate direction. However, the PCAOB will monitor implementation to determine whether additional interpretive guidance is necessary.

Another possible unintended consequence may result if an auditor exploits the latitude allowed under the new standard for using information from the company's third-party pricing source, but does so inappropriately. The new standard does, however, set forth specific direction for evaluating the relevance and reliability of such

[152] The PCAOB staff analyzed inspection data to assess the baseline for auditors' use of the work of specialists and existing practice in the application of those requirements. The PCAOB observed that the firms that do not currently employ or engage auditor's specialists and use the work of company specialists tend to be smaller audit firms. The PCAOB staff also found that smaller audit firms generally have comparatively few audit engagements in which they use the work of company specialists. *See* the Specialists Release, *supra* note 2, for additional discussion.

information from the third-party pricing source.

One commenter also cautioned that perceived information sharing by third-party pricing sources beyond contractual agreements could induce market data originators to stop sharing their confidential market data with pricing services. The Board does not seek to impose obligations on auditors to obtain pricing information beyond what is available under prevailing subscriber arrangements. Clarifications reflected in the requirements with respect to grouping of financial instruments also should help alleviate concerns in this area.

Finally, a few commenters on the proposal presented other potential unintended consequences. For example, one commenter cautioned that auditors may expand procedures performed unnecessarily, not as a response to increased risk, but due to fear of inspections. The Board believes that a single, uniform set of requirements with more clarity and specificity should provide auditors with a better understanding both of their duties and of the Board's expectations and reduce the risk that auditors would perform unnecessary procedures due to fear of inspections.

Another commenter pointed to the risk of cost spillover to private company audits, where PCAOB standards are not legally required but may nevertheless be applied. Pursuant to its statutory mandate under the Sarbanes-Oxley Act, the Board sets standards for audits of issuers and SEC-registered brokers and dealers based on considerations of investor protection and the public interest in the preparation of informative, accurate, and independent audit reports. The Board does not have authority either to require or to prohibit application of its standards in other contexts, and cannot predict or control the extent to which private companies and their auditors may elect to apply PCAOB standards.

The Board expects that the overall benefits of the proposed standard will justify any potential unintended negative effects.

Alternatives Considered, Including Policy Choices

The development of the new standard involved considering a number of alternative approaches to address the problems described above. This section explains (1) why standard setting is preferable to other policy-making alternatives, such as providing interpretive guidance or enhancing inspection or enforcement efforts; (2) other standard-setting approaches that were considered; and (3) key policy choices made by the Board in determining the details of the new standard.

Alternatives to Standard Setting—Why Standard Setting is Preferable to Other Policy-Making Alternatives

Among the Board's policy tools, an increased focus on inspections, enforcement of existing standards, or providing additional guidance are alternatives to revising the standards. The Board considered whether increasing inspections or enforcement efforts would be effective corrective mechanisms to address concerns with the audit of estimates, including fair value measurements, and concluded that inspections or enforcement actions alone would be less effective in achieving the Board's objectives than in combination with amending auditing standards.

Inspection and enforcement actions take place after audits have occurred (and potential investor harm in the case of insufficient audit performance). They reinforce future adherence to current auditing standards. Given the differences in the estimates standards discussed previously, devoting additional resources to inspections and enforcement activities without improving the relevant performance requirements for auditors would increase auditors' compliance with what the Board and many stakeholders view as standards that could be improved.

The PCAOB has issued seven Staff Audit Practice Alerts between 2007 and 2014 that address, to varying degrees, auditing accounting estimates.[153] The PCAOB has considered issuing additional practice alerts or other staff guidance specific to the use of third parties such as pricing services.[154] The Board believes guidance specific to the use of third parties would be limited to discussing the auditor's application of the existing standards and, given the differences in these standards discussed herein, guidance would be an ineffective tool and not a long-term solution.

The Board's approach reflects its conclusion that, in these circumstances, standard setting is needed to fully achieve the benefits that could result from improvements in the auditing of estimates.

Other Standard-Setting Alternatives Considered

The Board considered certain standard-setting alternatives, including (1) developing a separate standard on auditing the fair value of financial instruments or (2) enhancing the estimates standards through targeted amendments.

Developing a Separate Standard on Auditing the Fair Value of Financial Instruments

The Board considered developing a separate standard that would specifically address auditing the fair value of financial instruments. The Board chose not to pursue this alternative because the addition of a separate standard could result in confusion and potential inconsistencies in the application of other standards. Additionally, the auditing issues pertinent to accounting estimates, including financial instruments, inherently overlap. Instead, the new standard includes a special topics appendix, which separately discusses certain matters relevant to financial instruments without repeating requirements that relate more broadly to all estimates, such as evaluating audit evidence.

