

Do Critical Audit Matters Matter? An analysis of their association with Earnings management

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Abstract

Objective: To analyze the relationship between Critical Audit Matters (CAM) and earnings management practices among Brazilian companies.

Method: This study's sample was composed of 96 companies listed in IBRX 100, data of which were collected from the Securities and Exchange Commission (CVM) and COMDINHEIRO database in 2016 and 2017, using descriptive statistics and panel data regression analysis.

Results: The most predominant types of CAM were: Assets Recovery, Contingencies, and Recognition of Revenues, which together accounted for 58% and 66% of CAM reported in 2016 and 2017, respectively. A positive and significant association was found between the number of CAM and accruals and discretionary revenues while a negative and significant association was found between the number of CAM and earnings management proxy by operations through discretionary expenses.

Contributions: These results have implications for the debate regarding this topic, especially, for the practices of accountants, auditors and regulators, as these findings present important insights regarding association between the disclosure of CAM and earnings management proxies by accruals and actual operations, showing the importance of disclosing CAM as red flags signaling the manipulation of accounting data.

Keywords: CAM, Earnings Management, Auditing.

1. Introduction

There is, among investors operating in the capital market and working in a corporate environment, especially minority shareholders, a growing search for mechanisms to reinforce the safety of investments (Choi & Wong, 2007). And, despite the condition of owners, what shareholder investors look at is the possibility of managers, hired to make decisions that maximize a company's value on the behalf of those who have the property, to make routine decisions concerning the functioning of a company that prioritize their personal interests instead (Ross, 1973; Brickley, Smith, & Zimmerman, 2016). According to Jensen & Meckling (1976), this misalignment between shareholders and managers is called an agency problem. That is, the management of a company is under the responsibility of hired managers who are supposed to maximize a company's value, however, given the opportunistic characteristics of individuals and incomplete contracts, managers may use information asymmetry – managers have greater access to information compared to shareholders – to meet their interests at the expense of the objectives for which they were hired for (Williamson, 1979; Jensen & Meckling, 1994).

Earnings management practices stand out among the various existing agency problems. Earnings management is defined in the literature as discretionary power of managers that result in biased accounting choices, or even, that changes the level of operations to achieve specific desired outcomes, negatively or positively affecting disclosed results.

Therefore, considering that shareholders do not have access to a company's daily information, auditors are supposed to verify and attest the reliability of financial statements to investors and all remaining stakeholders to reduce information asymmetry. For this reason, auditors have a role in mitigating agency conflicts between managers and shareholders (Brown, Beekes, & Verhoeven, 2011).

Therefore, intending to improve the quality of auditing services, regulatory bodies issued in 2016 the *Norma Brasileira de Contabilidade NBC TA 701* [Brazilian Accounting Standards], which deals with the assessment of Critical Audit Matters (CAM) identified for auditing financial statements. In general, it establishes that auditors highlight in specific fields of audit reports critical matters identified in their work. This is information with potential usefulness for different users, considering such matters may be associated with the agency problems previously mentioned and thus, enable investors and remaining stakeholders, including auditors themselves, to assess risks (Marques & Souza, 2017).

According to Marques and Souza (2017), the critical audit matters reported in 2017 by companies listed in Ibovespa in the last quarter of 2016 included: (i) asset recovery, (ii) contingencies, (iii) revenue recognition, and (iv) forecasts of future results. Note that CAM, because they deal with topics directly linked to the flexibility of accounting standards and/or accounting estimates, can be used or be associated with earnings management. At the international level, Church, Davis, and McCracken (2008) note the importance of auditors' opinions and communication with investors and potential investors, even indicating greater market efficiency. Segal (2017), on the other hand, reports in his study that the level of earnings management has not been affected by the opinion of auditors.

In this context, this study's objective was to answer the following question: **What is the relationship between Critical Audit Matters (CAM) and the practice of Earnings Management among Companies listed in the B³?** This study's general objective was to analyze the relationship between types of CAM disclosed by auditing firms and earnings management. This descriptive, documental and quantitative study addressed a sample of 96 companies listed in the IBRX 100. Data were collected from the Securities and Exchange Commission of Brazil (CVM) and refer to the period of 2016 and 2017, which comprises the first two years in which this norm became effective. The analysis includes descriptive statistics, tests of differences between means, and regression analysis using panel data.

Due to a lack of Brazilian academic studies addressing the relationship between the hypothesis of earnings management and CAM issued by auditors, this paper is intended to fill in this gap, seeking the results reported by international studies and considerations that contribute to analyze and interpret results considering that NBC TA 701 follows international standards on auditing.

Additionally, given the relevance of normative prescriptions, which aim at a more transparent communication between auditors and those using accounting information, this paper is intended to clarify, both from a theoretical and empirical perspective, the effects of auditing standards on the capital market.

Auditors, within an audited organization, are seen as an advisor of accounting standards, internal controls and corporative generalities (Beattie, Fearnley & Brandt, 2000). Thus, it is relevant to measure and analyze the degree of interaction between earnings management proxies and auditors' obligations to report the matters they considered to be the most relevant during the audit process. According to Dechow and Skinner (2000), regulators detect the occurrence of earnings management practices in accounting reports and that the use of these methods is more evident in firms with a low level of governance. This study, however, is intended to contribute to the assessment of the normative impact of CAM issued by auditors. Concerning this standard in international studies, even though Segal (2017) did not find a relationship between earnings management and CAM, he emphasizes that this type of disclosure contributes to establishing transparency between managers and stakeholders.

In addition to this introduction, this paper is divided into three sections. Section two presents the theoretical framework, in which the Efficiency-Market Hypothesis (EMH) and the role of auditors, and the hypotheses related to earnings management, are discussed along with the motivations and implications of firms disclosing CAM, also presenting results reported by previous studies. Section three presents the methodological procedures while Section four presents the analysis and discussion of results. Finally, the last section presents the final considerations, as well as this study's implications and limitations and suggestions for future research.

