Accounting & Taxation
Vol. 12, No. 1, 2020, pp. 23-33
ISSN: 1944-592X (print)
ISSN: 2157-0175 (online)

IBFR
www.theIBFR.com

THE RELATIONSHIP BETWEEN CRITICAL ACCOUNTING ESTIMATES AND CRITICAL AUDIT MATTERS

Arianna Pinello, Florida Gulf Coast University
Lee Puschaver, PricewaterhouseCoopers (retired partner)
Ara Volkan, Florida Gulf Coast University

ABSTRACT

Accounting estimates are an essential part of financial statements, are pervasive, and substantially affect a company's financial position and results of operations. As part of Regulation S-K, the Securities and Exchange Commission requires a discussion about critical accounting estimates in management's discussion and analysis section of Form 10-K. As of July 2019, the Public Company Accounting Oversight Board has requirements for disclosing critical audit matters in audit reports. In order to gain insight concerning the estimates that are considered critical to the preparation of financial statements and might potentially be reported as critical audit matters, the disclosures in the 2017 Form 10-K filings for the Dow Jones 30 Industrials were reviewed. The potential linkage between management's disclosures of critical accounting estimates and the newly required auditor reporting of critical audit matters was analyzed, leading to three major predictions, as follows: 1) critical audit matters will most likely reflect items already identified by management as critical accounting estimates; 2) future Public Company Oversight Board inspections will be inclined to note shortcomings in critical audit matters reporting and generate controversy; and 3) management discussion and analysis will address, as critical accounting estimates, any matter raised by auditors as a critical audit matter.

JEL: M41, M42, M48

KEYWORDS: AICPA, CAMs, CAEs, KAMs, PCAOB, SEC, Audit Reports, Financial Statements

INTRODUCTION

The extended stresses arising from the Great Recession have generated a renewed focus on those areas which require critical accounting estimates and subjective judgments in preparing and auditing financial statements. The Public Company Accounting Oversight Board (PCAOB), whose actions can lead to broad change, has two recent related initiatives. First, under the recently enacted Auditing Standard (AS) 3101 (PCAOB, 2017a), the new auditor reporting requirements became effective for audits of fiscal years ending on or after December 15, 2017, with the exception of the requirement to discuss critical audit matters (CAMs) in the auditor's report. For large, accelerated filers as designated under Securities and Exchange Commission (SEC) regulations, the CAM requirement became effective for audits of fiscal years ending on or after June 30, 2019. All other companies subject to the new reporting standard will include discussions of CAMs in the auditor's report for audits of fiscal years ending on or after December 15, 2020. Second, the PCAOB proposed to modify its accounting estimates standard to enhance the quality of audit effort (PCAOB, 2017b). Overall, the proposal urged audit practitioners to do a better job in evaluating management's use of estimates and emphasized the need for maintaining a high level of professional skepticism. The proposal was very cogent and: 1) sought better integration with the risk assessment standards; 2) observed that for PCAOB inspections over 2008-2015, auditing accounting

estimates represented 56% of the deficiencies cited; and 3) discussed phenomena such as how humans process information. Not surprisingly, the PCAOB's proposal was approved by the SEC on July 1, 2019 (SEC, 2019). The amended guidance enhances the requirements for auditing accounting estimates, including fair value measurements, combining three related standards into a single standard that requires a uniform, risk-based approach to auditing accounting estimates. The new rules are effective for audits of financial statements ending on or after December 15, 2020.

Estimates are undeniably essential to financial reporting. For decades, the SEC's Regulation S-K has had an existing requirement for management to discuss critical accounting estimates (CAEs) in the management's discussion and analysis (MD&A) section of the annual report. In addition, auditors have long communicated critical matters and estimates to audit committees; however, they have not previously been required to communicate CAMs to the public in their auditor's report. This paper considers the interrelationship between CAEs and CAMs, and explores the symmetry that can be expected in the content of these communications and reports. In particular, this paper analyzes the current status of management's reporting of CAEs under the SEC rules and regulations that have existed for some time. In addition, the paper describes the PCAOB's new reporting requirement of CAMs by auditors, and derives expectations concerning the impact of the new rules on financial reporting and auditing. Specifically, the paper analyzes the content of management's recent MD&A communications concerning CAEs used in the preparation of financial statements and puts forward three predictions.