Enhancing the Estimates Standards Through Targeted Amendments

The Board considered, but determined not to pursue, amending rather than replacing the three estimates standards. Retaining multiple standards with similar requirements would not eliminate redundancy and could result in confusion and potential inconsistencies in the application of the standards. The approach presented in the new standard is designed to be clearer and to result in more consistent application and more effective audits.

Commenters on the proposal were generally supportive of a single, uniform standard with a consistent set of requirements. One commenter said that they believed that audit quality would be promoted with a single framework. On the other hand, one commenter, citing the differences between fair value measurements and derivatives and hedging accounting, expressed concerns

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[153] *See, e.g., Matters Related to Auditing Fair Value Measurements of Financial Instruments and the Use of Specialists,* Staff Audit Practice Alert No. 2 (Dec. 10, 2007); *Auditor Considerations Regarding Fair Value Measurements, Disclosures, and Other-Than-Temporary Impairments,* Staff Audit Practice Alert No. 4 (Apr. 21, 2009); *Assessing and Responding to Risk in the Current Economic Environment,* Staff Audit Practice Alert No. 9 (Dec. 6, 2011); *Maintaining and Applying Professional Skepticism in Audits,* Staff Audit Practice Alert No. 10 (Dec. 4, 2012); and *Matters Related to Auditing Revenue in an Audit of Financial Statements,* Staff Audit Practice Alert No. 12 (Sept. 9, 2014).

[154] Other standard setters have issued guidance relating to their existing standards. For example, the IAASB issued International Auditing Practice Note 1000, *Special Considerations in Auditing Financial Instruments* (Dec. 16, 2011), to provide guidance to auditors when auditing fair value measurements of financial instruments.

about combining multiple standards into one, but did not specify how the auditing approach could or should differ. Another commenter cautioned that a single standard would lead to a one-size-fits-all audit approach and not allow the tailoring of audit procedures. However, by aligning with the risk assessment standards and describing the basic requirements for testing and evaluating estimates, the new standard is designed to allow the auditors to tailor their procedures in order to respond to specific risks of material misstatement.

Key Policy Choices

Given a preference for a single, comprehensive standard applicable to all accounting estimates, including fair value measurements, in significant accounts and disclosures, the Board considered different approaches to addressing key policy issues.

Include a Reporting Requirement in the New Standard

Measurement uncertainty cannot be eliminated entirely through audit procedures. This raises a question of whether reporting of additional information about such procedures in the auditor's report is necessary.

However, the Board also considered whether requiring communication in the auditor's report relating to estimates would be duplicative of the new requirement to communicate critical audit matters (''CAMs''); any matters arising from the audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved especially challenging, subjective, or complex auditor judgments.[155] Under the new auditor's reporting standard, auditors will identify each CAM, describe the principal considerations that led them to determine it was a CAM, briefly describe how the CAM was addressed in the audit, and refer to the relevant accounts or disclosures in the financial statements. Because these reporting requirements will apply to financial statement estimates, including fair value measurements, if they meet the definition of CAM, AS 2501 (Revised) does not include any additional reporting requirements.

Require the Auditor To Develop an Independent Expectation

Given the variety of types of accounting estimates and the ways in which they are developed, the Board is retaining the three common approaches from the existing standards for auditing accounting estimates, including fair value measurements. In addition, the new standard continues to require the auditor to determine what substantive procedures are responsive to the assessed risks of material misstatement.

The Board considered, but determined not to pursue, requiring the auditor to develop an independent expectation for certain estimates, or when an estimate gives rise to a significant risk. Some members of the Board's advisory groups advocated for a requirement for the auditor to develop an independent expectation in addition to testing management's process. In addition, some SAG members suggested a requirement for the auditor to develop an independent expectation rather than test management's process. Finally, a few commenters on the proposal stated that auditors should develop independent estimates in addition to testing management's process. Although requiring an independent expectation could help reduce the risk of anchoring bias, it may not always be feasible. For some accounting estimates, the data and significant assumptions underlying the estimate often depend on internal company information. Also, developing a customized method or model for a particular company's estimate may not be practical, and a more general method or model could be less precise than the company's own model. In those situations, the auditor may not have a reasonable alternative to testing the company's process.