2. Theoretical Framework

2.1 Efficiency-Market Hypothesis and the Role of Auditing for the Capital Market

The Efficiency-Market Hypothesis was presented by Fama (1970) with the premise that the prices of assets reflect accounting information available to users. Thus, the set of information available (public and private) reflects the value of a company's assets, consequently, the value of a company.

Fama (1970) classifies the efficiency of a market into three categories: weak, semi-strong and strong. In a company's weak form, prices are established according to the set of historical information. In semi-strong companies, prices reflect past (historical) and current information. Finally, the prices of the assets of strong companies are a function of historical, current and private information.

In this context, the use of accounting methods that ensure the reliability of information may result in improved quality of information, ensuring that investors have relevant decision-making information available (Barth, Landsman & Land, 2008).

There is, however, according to the theory of Agency, the imminent possibility of agency conflicts because managers have greater access to information compared to shareholders and can use information asymmetry to benefit their own specific personal goals, or use information differently from the way shareholders expect (Jensen & Meckling, 1976).

This is a real possibility because, according to Jensen and Meckling (1994), agents have the following characteristics: i) evaluators; ii) maximizers; iii) resourceful, and iv) have unlimited wants. Therefore, the authors state that when agents act as maximizers, they assess the environment and give priority to their own wellbeing, meeting their always renewable desires; using their resourcefulness to overcome existing restrictions and achieve their objectives. Given these conditions, agents' accounting choices may be biased and negatively influence the decisions of shareholders and those using accounting reports (Beaver, 1998).

To mitigate agency conflicts, corporate governance practices are adopted. Governance practices consist of a set of mechanisms that contribute to ensuring the reliability of financial reports and internal control practices (Cohen, Krishnamoorthy, & Wright, 2004). Among these mechanisms, external audit stands out, the objective of which is to assess the reliability of financial statements, giving more credibility to financial reports and serving as a representative entity of the shareholders' interests (Marques & Souza, 2017).

According to Kothari, Ramanna and Skinner (2010), shareholders ground their decisions on a set of information, including reliable financial statements certified by auditors. Thus, auditors have specific tools to indicate whether certain management practices are conservative, neutral or fraudulent, not complying with or not following current accounting practices (Dechow & Skinner, 2000).

In this context, the manipulation of accounting information results in decreased investor protection that is normatively ensured by regulatory bodies. This occurs because protecting shareholders limits managers' freedom and/or incentives to manipulate accounting information, thus reducing the possibility of masking a firm's actual performance (Leuz, Nanda & Wysocki, 2003).

Vladu, Amat, and Cuzdriorean (2017) consider that increased accounting manipulation on the part of managers mainly accrues from three factors: abnormal increase in receivables; (2) increased indebtedness, and (3) decreased sales. Additionally, from an ethical point of view, the authors add that managers may justify the use of such accounting methods as if they were complying with "good practices", considering that principle-based standards do not determine how agents should measure and recognize accounting acts and facts, but rather, they are supposed to make the most appropriate judgment and chose the methods that meet the qualitative characteristics of accounting information.

2.2 Earnings Management Hypotheses

Despite the numerous definitions with different scopes, generally speaking, earnings management consists of managers making accounting and operational choices intending to meet specific outcomes (intended by the firms or of their interests). These choices may harm decision-making on the part of stakeholders due to a misperception of a company's economic situation, or even, influence contractual results that depend on accounting numbers (Alzoubi, 2016).

This might happen because, according to Watts and Zimmerman (1986), managers tend to be opportunists. This idiosyncratic characteristic to which individuals are prone indicates the primacy of searching for individual advantages (Williamson, 1979). Therefore, managers faced with situations in which they have the freedom to decide may opt for the accounting method that is most convenient for them, maximizing their wellbeing at the expense of all the remaining stakeholders, possibly harming a company's sustainability and the shareholders they represent. This process is partly explained by information asymmetry because an agent detains more information regarding a company than shareholders. Thus, accounting choices reflect the degree of measurement of these opportunities (Jensen & Meckling, 1976; Queiroz & Almeida, 2017). According to Watts and Zimmerman (1986), the bases for adopting earnings management result from three hypotheses: i) Incentive Plan hypothesis (IPH); ii) Debt Level hypothesis (DLH), and iii) Political Cost hypothesis (PCH).

IPH is a managers' practice of making accounting and/or operational choices that result in the manipulation of accounting numbers and/or level of operations. Information can be presented in a way in which losses are reduced (to increase current profit), increase losses (when a profit target is reached), or even smooth results, decreasing the volatility of financial indexes (Scott, 2011). Therefore, if a manager's remuneration is tied to a company's results, managers may seek to act opportunistically and anticipate future profits to the current period, manipulating accounting numbers (Gaver, Gaver, & Austin, 1995). Lewellen and Rosenfeld (1987) concluded that managers supposed to remain in their positions for a limited time tend to limit future spending to obtain more expressive results in the short term, and consequently obtain higher remuneration at present. Kauhanen and Napari (2012) show that executives at higher hierarchical levels have a greater incentive to promote remuneration according to the results presented.

DLH consists of using accounting and/or operational choices to mask the proportionality of debt in relation to equity, to cover accounting numbers so that there is no breach of contractual clauses (known as debt covenants) of loans. According to HassabElnaby (2006), these clauses reduce banks' agency costs, restricting a company's ability to adopt measures that reduce the present value of outstanding debt. Thus, this hypothesis presents the possibility of managers manipulating accounting data so that contracts are not violated, not incurring contractual breaches (Watts & Zimmerman, 1986). In this context, Dichev and Skinner (2002) found evidence that led to the conclusion that managers use accounting prerogatives to avoid contractual violations.

Finally, PCH is based on the premise that transactions are a political competition for the transfer of wealth. Generally speaking, this hypothesis predicts that companies subject to governmental investigation or greater stakeholder monitoring may have incentives to manage their results to reduce the likelihood of imposed wealth transfers (Makar & Alam, 1998). Hence, considering that certain firms are more closely observed in this process of wealth transfer, Watts and Zimmerman (1986) highlight that managers use accounting tools to reduce profits and/or expected profits. Setyorini and Ishak (2012) note that in the possibility of shareholders perceiving higher growth in relation to previous periods, there would be a greater expectation about dividends, thus affecting the political costs of the transaction of resources. An example is provided by Makar and Alam (1998), which reports the possibility of reducing a firm's results using accruals to decrease political costs associated with governmental investigations.