While prior research addressed various aspects of audit report quality and content, this study is the first to explore the expected connection between CAEs reported by management and CAMs to be included in auditors' reports under the new PCAOB rules. The analysis presented reveals ten major areas of critical accounting estimates that are important potential candidates for inclusion in CAM reporting. The CAEs contained in recent MD&A reports can serve as a starting point as auditors attempt to identify matters that warrant inclusion in CAM reporting. The remainder of the paper will first discuss the pertinent literature. Second, the data and methodology used to analyze the content of CAEs reported by management will be discussed, and three predictions will be presented. Next, a results section will present observed patterns in CAE reporting, followed by a discussion of a movement toward regulatory alignment as a path forward, and concluding comments along with directions for future research.

Background and Literature Review

In 1972, the Accounting Principles Board issued APB 22 requiring the disclosure of accounting policies as a requirement of generally accepted accounting principles when preparing financial statements (APB, 1972). In 1988, the American Institute of CPAs (AICPA) issued Statement on Auditing Standards (SAS) 57 – Auditing Accounting Estimates. In 2003, the SEC amended Regulation S-K to require a discussion about CAEs in the MD&A section of Form 10-K (SEC, 2003). The SEC urged companies to provide disclosure about CAEs in their MD&A if they have made accounting estimates and assumptions where the impact of the estimates or assumptions: 1) is highly subjective, uncertain, and subject to change; and 2) on financial statements is material. Therefore, public companies have been specifically required to identify and disclose the material estimates that underlie the financial statements for decades. In addition, for all companies, financial statements have been required to highlight critical accounting policies being used, which presumably embrace areas requiring critical estimates. In fact, one would be hard-pressed to identify a critical accounting policy that does not involve a CAE.

It is hard to argue that investors cannot benefit from more disclosure even though additional disclosures may be viewed as repetitious, lengthy, and possibly leading to information overload. In fact, there are other contexts in financial reporting where both management and auditors must separately discuss the same event in their disclosures. In the case of going concern issues, research indicates that the predictive ability of MD&A disclosure in predicting bankruptcy is incremental to the auditor's going concern opinion (Mayew

et al., 2015). Auditors' CAM disclosures and management's CAE disclosures may similarly provide incremental value to one another. Consistent with this possibility, Christensen et al. (2014) find that due to a source credibility effect, investors are more likely to change an investment decision when they receive an auditor's CAM paragraph than when they receive the same CAM information in a management disclosure.

Although the requirements and proposals championed by the PCAOB may be controversial, they reflect a trend that is currently taking hold globally. The International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) issued International Standard on Auditing (ISA) 701, requiring auditors to communicate key audit matters (KAMs) in their audit reports (IFAC, 2015), which are very similar to the U.S.'s CAM requirements. While differing adaptations of this requirement have been adopted in various countries, it is difficult to determine whether ISA 701 is improving audit quality and the usefulness of audit reports. Both the United Kingdom Financial Reporting Council and the Association of Chartered Certified Accountants (FRC, 2018) conducted surveys of end users of financial statements as well as auditors and issued news releases stating that focusing on KAMs is valuable and has improved overall audit quality. A recent research study using data from UK firms showed that focusing on KAMs improves audit quality with no impact on audit costs (Reid et al., 2019). However, non-scientific surveys and studies in other countries (France, Canada, and Australia) show that focusing on KAMs and additional disclosures is costly and only marginally improves audit quality and information usefulness.

Importantly, country-specific institutional differences can result in disclosures being more value-added in some countries compared to other countries. Aerts and Tarca (2010) find that management commentary in U.S. financial reporting tends to be more extensive and formal and relies more heavily on technical accounting language than other countries, partly because enforcement is greater in the U.S. than in other countries. The authors conclude that greater expected regulatory and litigation costs in the U.S. result in more elaborate management commentary that reflects a risk-averse explanatory stance that may reduce the value of the commentary (Aerts and Tarca, 2010). The PCAOB's new CAM requirement represents a shift from a more precise to less precise auditor reporting standard. Gimbar et al. (2016) present experimental evidence that because CAM standards are imprecise, CAMs reduce the degree to which precise standards are perceived to constrain auditors' control over financial reporting outcomes, which leads to increased auditor liability. Regardless of the results from empirical and non-scientific studies and surveys, the view held by regulators in countries that have passed a CAM or KAM reporting requirement is that there are significant benefits from auditors' and companies' disclosures of CAMs, KAMs, and CAEs.