Require Additional Audit Procedures When an Accounting Estimate Gives Rise to Significant Risk

The Board considered including additional requirements when an accounting estimate gives rise to a significant risk, either more broadly or specifically when a wide range of measurement uncertainty exists. Alternatives considered included:

- Establishing that certain estimates are presumed to give rise to a significant risk (*e.g.,* the allowance for loan losses).
- Establishing specific procedures that would depend on the risk determined to be significant (*e.g.,* the use of a complex model determined to give rise to a significant risk would result in the auditor being required to perform specific procedures on that model).
- Including a requirement, similar to those in AU–C Section 540, *Auditing Accounting Estimates, Including Fair Value Accounting Estimates, And Related Disclosures* (''AU–C 540''),[156] for the auditor to evaluate how management has considered alternative assumptions or outcomes and why it has rejected them when significant measurement uncertainty exists.

Including additional requirements when an estimate gives rise to a significant risk would mandate the auditor to direct additional attention to that risk. AS 2301, however, already requires an auditor to perform substantive procedures, including tests of details that are specifically responsive to the assessed risks of material misstatement. This includes circumstances when the degree of complexity or judgment in the recognition or measurement of financial information related to the risk, especially those measurements involving a wide range of measurement uncertainty, give rise to a significant risk.[157] Further, with respect to critical accounting estimates,[158] the new standard and related amendments require the auditor to obtain an understanding of how management analyzed the sensitivity of its significant assumptions to change, based on other reasonably likely outcomes that would have a material effect on its financial condition or operating performance,[159] and to take that understanding into account when evaluating the reasonableness of the significant assumptions and potential for management bias.

Thus, requiring specific procedures for accounting estimates that give rise to significant risks would be duplicative in some ways of the existing requirement in AS 2301 as well as those set forth by the new standard, and could result in additional audit effort without significantly improving audit quality. Additionally, including prescriptive requirements for significant risks could result in the auditor performing only the required procedures when more effective procedures exist, or could provide disincentives for the auditor to deem a risk significant in order to avoid performing the additional procedures.

Accordingly, the Board did not adopt these alternatives in favor of retaining the existing requirement in AS 2301.

[155] *See The Auditor's Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion and Related Amendments to PCAOB Standards,* PCAOB Release No. 2017–001 (June 1, 2017).

[156] *See* paragraph 15a of AU–C 540.

[157] *See* AS 2301.11 and AS 2110.71f.

[158] *See* paragraph .A3 of AS 1301, *Communications with Audit Committees.*

[159] *See Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations,* Release No. 33–8350.

Special Considerations for Audits of Emerging Growth Companies

Pursuant to Section 104 of the Jumpstart Our Business Startups (''JOBS'') Act, rules adopted by the Board subsequent to April 5, 2012, generally do not apply to the audits of EGCs unless the SEC ''determines that the application of such additional requirements is necessary or appropriate in the public interest, after considering the protection of investors, and whether the action will promote efficiency, competition, and capital formation.'' [160] As a result of the JOBS Act, the rules and related amendments to PCAOB standards the Board adopts are generally subject to a separate determination by the SEC regarding their applicability to audits of EGCs.

The proposal sought comments on the applicability of the proposed requirements to the audits of EGCs. Commenters on the issue supported applying the proposed requirements to audits of EGCs, citing benefits to the users of EGC financial statements and the risk of confusion and inconsistency if different methodologies were required for EGC and non-EGC audits. One commenter suggested ''phasing'' the implementation of the requirements for audits of EGCs to reduce the compliance burden.

To inform consideration of the application of auditing standards to audits of EGCs, the staff has also published a white paper that provides general information about characteristics of EGCs.[161] As of the November 15, 2017 measurement date, the PCAOB staff identified 1,946 companies that had identified themselves as EGCs in at least one SEC filing since 2012 and had filed audited financial statements with the SEC in the 18 months preceding the measurement date.

The Board believes that accounting estimates are common in the financial statements of many EGCs.[162] The Board also notes that any new PCAOB standards and amendments to existing standards determined not to apply to the audits of EGCs would require auditors to address the differing requirements within their methodologies, which would create the potential for confusion.[163] This would run counter to the objective of improving audit practice by setting forth a more uniform, risk-based approach to auditing accounting estimates, including fair value measurements.