Arruñada (2010) observes that the agents (managers) themselves perform financial statements. Hence, to ensure the reliability of the information contained in these statements, an external audit is a mechanism able to mitigate the risk of earnings management, whether through accruals or actual operations.

Consequently, given the imminence of opportunistic behavior on the part of agents and discretion of managers to apply rules, regulation concerning the presentation of financial statements has demanded efforts to improve the quality and transparency of disclosed accounting information.

2.3 Critical Audit Matters: Motivations and Implications

According to Ishikawa and Bezerra Júnior (2002), the main role of auditing is to examine whether the financial statements of an audited firm comply with current accounting standards. That said, opinions regarding the reliability of these demonstrations are presented in the audit report. The objective is to make explicit the bases used in the analysis, as well as the matters that auditors deem relevant to highlight and present a more accurate overview of a firm's actual equity and financial situation.

In this sense, auditing has the role of mitigating agency conflicts by decreasing information asymmetry as it allows stakeholders to verify the veracity of a firm's accounting reports (Becker, Defond, Jiambalvo, & Subramanyam, 1998).

Even though the literature shows that there is not an optimal contract to eliminate agency conflict, from which we assume that regulation, corporate governance, and audit are not able to suppress it, auditing can, however, decrease the probability of occurrence of errors and frauds (Di Pietra, McLeay, & Ronen, 2014).

Therefore, there has been an effort to improve the quality of auditors' work. The Brazilian Federal Accounting Council (CFC) adhered to the International Financial Reporting Standards (IFRS), which resulted in the conversion of Brazilian auditing standards to the International Standards Auditing (ISA).

In this context, in 2010, the NBC TA 200, approved by the CFC, came into force. This document addresses the general objectives of auditors according to the Brazilian and international accounting standards, the objective of which is to improve the users' level of confidence in accounting reports. This is made possible through opinions issued by auditors regarding a firm's financial statements, attesting whether these follow the applicable financial report framework.

More recently, improved regulation was sought through the *Norma Brasileira de Contabilidade – Técnica de Auditoria* [Brazilian Accounting Standards – Audit Technics] NBC TA 701, which follows international accounting standards. This standard is a result of the International Standards Auditing 700 (ISA), that guides the disclosure of auditors' opinions regarding what were the most relevant matters identified during the verification of financial statements and the specific paragraph where such opinions are supposed to be expressed (Matos, Santos, Rodrigues, & Leite, 2018).

Therefore, since 2016, the NBC TA 701 requires auditors to express their opinions regarding Critical Audit Matters (CAM) or Key Audit Matters, that is, regarding the topics that demanded most attention during auditing, and address these matters in their reports, justifying why these were included in the report and explaining how these items were treated in the financial statements (Marques & Souza, 2017).

This norm is intended to make the audit report more transparent to stakeholders and even auditors, communicating them of potential risk factors. Therefore, according to Bédard, Gonthier-Besacier and Schatt (2014), auditors' opinions contributes with discussions regarding information reported in financial statements and improves transparency and accountability on the part of managers and audited firms. Auditors, however, have not found evidence in the French financial market that auditors' reports improve the quality of auditing information, as measured by earnings management.

Additionally, Brasel, Doxey, Grenier, and Reffett (2016) state that these notes on critical and important audit points can alert investors and remaining stakeholders about distortions in financial statements. Seeking to investigate the accountability of auditors in cases of financial frauds judged by a jury, the authors found evidence of decreased likelihood of verdicts due to the negligence of auditors when the problems being judged were reported by professionals following international standards. It shows that an auditor's report contributes to greater perception, on the part of stakeholders, of the predictability of certain types of distortions. As a consequence, the act of reporting CAM assigns both managers and auditors the responsibility of greater transparency, allowing users to decide, considering information provided, with greater assertiveness and with reasonable assurance as to the veracity of reports' content (Brasel, Doxey, Grenier, & Reffett, 2016; Marques & Souza, 2017; Boolaky & Omoteso, 2016).

In any case, studies intended to verify how auditing professionals have observed such standards, report an agreement on the part of these participants regarding the importance of mentioning the most critical matters. Therefore, it is even possible to reinforce the differences between the responsibilities of managers and auditors, in addition to explaining how such matters were treated during the auditing work (Dantas, Barreto, & Carvalho, 2017).

3. Methodological Procedures

This descriptive, documental and quantitative study adopted content analysis to categorize CAM reported by auditors, according to the categories proposed by Marques and Souza (2017). This categorization was necessary to quantify and assess CAM reported in auditing using the techniques proposed for this study, that is, descriptive and inferential analysis with regression analysis and tests of differences between means.

The study sample was composed of 96 companies that composed the IBrX100 B³. This intentional and non-probabilistic sample was chosen to gather the firms with the highest average performance of prices of the most tradable and representative assets in the Brazilian stock market.

Data were collected from the CVM's website on the COMDINHEIRO database and refers to 2016 and 2017. These two years were chosen because these were the first two years in which CAM was implemented, under NBC TA 701 from 2016.

3.1 Earnings Management Measures

According to Sincerre, Sampaio, Famá, and Santos (2016), the literature presents various tools to measure the levels of earnings management and most of these models are based on accruals, which consist of the difference between net profit and net operating cash flow. In this context, accruals may affect a company's profit, as these are based on accounting assumptions and estimates (Paulo, 2007).