For CAEs specifically, a 2017 study supports regulators' view by suggesting that CAE disclosures communicate items of heightened uncertainty, which can be helpful to financial statement users in their task of assessing the degree of uncertainty reflected in accounting estimates (Glendening, 2017). On the other hand, research suggests there is room for improvement in CAE disclosures as some fall short of the SEC's desire for disclosed information to assess the past accuracy of or predict future changes in CAEs (Bauman and Shaw, 2014). The speed by which CAM/KAM requirements are being promulgated and implemented across countries may point to a state of groupthink (Janis, 1982). However, given the interplay between the SEC and the PCAOB, it is important to keep in mind that the U.S. environment is unique by nature. The SEC exercises oversight over the PCAOB. Any new rules put forth by the PCAOB must first be approved by the SEC and, upon approval, become enforceable by the SEC. This interplay between the SEC and PCAOB is highlighted in Palmrose's (2010) description of a meeting of the SEC in 2007 during which the SEC discussed issues related to alignment of SEC proposed management guidance with PCAOB proposed audit standards. Given the requirements of the SEC's Regulation S-K and the PCAOB's CAM disclosures, CAMs discussed in auditor reports are expected to be consistent with CAEs outlined by management in MD&As. While the auditor may spend time assessing other estimates, there is assuredly an expectation that the auditor will also focus on items identified by management as CAEs.

As defined by the PCAOB, CAMs are limited to matters that are communicated or are required to be communicated to the audit committee. The PCAOB's AS 1301 (PCAOB, 2012) already provides specific guidance requiring auditor communication with company audit committees about certain matters regarding the company's accounting policies, practices, and estimates. Since such communications are private, one cannot know what is being discussed regarding estimates. But, best practices would suggest that CAEs be among the issues discussed. Given the commonality of the definitions used for CAEs and CAMs, the auditor is thus already discussing CAMs with the audit committee. Since the new AS 3101 guidance draws upon AS 1301 requirements in defining the items being targeted as CAMs by the PCAOB, there will now be a partial public disclosure of items communicated between auditor and audit committee.

DATA AND METHODOLOGY

The PCAOB defines a CAM as an issue that is worthy of communication to the audit committee and 1) is material to the financial statements, and (2) involves auditor judgment that is especially challenging, subjective, or complex. In addition, the PCAOB discusses other attributes in evaluating potential matters and even presents a flowchart. From the overlap in definitions of CAEs per the SEC and CAMs per the PCAOB, it is logical to expect that:

Expectation 1: CAMs in auditor reports will most likely reflect items already disclosed in management's MD&A as CAEs.

Audit firms and company management understand that there is sensitivity concerning CAM disclosures in audit reports. Under U.S. requirements, if there are no matters that rise to the level of a critical audit matter, auditors must state so in the auditor's report. While PCAOB guidance suggests that at least one CAM disclosure is expected in audit reports, research indicates that disclosing a CAM (as opposed to stating that there were no CAMs) protects auditors against judgments of auditor liability in cases of undetected fraud, which may encourage boilerplate CAM disclosures of the less useful kind (Brasel et al., 2016). Since the identification and selection of a CAM for disclosure is judgmental, firms have been establishing procedures and interacting among themselves to ensure that there is a common understanding of CAMs and a clear underlying approach to selecting CAMs (Banham, 2018). Given that the identification of a CAM for disclosure essentially involves a judgment of judgments, it is inherently susceptible to second guessing. In forthcoming PCAOB inspections of CAM disclosures in audit reports, one might expect the PCAOB to note deficiencies in cases in which firms fail to identify certain matters as CAMs that in the PCAOB's judgment they should have identified. However, it is possible that at least initially the PCAOB will not be overly heavy-handed in its approach to the CAM inspections since the change represents a win for the regulators by having auditors disclose a significant portion of the discussions they have in deliberations with audit committees. Nevertheless, it is reasonable to conclude that:

Expectation 2: The forthcoming PCAOB inspections of CAM disclosures in audit reports will be inclined to note shortcomings and generate controversy.

Under best practices, the areas described by management as CAEs should also be among those items discussed with the audit committee and considered as potential CAMs for discussion in audit reports. But, conversely, if the audit report discusses CAMs not already included in the MD&A (as CAEs or otherwise), then it would seem logical that management would likely modify the MD&A to discuss those items. Given alignment in regulatory guidance and prudence, and assuming that management takes its responsibilities to prepare a comprehensive MD&A and wants to appear informed on all critical matters, it is logical to expect:

Expectation 3: The MD&A will address, as a CAE when applicable, any matter raised as a CAM in the audit report.