Overall, the above discussion of benefits, costs, and unintended consequences is generally applicable to audits of EGCs. Since EGCs tend to be smaller public companies, their accounting estimates may be less likely to involve complex processes,[164] although those estimates may constitute some of the largest accounts in EGCs' financial statements. Furthermore, EGCs may generally be more subject to information asymmetry problems associated with accounting estimates than other issuers. EGCs generally tend to have shorter financial reporting histories than other exchange-listed companies and as a result, there is less information available to investors regarding such companies relative to the broader population of public companies. Although the degree of information asymmetry between investors and company management for a particular issuer is unobservable, researchers have developed a number of proxies that are thought to be correlated with information asymmetry, including small issuer size, lower analyst coverage, larger insider holdings, and higher research and development costs.[165] To the extent that EGCs exhibit one or more of these properties, there may be a greater degree of information asymmetry for EGCs than for the broader population of companies, increasing the importance of the external audit to investors in enhancing the credibility of management disclosure.[166] The new standard and related amendments, which are intended to enhance audit quality, could increase the credibility of financial statement disclosures by EGCs.

When confronted with information asymmetry, investors may require a larger risk premium, and thus increase the cost of capital to companies.[167] Reducing information asymmetry, therefore, can lower the cost of capital to companies, including EGCs, by decreasing the risk premium required by investors.[168] Therefore, investors in EGCs may benefit as much as, if not more than, investors in other types of issuers as a result of the new standard and related amendments.

PCAOB staff gathered data from 2012–2016 reported inspection findings for issuer audits that were identified to be EGCs in the relevant inspection year.[169] The chart below shows the number of EGC audits with deficiencies related to the accounting estimates standard and fair value standard [170] based on the 2012–2016 reported inspection findings.[171] The data help demonstrate

[160] *See* Public Law 112–106 (Apr. 5, 2012). *See* Section 103(a)(3)(C) of the Sarbanes-Oxley Act, as added by Section 104 of the JOBS Act. Section 104 of the JOBS Act also provides that any rules of the Board requiring (1) mandatory audit firm rotation or (2) a supplement to the auditor's report in which the auditor would be required to provide additional information about the audit and the financial statements of the issuer (auditor discussion and analysis) shall not apply to an audit of an EGC. The new standard and related amendments do not fall within either of these two categories.

[161] *See* PCAOB white paper, *Characteristics of Emerging Growth Companies as of November 15, 2017* (Oct. 11, 2018) (''EGC White Paper''), available on the Board's website.

[162] The five SIC codes with the highest total assets as a percentage of the total assets for the EGC population are (i) real estate investment trusts; (ii) state commercial banks; (iii) national commercial banks; (iv) crude petroleum and natural gas; and (v) pharmaceutical preparations. *Id.* at 14–15. The financial statements of companies operating in these industries would likely have accounting estimates that include, for example, asset impairments and allowances for loan losses.

[163] Approximately 99% of EGCs were audited by accounting firms that also audit issuers that are not EGCs and 40% of EGC filers were audited by firms that are required to be inspected on an annual basis by the PCAOB because they issued audit reports for more than 100 issuers in the year preceding the measurement date. *See* EGC White Paper at 3.

[164] *See, e.g.,* the note to AS 2201.09, which provides that many smaller companies have less complex operations and that less complex business processes and financial reporting systems are a factor indicating less complex operations.

[165] *See, e.g.,* David Aboody and Baruch Lev, *Information Asymmetry, R&D, and Insider Gains,* 55 Journal of Finance 2747 (2000); Michael J. Brennan and Avanidhar Subrahmanyam, *Investment Analysis and Price Formation in Securities Markets,* 38 Journal of Financial Economics 361 (1995); Varadarajan V. Chari, Ravi Jagannathan, and Aharon R. Ofer, *Seasonalities in Security Returns: The Case of Earnings Announcements,* 21 Journal of Financial Economics 101 (1988); and Raymond Chiang, and P.C. Venkatesh, *Insider Holdings and Perceptions of Information Asymmetry: A Note,* 43 Journal of Finance 1041 (1988).

[166] *See, e.g.,* Molly Mercer, *How Do Investors Assess the Credibility of Management Disclosures?,* 18 Accounting Horizons 185, 189 (2004) (''[Academic studies] provide archival evidence that external assurance from auditors increases disclosure credibility . . . These archival studies suggest that bankers believe audits enhance the credibility of financial statements . . .'').

[167] *See, e.g.,* Lambert et al., *Information Asymmetry, Information Precision, and the Cost of Capital* 21.