Earnings management proxies adopted in this study were performed using the models presented in Table 1. For the proxy of earnings management by accruals, the Jones with ROA model, adapted by Kothari, Leone & Wasley (2005), was used. The authors argue that discretionary models can detect financial manipulations according to Model 1. The difference between this model and the Modified Jones, proposed by Dechow, Sloan and Swenney (1995), consists in using a new control to estimating non-discretionary accruals, taking into account the variables net revenue (NR), accounts receivable (AR), and return on assets (ROA). ROA was used to estimate accruals because it was the most consistent after the analysis of residuals. The model proposed by Roychowdhury (2006) was used to measure earnings management of operational activities, while this method has been used by other authors in the scientific literature, such as Zang (2012), Badertscher (2011), Cohen and Zarowin (2010) and Rodrigues, Paulo and Melo (2017).

Table 1

Models used to estimate earnings management proxies

Type/Names of proxies of earnings management (EM)	Equation
By accruals	
Modified Jones with ROA (1)	$AD_i = AT_i \Delta ND_i$ $AT_i = \alpha_1 \left(\frac{1}{At_{it-1}} \right) + \alpha_2 \left(\frac{\Delta RL_i - \Delta RC_i}{At_{it-1}} \right) + \alpha_3 \left(\frac{Imob_i}{At_{it-1}} \right) + \alpha_4 ROA_i + \varepsilon_t$
By Activities	
Discretionary DVGA (2)	$\frac{DVGA_i}{At_{it-1}} = \beta_0 + \beta_1 \left(\frac{1}{At_{it-1}} \right) + \beta_2 \left(\frac{RL_i}{At_{it-1}} \right) + \varepsilon_t$ $DVGADiscr_i = DVGA_i - \widehat{DVGA}_i$
Discretionary FCO(3)	$\frac{FCO_i}{At_{it-1}} = \beta_0 + \beta_1 \left(\frac{1}{At_{it-1}} \right) + \beta_2 \left(\frac{RL_i}{At_{it-1}} \right) + \beta_3 \left(\frac{\Delta RL_i}{At_{it-1}} \right) + \varepsilon_t$ $FCODiscr_i = FCO_i - \widehat{FCO}_i$
Discretionary Revenue (4)	$\frac{\Delta CR_i}{At_{it-1}} = \beta_0 + \beta_1 \left(\frac{\Delta RL_i}{At_{it-1}} \right) + \varepsilon_t$ $CRDiscr_i = CR_i - \widehat{CR}_i$

Note: AT_i : Total Accruals measured by the difference between LL_i ; Net Profit of the Year and FCO_i : Operating Cash Flow. Additionally, total accruals were measured by the difference between CGL_i : Net Working Capital and $Deprec_i$: Depreciation, Amortization, and Depletion, in which $CGL = [(Current Assets - Available) - (Current Liabilities - Loans and Financing - Taxes Payable)]$; At_{it-1} : Total Assets of previous year; RL_i : Net Revenue; $Imob_i$: Fixed Assets; AND_i : Non-Discretionary Accruals; AD_i : Discretionary Accruals; $DVGA_i$: Selling, general and administrative expenses; CR_i : Balance of accounts receivable.

To answer the question proposed here, this study adopted cross-section regressions year/sector to estimate earnings management proxies and panel data analysis to analyze the effect of CAM on earnings management, based on model 5.

The CAM variable was used to verify the association between the CAM regarding an audited firm and earnings management proxies. Considering that CAM refers to critical matters and potential risks to stakeholders (including auditors), companies with a larger number of CAM are expected to have higher levels of earnings management. A series of tests and modeling were used to achieve the final model, however, the one that proved to be the most adequate is presented in Model 5 with the logarithm of total CAM reported in the year.

The variables Executive Remuneration (Rem), Level of Indebtedness (NivEnd) and Company Size (Tam) are necessary controls associated with the earnings management hypothesis discussed in Section 2. The variable Executive Remuneration is intended to verify a company's performance. The reason is that having higher remunerations, managers seek firms' greater valorization (Sonza & Kloeckner, 2014), because when the hypothesis of executive remuneration is linked to a company's earnings, agents will be more prone to act opportunistically and anticipate profits to obtain greater remuneration, and possibly manipulate accounting numbers (Gaver *et al.*, 1995). The variable Level of Indebtedness (NivEnd) is determined by the proportion of a company's indebtedness, division of total liabilities (obligations) by the total assets (rights). In this sense, an attempt is made to substantiate the Political Crisis hypothesis by linking the level of debt with earnings management practices, indicating the possibility that managers use accounting prerogatives to smooth out expected profits and/or profits. The variable Asset is intended to measure the size of a company and its relationship with earnings management. Firms with greater total assets have lower indexes of earnings management, as they have robust internal controls and better-structured corporate governance mechanisms (Kim, Liu & Rhee, 2003).

Additionally, four other control variables were used: (i) Ownership Structure, (ii) Type of Auditor (Big4 or not Big4), (iii) Economic Sector, and (iv) Level of Governance. The variable Ownership Structure (EstrProp) is based on the proportion of independent members in the Administrative Council. This variable assumes that the smaller the number of company advisers, the greater the propensity of managers to use discretion.

The variable dummy Big Four (Big4) controls for the presence, or absence, of large audit firms, currently known as the Big Four, namely: Deloitte Touche Tohmatsu, Ernst & Young, KPMG and PriceWaterhouseCoopers. This is a relevant variable in terms of earnings management because, according to Almeida and Almeida (2009), it shows that clients from the Big Four present lower levels of earnings management.

The variable dummy Economic Sector (SegEcon) was included to verify whether there is any difference between the sectors in which the firms in the sample are classified in terms of auditors' opinions. Companies are classified as follows: Industrial Goods, Cyclical Consumer Goods, Financial and Others, Basic Materials, Public Utility, and Others. Additionally, the use of this variable configures the relationship between audit matters and the activities performed by companies.

The variable dummy Level of Governance (NivGov) was based on the classification according to criteria of B³, being divided into Traditional, Level 1, Level 2 and New Market. This variable is justified according to the study by Marques and Souza (2017), in which authors argue that the greater a company's level of corporate governance, the lower its propensity to issue a CAM of the category.

The assessment of the effect of CAM on earnings management proxies (models 1 to 4) was performed based on Model 5. The explanatory variable of interest (CAM) was tested in several specifications (dummy, proportion, etc.), however, only with the logarithm of total CAM, the model as a whole presented statistical significance; non-significant results are not presented.