In order to gain insight about the estimates that are considered critical to the preparation of financial statements (and therefore may be candidates for CAM reporting going forward), the 2017 SEC filings of the largest 30 U.S. companies were analyzed. First, the year 2017 was selected to ensure that the reports filed constituted the most recent complete set of filings. Next, the 2017 Form 10-K filings for the Dow Jones 30 Industrials (as listed in the Wall Street Journal) were obtained since those companies are likely to have complex operations, provide insight concerning a wide range of critical accounting estimates, and are large accelerated filers. Finally, the CAEs disclosed in the MD&A section of those 30 filings were analyzed and summarized, providing insight into auditors' sizable task of selecting and reporting on CAMs. In total, the sample of CAE disclosures analyzed encompassed 149 observations. The identified areas were inherently predictable and reflected those CAEs that would be potentially applicable to all companies.

RESULTS

Table 1 identifies the top ten most common types of estimates discussed as CAEs in the 2017 MD&As examined and reports the number of companies discussing the different types of CAE disclosures in their annual reports. The findings presented in Table 1 indicate that there is a significant number of and variety of CAEs that auditors must consider for potential CAM inclusion. The analysis revealed interesting patterns of CAE reporting. Within the MD&As, the sample companies specifically entitled their discussions as CAEs 16 times, as Critical Accounting Policies 6 times, and as a combination of these two terms 8 times. In the CAE discussion, a generalized cross-reference to the accounting policy footnote contained in the financial statements was included by 16 companies. Commentary by Home Depot captures the sentiment of overlapping terminology and states that the most critical accounting policies are those that are both important to the portrayal of the company's financial condition and results of operations and that require significant judgment or use of significant assumptions or complex estimates.

Table 1: Top Ten CAEs in 2017 10-K Filings of Dow Jones 30 Industrials

	Commonly Discussed Critical Accounting Estimates	Number of Companies Disclosing CAEs
1	Goodwill, identifiable intangibles, long-lived asset (impairments)	29
2	Income taxes	25
3	Reserves (contra-revenue, warranty, legal contingencies)	17
4	Pension and other employee benefits	16
5	Revenue recognition and contracts	15
6	Valuation of investments	12
7	Valuation of accounts receivable, including allowance for bad debts	10
8	Inventory valuation	10
9	Business combinations, consolidations, restructurings, residuals	8
10	Stock-based compensation and foreign operations	7
	Total CAE disclosures included in sample	149

This table identifies the ten most common types of CAE disclosures in the 2017 Form 10-K filings for the Dow Jones 30 Industrials (as listed in the Wall Street Journal), and reports the number of companies discussing the different types of CAE disclosures in the MD&A section of the 10-K filings. To be included, we required the CAE to be discussed under a separate caption. Counts do not include mere references to the topic in other areas of disclosure.

There was a wide range of discussion detail for CAEs. At one end of the spectrum, Intel noted seven topics presented in a single page of discussion and five other companies presented two pages of discussion: Home Depot, McDonald's, Procter & Gamble, VISA, and Walmart. At the opposite end of the spectrum, Travelers discussed estimating challenges and approaches for each of its nine lines of business plus three other topics using 22 pages of dialogue (the next longest was nine pages by Coca-Cola). In addition, Goldman Sachs

and JP Morgan presented discussions of the internal controls over the processes that generate the estimates being reported. The fewest discussion topics discussed were three by Procter & Gamble, United Health, VISA, and Walmart. The most discussion topics discussed were 11 by Exxon, followed by 10 topics discussed by Caterpillar and Merck. Many accounting areas bearing significant estimation challenges were included as CAE discussion items by each of the companies in our sample. In addition, individual companies had unique areas of emphasis particular to their operations and management's perspectives. The following paragraphs summarize the top 10 CAE discussion items common to most of the 30 companies analyzed. Impairment of goodwill, identifiable intangibles, or long-lived assets was cited most frequently with 29 of the 30 companies discussing them in some manner. VISA was the only company that did not have at least one of these items included in its discussion.