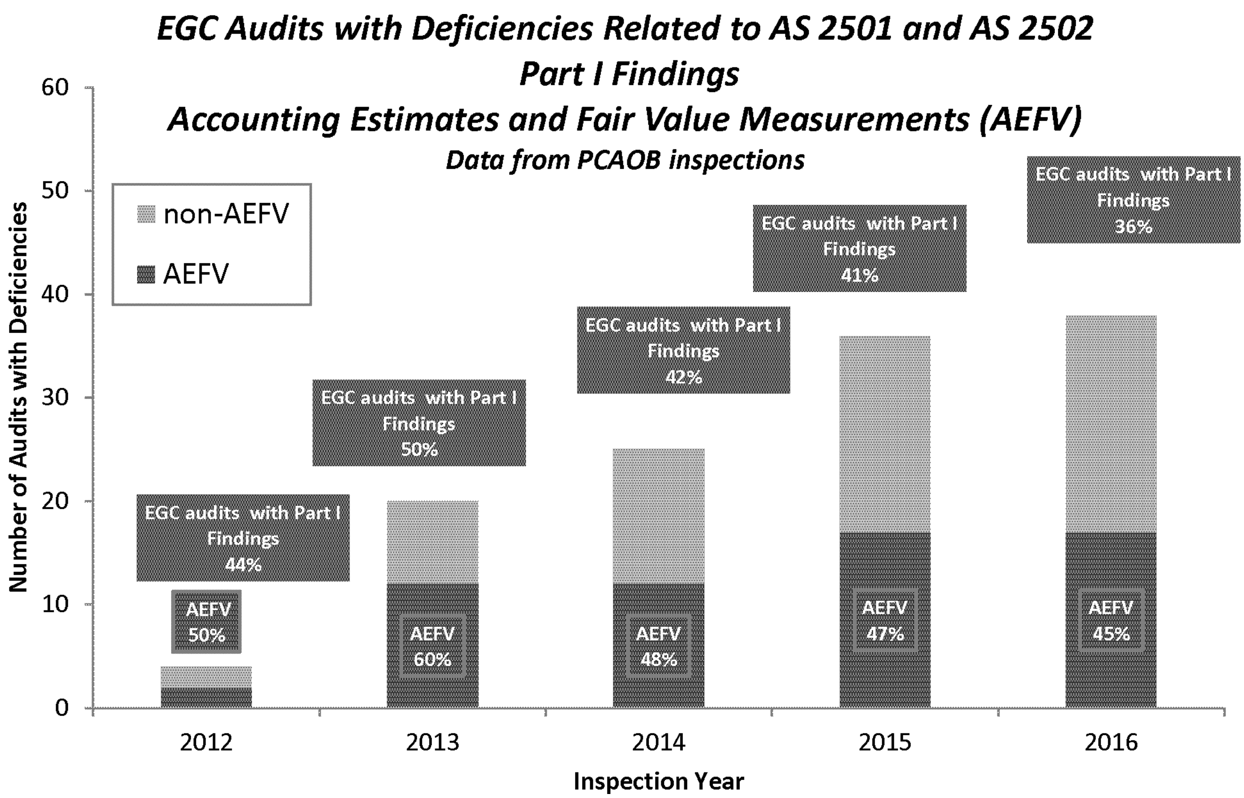
[168] For a discussion of how increasing reliable public information about a company can reduce risk premium, *see* Easley and O'Hara, *Information and the Cost of Capital* 1553.

[169] *See* EGC White Paper for the methodology used to identify EGCs.

[170] Deficiencies related to the derivatives standard were infrequent over the inspection period reviewed, and therefore considered insignificant for purposes of this analysis.

[171] The chart identifies the audits of EGCs with deficiencies reported in the public portion of inspection reports. It shows the relative frequency of EGC audits with deficiencies citing the existing accounting estimates standard or the existing fair value standard compared to the total EGC audits with deficiencies for that year. It also shows the frequency of inspected EGCs audits that had a deficiency. For example, in inspection year 2013, 50% of the EGC audits that were inspected had a deficiency and 60% of the audits with deficiencies included at least one deficiency citing the accounting estimates standard or the fair value standard (total 2016 reported inspection findings are based on preliminary results).

the high frequency of deficiencies related to the existing estimates and fair value standards in the audits of EGCs, raising questions about whether professional skepticism is being appropriately applied and about overall audit quality in this area. The EGC audits that had deficiencies related to the existing estimates and fair value standards as a proportion of total EGC audits that had deficiencies (including deficiencies in internal control over financial reporting) have remained relatively high (45%–60%) for the 2012–2016 period.