Model 5

$$\begin{aligned}
 EM_{it} = & \alpha + \beta_1 \ln(PAA's_{it}) + \beta_2(Rem_{it}) + \beta_3(NivEnd_{it}) + \beta_4(Tam_{it}) \\
 & + \beta_5(NivEnd_{it}) + \beta_6(Tam_{it}) + \beta_7(EstrProp_{it}) + \sum_{i=1}^4 D_{ij}Big4 \\
 & + \sum_{i=1}^9 D_{ij}SegEcon + \sum_{i=1}^4 D_{ij}NivGov + \varepsilon_{it}
 \end{aligned}$$

Where:

EM_{it} : Earnings Management Proxy by Accruals and Operational reported in Table 1: (i) DACC – Discretionary Accruals, (ii) DSGA – Discretionary Expenses, (iii) DPROD – Discretionary Production, (iv) DFCO – Discretionary Cash Flows, and (v) DREC – Discretionary Revenue. CAM_i : Natural logarithm of Critical Audit Matters reported by companies. Rem_i : Natural logarithm of executive remuneration reported in the reference form. At_i : Natural logarithm of companies' total assets. $NivEnd_i$: Natural logarithm of total liabilities divided by total assets. $EstrProp_i$: Natural logarithm of the proportion of independent board members. $Big4$: dummy variable that assumes value 1 when the company is audited by a *Big4* firm and 0 for the remaining. $SegEcon$: Dummy variable assumes value 1 when the company takes part in the i^{th} economic segment and 0 for the remaining. $NivGov$: dummy variable assumes value 1 when the company takes part in the i^{th} level differentiates the level of governance and 0 for the remaining.

Note that four models were applied in this study to answer the question of whether there is a relationship between critical audit matters and the earnings management hypothesis. For that, the models considered: i) accruals; ii) operating cash flow; iii) discretionary expenses, and iv) discretionary revenues.

4. Results and Analyses

4.1. Characteristics of CAM

Initially, we analyzed the distribution of CAM issued in 2016 and 2017, according to Figure 1. Audit reports of the companies included in the sample reported 349 CAM in 2016 and 330 in 2017.

Additionally, there is a concentration of 2 to 4 matters per company on average. Marques and Souza (2017) note that the number of CAM analyzed in isolation may not represent a problem but shows that, even if they do not initially represent a problem, accounting information endorsed by auditors may serve as parameters to guide decision-making.

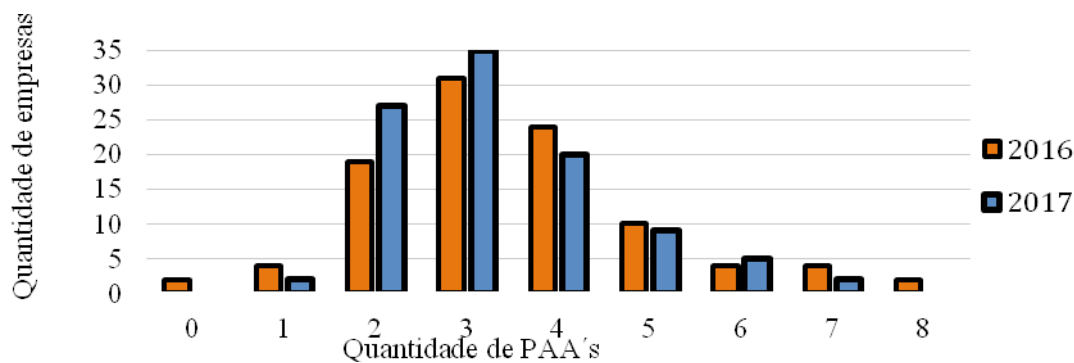


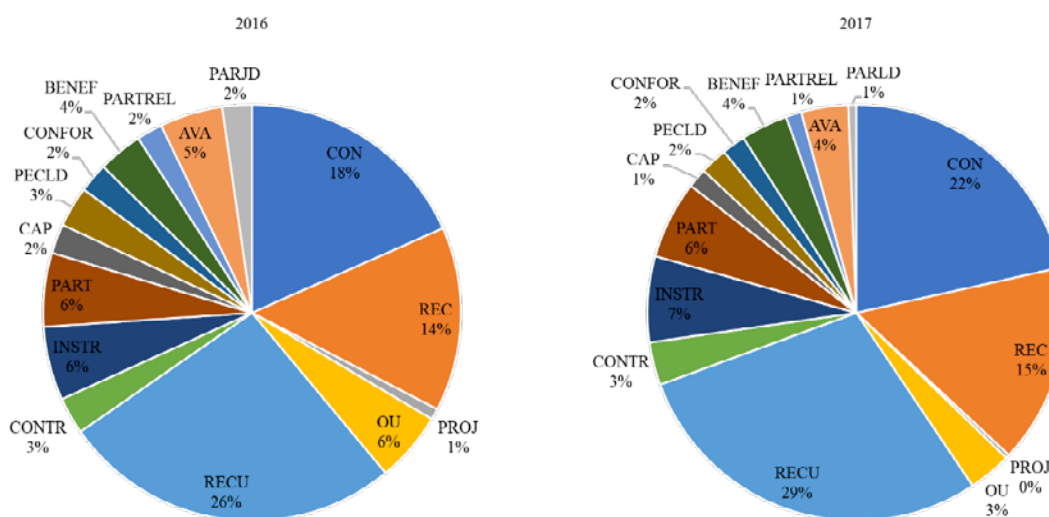
Figure 1. Distribution of frequency according to the number of CAM issued by a company

Source: study's data

Translation: Number of companies; Number of CAM

Subsequently, the types of CAM (Figure 2) were analyzed. Note that only three types of auditors' considerations (assets recovery, contingencies, and revenue recognition) include 58% of the observations reported in the paragraphs addressing CAM in 2016, while these same matters are present in 66% of the auditors' opinions issued in 2017. These data corroborate results reported by Colares, Alves, and Pinheiro (2018), as they analyzed the companies listed in the B3 in 2016, concluding that the matters "revenue recognition," "provisions" and "impairment of assets" were the most recurrent topics reported by auditors.