By their nature, impairment assessment and recognition are stressful auditing events, since they are likely to be infrequent but significant when they occur. Goodwill only arises from acquisition accounting in a business combination and was discussed by 18 of the 29 companies. The impairment assessment is a complex calculation conceptually, since business is dynamic and, over time, companies rearrange and restructure their businesses, add new activities, and abandon other activities. Similarly, identifiable intangibles, discussed by 18 of the 29 companies, often arise as a separate asset from a business combination and relate to trademarks, patents, and intellectual property rights. These also have sensitivity, since any adjustment is likely to be material to carrying value. Lastly, since long-lived assets, discussed by 17 of the 29 companies, involve assets such as physical plant and equipment, assessing impairment can be more straightforward in this area of accounting than in the other two areas. Apple presented a unique insight: since its market environment is so fast-paced with innovation, its assessment of manufacturing-related assets is unusually demanding. Apple discussed this challenge in tandem with discussions about inventory valuation. Income taxes was identified and discussed next most frequently by 25 companies. Income taxes inherently involve estimations concerning not only data, but also legal interpretation of tax law including the hierarchy among various taxing jurisdictions. It also requires forecasting how tax matters will evolve over time and the potential tax environment over time. Interestingly, five companies did not have a separate discussion of income taxes. Boeing only mentioned income taxes in an overview paragraph as one of many items. Chevron noted it as one of the items considered under the topic “Contingency Losses,” but also cross-referenced to the financial statement footnotes. Home Depot, United Health, and Travelers did not mention income taxes within their CAE discussions.

Legal, contingency, and contra-revenue reserves was specifically noted by 17 companies under a more general nomenclature of contingency reserves. In seven instances, management elected to present separately a discussion of both contingency and contra-revenue areas. Pensions and employee benefits were mentioned by 16 companies. Since there has been a decline in the number of defined benefit plans over time, and since these plans would usually relate to large workforces, it is more likely this issue relates to larger companies such as the ones reviewed in this study. The estimation issues not only impact reported pension related expense, but also the funding requirements for the plans. These estimation challenges have been known for decades and involve actuaries and other specialists.

Revenue recognition was identified as a lead issue by 15 companies. In 1999, the SEC issued Staff Accounting Bulletin 101 specifically targeting issues related to revenue recognition (SEC, 1999). The Bulletin specifically admonishes auditors to approach an audit with professional skepticism regarding revenue recognition. Revenue often generates ancillary material estimates such as: warranty-type costs mentioned by Apple and Cisco, post-sale discount reserves cited by Caterpillar, vendor allowances noted by Home Depot, commitments for add-on services to customers such as liability for membership rewards expense discussed by American Express, and credit card rewards liability indicated by JP Morgan. Contract accounting, which is a subset of revenue recognition issues, was mentioned as a concern several times and involved both the company delivering services and related profit calculations and commitments to others to take delivery. In addition, estimating challenges were discussed when the underlying contracts were

long-term. To further complicate matters, Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers" (Topic 606) became effective in 2017 for large filers (FASB, 2017).

Valuation of investments includes issues of impairment as well and was highlighted by 12 companies. This assessment can be especially challenging for those situations where clear market values do not exist. Further, the Financial Accounting Standards Board recently issued ASU 2016-13, "Financial Instruments – Credit Losses" (Topic 326, FASB, 2016), which requires the recognition of current expected credit losses at the time of origination or purchase of a financial instrument (Pinello and Puschaver, 2018). Valuation allowances for accounts receivable is an area that has been a challenge for decades. Topic 326, which applies to valuation allowances, was discussed by 10 companies, including Goldman Sachs, JP Morgan, Caterpillar, VISA, and others. Inventory valuation was similarly cited by 10 companies. For example, Walgreens highlighted cost of sales and inventories combined and Merck discussed the challenges of valuing pre-launch inventories.

Business combinations, consolidations, restructurings, and residuals, including purchase accounting as well as sales of businesses, was mentioned by DowDupont, IBM, Intel, McDonald's, and Pfizer. Discussions included allocating purchase prices to determine the proper recording of assets, liabilities, goodwill, and identifiable intangibles. Merck discussed the difficulties in estimating the cost of restructuring activities. The challenges of consolidation and the difficulties of assessing variable interest entities were mentioned by Coca-Cola. Exxon discussed the stresses of equity accounting and the nature of its joint ventures and stated that it does not invest in these companies in order to remove liabilities from its balance sheet. Estimating residual values was mentioned by Caterpillar and IBM, even though the two businesses would appear to be distinctly different. Yet, they both have business activities involving equipment leasing. Thus, residual values impact both the profitability and the nature of the lease.