The Board has provided this analysis to assist the SEC in its consideration of whether it is ''necessary or appropriate in the public interest, after considering the protection of investors and whether the action will promote efficiency, competition, and capital formation,'' to apply the new standard and related amendments to audits of EGCs.

For the reasons explained above, the Board believes that the new standard and related amendments are in the public interest and, after considering the protection of investors and the promotion of efficiency, competition, and capital formation, recommends that the new standard and related amendments apply to audits of EGCs. Accordingly, the Board recommends that the Commission determine that it is necessary or appropriate in the public interest, after considering the protection of investors and whether the action will promote efficiency, competition, and capital formation, to apply the new standard and related amendments to audits of EGCs. The Board stands ready to assist the Commission in considering any comments the Commission receives on these matters during the Commission's public comment process.

Applicability to Audits of Brokers and Dealers

The proposal indicated that the proposed standard and amendments would apply to audits of brokers and dealers, as defined in Sections 110(3)–(4) of the Sarbanes-Oxley Act. The Board solicited comment on any factors specifically related to audits of brokers and dealers that may affect the application of the proposed amendments to those audits. Commenters that addressed the issue agreed that the proposal should apply to these audits, citing benefits to users of financial statements of broker and dealers and the risk of confusion and inconsistency if different methodologies were required under PCAOB standards for audits of different types of entities.

After considering comments, the Board determined that the new standard and related amendments, if approved by the SEC, will be applicable to all audits performed pursuant to PCAOB standards, including audits of brokers and dealers.

The information asymmetry between the management and the customers of brokers and dealers about the brokers' and dealers' financial condition may be significant and of particular interest to customers, as the brokers or dealers may have custody of customers assets, which could become inaccessible to the customers in the event of an insolvency. In addition, unlike the owners of brokers and dealers, who themselves may be managers and thus may be subject to minimal or no information asymmetry, customers of brokers and dealers may, in some instances, be large in number and may not be expert in the management or operation of brokers and dealers. Such information asymmetry between the management and the customers of brokers and dealers increases the role of auditing in enhancing the reliability of financial information, especially given that the use of estimates, including fair value measurements, is prevalent among brokers and dealers. The provision to regulatory agencies of reliable and accurate accounting estimates on brokers' and dealers' financial statements may enable these agencies to more effectively monitor these important market participants. Improved audits may help prevent accounting fraud that affects brokers' and dealers' customers and that may be perpetrated, for example, through manipulated valuations of securities. Therefore, the new standard should benefit customers and regulatory authorities of brokers and dealers by increasing confidence that brokers and dealers are able to meet their obligations to their customers and are in compliance with regulatory requirements.

Accordingly, the discussion above of the need for the new standard and related amendments, as well as the costs, benefits, alternatives considered, and potential unintended consequences to auditors and the companies they audit, also applies to audits of brokers and dealers. In addition, with respect to the impact of the new standard on customers of brokers and dealers, the expected improvements in audit quality described above would benefit such customers, along with investors, capital markets and auditors, while the final requirements are not expected to result in any direct costs or unintended consequences to customers of brokers and dealers.

III. Date of Effectiveness of the Proposed Rules and Timing for Commission Action

Pursuant to Section 19(b)(2)(A)(ii) of the Exchange Act, and based on its determination that an extension of the period set forth in Section 19(b)(2)(A)(i) of the Exchange Act is appropriate in light of the PCAOB's request that the Commission, pursuant to Section 103(a)(3)(C) of the Sarbanes-Oxley Act, determine that the proposed rules apply to the audits of EGCs, the Commission has determined to extend to July 3, 2019 the date by which the Commission should take action on the proposed rules.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the proposed rules are consistent with the requirements of Title I of the Act. Comments may be submitted by any of the following methods:

Electronic Comments

- Use the Commission's internet comment form (*http://www.sec.gov/rules/pcaob.shtml*); or
- Send an email to *rule-comments@sec.gov.* Please include File Number PCAOB–2019–02 on the subject line.

Paper Comments

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090.

All submissions should refer to File Number PCAOB–2019–02. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's internet website (*http://www.sec.gov/rules/pcaob.shtml*). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rules that are filed with the Commission, and all written communications relating to the proposed rules between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of such filing will also be available for inspection and copying at the principal office of the PCAOB. All comments received will be posted without charge. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number PCAOB–2019–02 and should be submitted on or before April 25, 2019.

For the Commission, by the Office of the Chief Accountant, by delegated authority.[172]

Eduardo A. Aleman,

Deputy Secretary.

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[172] 17 CFR 200.30–11(b)(1) and (3).