Note that the categories of CAM previously mentioned include estimates and/or issues that may be associated with earnings management practices, whether by an entity's accruals or operational activities. For this reason, Marques and Souza (2017) consider that this observation is an element to pay attention and risk for auditing when verifying the reliability of accounting information, considering that the discretion present in the regulation of accounting standards gives freedom for agents to chose, which may disfavor quality of information.

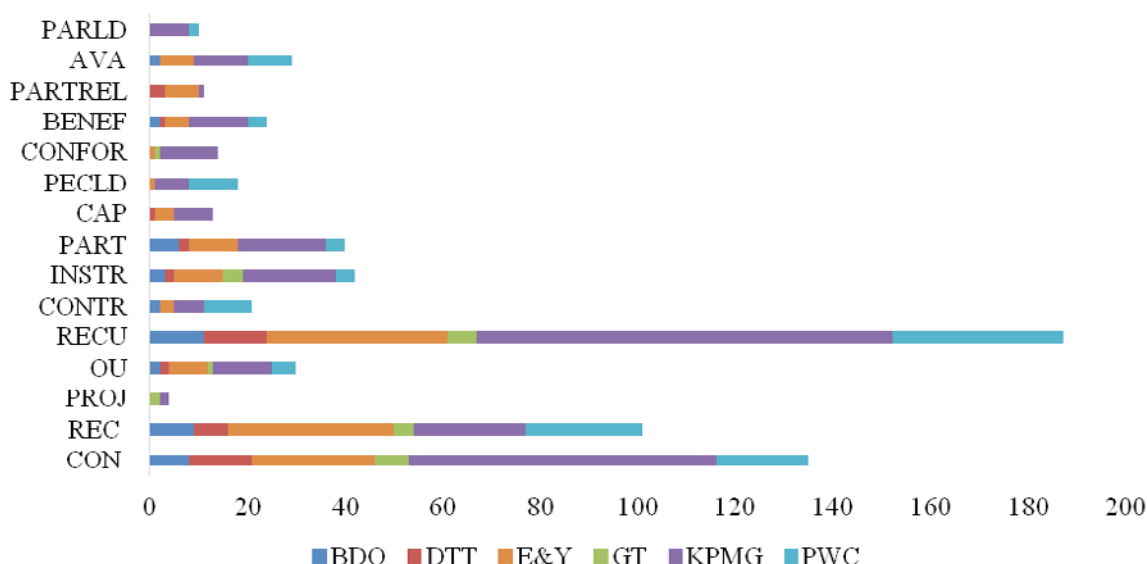


Note: AVA – Biological assets/Fair value/Premium; BENEF – Post-employment benefits; CAP – Capitalization of expenses in assets; CON - Contingencies; CONFOR – Risks related to compliance with laws and regulations; CONTR – Internal controls and information technology; INSTR – Financial instruments; PARLD – Administrative proceedings initiated/judicial recovery/ terminations; PART – Shareholding; PARTREL – Related parts; PECLD – Allowance for loan losses PROJ – Forecast of future results for realization of assets; REC – Recognition of revenue; RECU – Assets recovery; and OU – Others.

Figure 2. Distribution of types of CAM reported in 2016 and 2017

Source: study's data.

Concerning the distribution of the frequency of CAM per audit firms (Figure 3), companies audited by the Big4 reported a higher number of CAM. This result may be explained by the fact that the Big4 perform a larger number of auditing compared to other companies providing this service, representing 92.5% of the total of reports. Therefore, the larger the number of companies audited, the greater the likelihood of reporting CAM.



Note: AVA – Biological assets/ Fair value/Premium; BENEF – Post-employment benefits; CAP – Capitalization of expenses in assets; CON - Contingencies; CONFOR – Risks related to compliance with laws and regulations; CONTR – Internal controls and information technology; INSTR – Financial instruments; PARLD – Administrative proceedings initiated/judicial recovery/ terminations; PART – Shareholding; PARTREL – Related parts; PECLD – Allowance for loan losses PROJ – Forecast of future results for realization of assets; REC – Recognition of revenue; RECU – Assets recovery; and OU – Others. Audit firms belonging to the Big Four: DTT – *Deloitte Brasil Auditores Independentes*; E&Y – *Ernst & Young Auditores Independentes*; KPMG – *KPMG Auditores Independentes*; PWC – *PricewaterhouseCoopers Auditores Independentes*. Non-Big Four audit firms: BDO – *BDO RCS Auditores Independentes*; and GT – *Grant Thornton Auditores Independentes*.

Figure 3. Distribution of types of CAM per audit firms in 2016 and 2017

Source: study's data

Additionally, in agreement with the study by Colares *et al.* (2018), among the Big4 audit firms, KPMG was the one that reported the highest number of CAM, issuing 3.5 paragraphs per audited company on average. Nonetheless, analysis of audit companies that do not belong to the Big4 shows that Grant Thornton and BDO issued on average, 4.16 and 3.75 CAM respectively per report, that is, above that reported by KPMG.

About the analysis of CAM reported by company/level of corporate governance (Figure 4) in 2016 and 2017, companies classified at the Traditional level present 3.38 per company on average while companies at Level 1 (among the four categories of governance level) presented a higher average number of CAM, with 3.93 CAM per company. Level 2 firms, in turn, presented an average of 3.46 CAM per firm. Finally, firms classified as New Market issued 3.21 CAM per firm on average.