Stock-based compensation and foreign operations was mentioned by Caterpillar, Johnson & Johnson, McDonald's, Merck, and Nike. This area is particularly sensitive since it usually involves senior management compensation and requires valuation using various estimation models. Although most of the companies have significant international and financial operations, only Exxon and Nike broke out separate discussions of foreign exchange or hedge accounting challenges. The results of the analysis summarized above are indicative of the complexity of accounting estimates reflected in current-day financial reporting, and may be suggestive of forthcoming CAM disclosures. For some years, the SEC has required managers to publicly disclose the implications of these critical estimates in the MD&A section of the annual report. With the recently passed CAM requirements, the PCAOB now requires auditors to also publicly disclose the implications of accounting estimates, the auditing of which involves subjective and complex auditor judgment. The next section will discuss the alignment of the SEC's and PCAOB's regulatory guidance, as well as the alignment of auditor reporting requirements across countries, as a path forward to meet stakeholder needs in a rapidly changing environment.

A PATH FORWARD: MOVING TOWARD ALIGNMENT

Recent regulatory developments within the U.S. and across the globe point toward two facets of alignment. First, there is movement toward alignment within the U.S. in terms of regulatory guidance: the newly enacted guidance provided by the PCAOB (pertaining to CAM reporting in auditor reports) aligns with the long-standing regulatory guidance provided by the SEC (pertaining to CAE disclosures in MD&As). Second, there is movement toward aligning U.S. auditor reporting requirements with other countries who previously promulgated similar auditor reporting requirements. Both facets of alignment are necessary to meet the needs of capital market participants in a global environment characterized by increasing complexity and uncertainty.

In the U.S., the current and evolving set of regulatory guidance brings three sets of eyes to focus on the critical estimates underlying the preparation of the financial statements. First, management has the responsibility for preparing the financial statements and has the highest level of information and insight to publicly disclose CAEs. Per SEC requirements, management discusses such CAEs in the MD&A. Next, the independent auditor brings objectivity and professional skepticism to the table and, as now required by the PCAOB, will begin to disclose CAMs that will most likely reflect CAEs. Finally, the audit committee and the board of directors bring seasoned experience and inside information to bear on CAMs and CAEs.

These regulatory requirements align management, auditor, and audit committee focus and responsibilities. Under long-standing PCAOB standards, auditors are required to perform a risk assessment and plan the audit to direct effort toward those areas most critical to preparation of the financial statements. The auditor's efforts should logically align with management's CAEs disclosed in the MD&A. In other words, a client company's CAEs would be included in the auditor's risk assessment and testing procedures, and auditors are attesting to CAEs reflected in the financial statements. In addition, the company's internal control over financial reporting should naturally place strong focus on ensuring the proper identification and disclosure of CAEs. Under requirements of the Sarbanes-Oxley Act of 2002, a company's management must assess and report on the effectiveness of its internal control and the auditor must separately attest to the company's internal control effectiveness as well. Since internal controls encompass identification and disclosure of CAEs and the auditor issues an opinion on internal control effectiveness, the auditor implicitly attests to the identification of the CAEs. In addition, the auditor is also required to have comprehensive communications with the audit committee about important matters, such as critical estimates.

The PCAOB's new CAM reporting requirements expand such alignment. Per the PCAOB, CAMs indicate areas in the financial statements that involve the application of significant judgment or estimation by management, including estimates with significant measurement uncertainty. The PCAOB guidance for CAMs clearly aligns with the guidance of SEC regulations regarding CAE disclosures. In order to achieve the benefits of such alignment, auditors should avoid boilerplate CAM disclosures and instead ensure that CAM disclosures provide value-added information incremental to the CAEs already contained in the MD&A section of the annual report.

Given the changes in auditor reporting requirements in the international landscape, the change to CAM reporting in the U.S. increases the comparability of financial reporting in a global setting. It is important to note that differences in the definition of CAMs/KAMs exist across countries, and the execution of CAM reporting is also likely to vary across countries due to institutional differences. It is also the case that an equivalent to the SEC's CAE reporting requirement on the part of management may not exist in other countries. Therefore, while CAM reporting exists in addition to CAE reporting in the U.S., this may not be the case in other countries. In order to provide informative CAM disclosures in the U.S., it is important for U.S. auditors to take into consideration the CAEs that their U.S. clients already report in the MD&A. While great movement toward alignment has been made as discussed above, both requirements of CAE and CAM reporting apply only to publicly listed companies in the U.S. As a result, there is currently a discrepancy in reporting for public versus private U.S. companies. Moving forward, a consideration of aligning reporting requirements for private and public company clients might be beneficial.

CONCLUDING COMMENTS AND SUGGESTIONS FOR FUTURE RESEARCH

As of July 2019, the Public Company Accounting Oversight Board has requirements for disclosing critical audit matters (CAMs) in audit reports. The implementation of CAM reporting in the U.S. follows the pronouncement of similar requirements concerning key audit matters (KAMs) in a number of other countries around the globe as promulgated by the IAASB and IFAC. The potential linkage between the forthcoming auditors' CAM reporting and the existing required reporting of CAEs in the Management Discussion and Analysis (MD&A) section of annual reports under U.S. SEC rulings was deliberated,

leading to three predictions. In order to gain insight concerning the estimates that are considered critical to the preparation of financial statements and might potentially be reported as CAMs, the disclosures in the 2017 Form 10-K filings for the Dow Jones 30 Industrials were reviewed and 149 observations were obtained. Challenging CAEs underlie the preparation of financial statements and having three sets of eyes (management, audit committee, and auditor) focusing on those areas as opposed to one or two sets may result in increased financial reporting quality, audit quality, and investor confidence. Existing efforts when planning and conducting an audit will often bring forth the key issues and audit findings regarding accounting measurement, recognition, and reporting controversies. The analysis conducted in this study indicates that there are ten key areas of financial measurement and reporting involving critical accounting estimates that are important potential candidates for CAM reporting. There is a natural interrelationship between CAEs and CAMs, making it likely that CAMs will reflect these items discussed as CAEs, and vice versa. Even when CAMs and CAEs overlap, the two sets of disclosures will reveal two different perspectives (the auditors' versus management's), each of which is expected to add incremental value. As auditors grapple with first-time implementation of CAM reporting, management's CAE disclosures can provide a starting point.

Our conclusions are limited by the fact that our sample spans only one year and is limited to the Dow Jones 30. The CAEs of other companies not included in the Dow Jones 30 might reflect CAE disclosure patterns that differ from those observed in this study. However, the composition of the Dow Jones 30 reflects the dominant sectors of the U.S. economy, which improves the generalizability of the CAE disclosure patterns documented in this study. In addition, reported CAEs are not expected to vary greatly from year to year. A few open questions should be addressed by future research. First, a scrutiny of future CAM reporting for the Dow Jones 30 Industrials and PCAOB inspections of top audit firms can test the empirical validity of the predictions made in this paper. In addition, future research can determine whether the predicted increases in investor confidence and audit quality materialize as a result of CAM reporting. Furthermore, future research can investigate whether the emphasis on CAMs, in addition to the existing requirements to report CAEs, is worth the cost of additional audit fees and findings of deficiency by the PCAOB during the annual scrutiny of audit firm outcomes.

REFERENCES

Accounting Principles Board (1972). Disclosure of Accounting Policies. APB 22, APB, New York, NY.

Aerts, W. and A. Tarca (2010) "Financial Performance Explanations and Institutional Setting," *Accounting and Business Research*, Vol. 40(5), p. 421-450.

American Institute of Certified Public Accountants (1988). Auditing Accounting Estimates. Statement of Auditing Standards (SAS). No. 57, AICPA, New York, NY.

Brasel, K., M. Doxey, J. Grenier, and A. Reffet (2016) "Risk Disclosure Preceding Negative Outcomes: The Effects of Reporting Critical Audit Matters on Judgments of Auditor Liability," *The Accounting Review*, Vol. 91(5), 1345-1362.

Banham, R. (2018) "Critical Audit Matters Coming into Focus," *Journal of Accountancy*, Vol. 226(4), p. 26-29.

Bauman, M. and K. Shaw (2014) "An Analysis of Critical Accounting Estimate Disclosures of Pension Assumptions," *Accounting Horizons*, Vol. 28(4), p. 819-845.

Christensen, B., S. Glover, and C. Wolfe (2014) “Do Critical Audit Matter Paragraphs in the Audit Report Change Nonprofessional Investors’ Decision to Invest?” *Auditing: A Journal of Practice & Theory*, Vol. 33(4), p. 71-93.

Financial Accounting Standards Board (2017). Revenue from Contracts with Customers. Accounting Standards Update No. 2014-09, Topic 606, FASB, Norwalk, CT.

__________ (2016). Financial Instruments – Credit Losses. Accounting Standards Update No. 2016-13, Topic 326, FASB, Norwalk, CT.