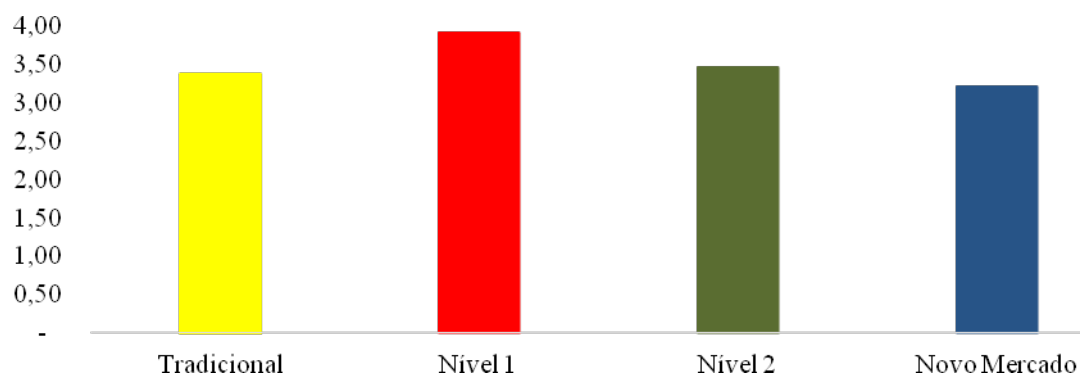


Figure 4. Average number of CAM reported by Company/Level of Governance

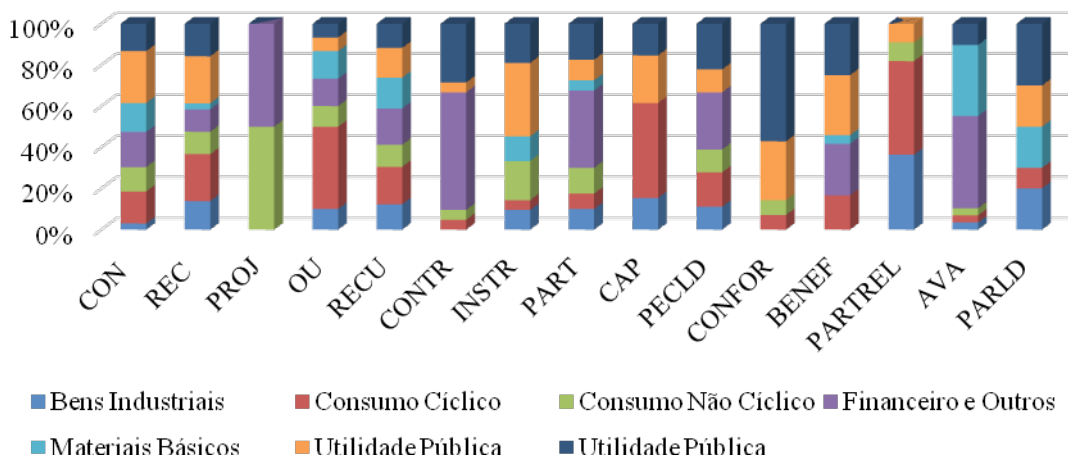
Source: Study's data.

Translation: Average, Traditional; Average, Level 1; Average, Level 2; Average, New Market

Therefore, companies with Level 1 and Level 2 of Corporate Governance issued a higher average of CAM. This is in agreement with Scott (2011), who states that higher levels of corporate governance mitigate agency problems, and consequently, information asymmetry.

4.2 Analysis of CAM and economic sectors

An analysis of the economic sectors in relation to the number of CAM reported (Figure 5) shows that, in general, the sectors that issued the highest number of auditing paragraphs were Public Utility and Financial while the ones that issued the smallest numbers were Non-Cyclical Consumer Goods and Industrial Goods. Additionally, CAM reported by companies in all economic sectors were: Contingencies (CONT), Revenue recognition (REC), Asset Recovery (RECU), Shareholding (PART) and other matters (OU). Companies classified as Industrial Goods, however, did not issue CAM on the forecast of future results, internal controls/information technology, risks related to compliance with rules and regulations, or post-employment benefits. Cyclical Consumer companies, in turn, just not issued CAM regarding the forecast of future results. Non-cyclical consumer companies, on the other hand, did not take a position on capitalization of expenses in assets, post-employment benefits, and administrative processes.



Note: AVA - Biological assets/ Fair value/Premium; BENEF - Post-employment benefits; CAP - Capitalization of expenses in assets; CON - Contingencies; CONFOR - Risks related to compliance with laws and regulations; CONTR - Internal controls and information technology; INSTR - Financial instruments; PARLD - Administrative proceedings initiated/judicial recovery/ terminations; PART - Shareholding; PARTREL - Related parts; PECLD - Allowance for loan losses PROJ - Forecast of future results for realization of assets; REC - Recognition of revenue; RECU - Assets recovery; and OU - Others.

Figure 5. Frequency of CAM and economic segment

Source: Study's data.

Translation: Industrial Goods; Basic Material; Cyclical consumer goods; Public Utility; Non-cyclical consumer goods; Public Utility; Financial and Others

Specifically, companies in the financial sector presented 10 out of the 15 types of CAM, with greater emphasis on Internal Controls and Information Technology (CONTR), Forecast of Future Results for Realization of assets (PROJ), Biological assets/Fair value/Premium (AVA), Shareholding (PART) and Allowance for loan losses (PECLD). Additionally, companies in the Basic Material sector were the ones that reported the highest number of CAM, however, did not report on forecast of future results (PROJ), internal controls (CONTR), capitalization of expenses in assets (CAP), allowance for loan losses (PECLD), Compliance (CONFOR) and related parts (PARTREL). Finally, entities classified as Public Utility did not issue CAM on future forecasts and assessments at fair value. All these considerations are aligned with Marques and Souza (2017), which reinforces the attention demanded by auditors considering that these are critical matters directly linked to the judgment of managers regarding accounting choices.

4.3 Analysis of association between CAM and earnings management by accruals and operational

To verify the four models of earnings management previously presented, earnings management proxies were estimated using panel data regression, with random effects on models (1), (2) and (4), while using fixed effects on the model (3). There is, according to the results of Model (1) in Table 2, a positive and statistically significant relationship ($p < 0.01$) between CAM and discretionary accruals (according to the model by Kothari, Ramanna, & Skinner, 2010), showing that companies with a higher number of CAM present higher levels of discretionary accruals. This is coherent with the understanding of disclose of CAM, considering that CAM signal the risk of auditors associated with financial statements, in addition to the fact that most of CAM reported by the companies in the sample refer to events related to estimates and/or revenues, both of which are addressed as subject to earnings management (Marques & Souza, 2017).