Financial Reporting Council (2018). “Annual Review of Corporate Governance and Reporting 2017-18,” FRC, London, UK, Accessed July 29, 2019 at: https://www.frc.org.uk/getattachment/f70e56b9-7daf-4248-a1ae-a46bad67c85e/Annual-Review-of-CG-R-241018.pdf

Gimbar, C., B. Hansen, and M. Ozlanski (2016) “The Effects of Critical Audit Matter Paragraphs and Accounting Standard Precision on Auditor Liability,” *The Accounting Review*, Vol. 91(6), p. 1629-1646.

Glendening, M. (2017) “Critical Accounting Estimate Disclosures and the Predictive Value of Earnings,” *Accounting Horizons*, Vol. 31(4), p. 1-12.

International Federation of Accountants (2015). Communicating Key Audit Matters in the Independent Auditor’s Report. International Standard on Auditing (ISA) 701, IFAC, New York City, NY.

Janis, I. (1982). “Groupthink: Psychological Studies of Policy Decisions and Fiascoes,” *Cengage Learning, Boston, MA*.

Mayew, W., M. Sethuraman, and M. Venkatachalam (2015) “MD&A Disclosure and the Firm’s Ability to Continue as a Going Concern,” *The Accounting Review*, Vol. 90(4), p. 1621-1651.

Palmrose, Z. (2010) “Balancing the Costs and Benefits of Auditing and Financial Reporting Regulation Post-SOX, Part I: Perspectives from the Nexus at the SEC,” *Accounting Horizons*, Vol. 24(2), p. 313-326.

Public Company Accounting Oversight Board (2017a). AS 3101 – The Auditor’s Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion. PCAOB Release No. 2017-001, PCAOB, Washington, D.C.

Public Company Accounting Oversight Board (2017b). Proposed Standard: Auditing Accounting Estimates, Including Fair Value Measurements and Proposed Amendments to PCAOB Auditing Standards. PCAOB Release No. 2017-002, PCAOB, Washington, D.C.

Public Company Accounting Oversight Board (2012). AS 1301 – Communications with Audit Committees. PCAOB Release No. 2012-004, PCAOB, Washington, D.C.

Pinello, A. and L. Puschaver (2018) “Accounting for Credit Losses under ASU 2016-13,” *The CPA Journal*, Vol. 88(2), p. 54-59.

Reid, L., J. Carcello, C. Li, and T. Neal (2019) “Impact of Auditor Report Changes on Financial Reporting Quality and Audit Costs: Evidence from the United Kingdom,” *Contemporary Accounting Research*, forthcoming.

Securities and Exchange Commission (2019). "Public Company Accounting Oversight Board; Order Granting Approval of Auditing Standard 2501, *Auditing Accounting Estimates, Including Fair Value Measurements*, and Related Amendments to PCAOB Auditing Standards," Release No. 34-86269, Accessed July 29, 2019 at: https://www.sec.gov/rules/pcaob/2019/34-86269.pdf.

Securities and Exchange Commission (2003). Interpretation: Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations. SEC, Washington, D.C.

Securities and Exchange Commission (1999). SEC Staff Accounting Bulletin: No. 101 – Revenue Recognition in Financial Statements. Release No. SAB 101, SEC, Washington, D.C.

BIOGRAPHIES

Arianna S. Pinello is an Associate Professor of Accounting in the Lutgert College of Business at Florida Gulf Coast University. She is a Certified Public Accountant, a Certified Internal Auditor, and a member of the American Accounting Association, the Institute of Internal Auditors, and the Florida Institute of Certified Public Accountants. Dr. Pinello earned her Ph.D. in Accounting from The Florida State University in 2004, and her research has been published in a variety of academic and professional accounting journals.

Ernest Lee Puschaver specialized in audits of large banks during a 28-year career with PwC, and subsequently held executive finance positions with FleetBoston (acquired by Bank of America) and the Federal Home Loan Bank of Atlanta for over five years.

Ara G. Volkan joined the FGCU faculty in August 2004 as Eminent Scholar and Moorings Park Chair of Managerial Accounting. He served as the Chair of the Accounting Department and the Associate Dean and Interim Dean of the Lutgert College of Business. He received his doctorate in accounting from The University of Alabama in 1979. Dr. Volkan is a member of the FICPA and AAA. He serves as reviewer for several journals. He published numerous articles in academic and professional accounting journals and in other outlets.