Table 2

Statistics of earnings management models

	S.E.	Accruals	FCODiscr	DespDiscr	RecDiscr
		(1)	(2)	(3)	(4)
Intercept	?	0.187* (0.0974)	-0.409*** (0.112)	0.0732 (0.100)	0.0779 (0.0760)
LnCAM	+	0.0667*** (0.0118)	-0.0126 (0.0235)	-0.0340** (0.0149)	0.0534*** (0.00978)
LnRem	+/-	-0.00176 (0.00347)	0.000758 (0.0104)	0.00761* (0.00401)	0.00295 (0.00389)
NivEnd	+	0.0193 (0.0299)	-0.145*** (0.0281)	0.0746*** (0.00965)	0.0639** (0.0290)
Tam	+	-0.0107*** (0.00351)	0.0172* (0.00885)	-0.00472 (0.00312)	-0.0106*** (0.00267)
ROA	-	0.306*** (0.0910)	-0.139*** (0.0343)	-0.0125 (0.0476)	0.185*** (0.0574)
Ri	-	-0.0159 (0.0156)	-0.0299** (0.0127)	0.0351*** (0.00973)	0.0226 (0.0159)
EstrProp	+	-0.000377*** (0.000101)	2.04e-06 (0.000169)	-0.000129 (0.000271)	-0.000113 (0.000126)
Model		EA	EF	EA	EA
Wald χ^2		367.35***	79.10***	819.53***	73.19***
Notes		130	130	130	130
R ² General		0.6027	0.191	0.2973	0.3982
Seg.Econ.		9	9	9	9

Note: robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1. EstrProp – Percentage of the largest shareholder; LnRem - Natural logarithm of executive remuneration in the period. NivEnd - Total liabilities divided by total assets; CAM – Logarithm of CAM reported; Ri – Market return calculated by the logarithm of the division between companies' current and previous market value; ROA – return on assets calculated from the net income divided by the average of assets; and Tam – Natural logarithm of companies' total asset. The variables Big4, NivGov and SegEcon were omitted, because they did not present statistical significance. The following tests were performed: Chow (Pooledvs Fixed Effects), BreushPagan (Pooledvs Random Effects) and Hausman (Fixed Effects vs. Random Effects), in this order. Mod.1 – Chow [Prob> F = 0.9510]; Breush Pagan [Prob> χ^2 = 1.0000]; Hausman [Prob> χ^2 = 0.9659]. Mod.2 –Chow [Prob> F = 0.0166]; Breush Pagan [Prob> χ^2 = 1.0000]; Hausman [Prob> χ^2 = 0.0003]. Mod.3 –Chow [Prob> F = 0.0290]; Breush Pagan [Prob> χ^2 = 1.0000]; Hausman [Prob> χ^2 = 0.0509]. Mod.4 –Chow [Prob> F = 0.1219]; Breush Pagan [Prob> χ^2 = 1.0000]; Hausman [Prob> χ^2 = 0.9830].

Additionally, when analyzing Model 1, presented in the first column of Table 2, a negative and statistically significant relationship (p<0.01) was found between size (Tam) and discretionary accruals, indicating that firms with a greater total asset tend to present lower levels of earnings management by accruals, suggesting their accounting information is of greater quality (Badolato, Donelson, & Ege, 2014). Concerning Return on Assets, firms with greater ROA are more likely to present lower earnings management by accruals. Additionally, a negative effect was found between the variable Ownership Structure and management by accruals, which, according to Alzoubi (2016), is explained by the fact that companies with greater ownership concentration tend to be more closely monitored by minority shareholders and regulating bodies. On the other hand, larger companies also present higher levels of discretion on FCO.

Analysis of Model 2, on the second column of Table 2, shows that the variable CAM did not present statistical significance, though suggests it is negatively related to earnings management by operations through FCO, indicating that audit reports may minimize opportunistic behavior on the part of managers in manipulating results by the means of operating cash flows. The model, however, shows that more indebted companies, with higher market returns (R_i) and ROA, present lower levels of FCO discretion. This result converges with theoretical expectation, because variability in FCO affects risk perception on the part of investors, generating a loss of value for companies. Therefore, managers are encouraged not to manage earnings through FCO (Kothari, Leone, & Wasley, 2005).

The results of Model 3, Table 2, which analyzes discretionary expenses, show a negative and statistically significant relationship ($p < 0.05$) with CAM. This relationship may be explained by the fact that auditors are guided by accounting conservatism to prioritize the recognition of accounting expenses before expenses in the same category (Paulo, Antunes, & Formigoni, 2008). Additionally, the variable executive remuneration was statistically significant and positively related ($p < 0.1$) with discretionary expenses, indicating that the greater the remuneration package, the higher the discretion of expenses, showing a certain fragility of remuneration packages in terms of mitigating agency problems and reliability of financial information (Ali & Kumar, 1993). About the relationship between the level of indebtedness and discretionary expenses, a positive and statistically significant effect ($p < 0.01$) indicates that the higher the level of a company's indebtedness, the higher its discretionary expenses. In accounting terms, this relationship may be explained by the granting of discounts and other strategies that are geared towards a company's economic-financial recovery (Cupertino, Martinez, & Costa Jr, 2016).

Analysis of Model 4 shows a statistically significant and positive relationship between CAM and Discretionary Revenue (RecDiscr), indicating that the more frequent the issuing of auditing paragraphs, the greater discretionary revenues are, showing evidence of operational earnings management. This result is coherent if we consider the main types of CAM (Figure 2), with areas in which there is potential for the manipulation of financial statements. Specifically, the results reinforce the need to consistently monitor revenue accounts, to the extent that companies that report a higher number of CAM tend to present greater discretion of revenues, a proxy of operational earnings management. The variable level of indebtedness presented a positive and statistically significant relationship ($p < 0.05$), showing that companies with higher indebtedness tend to adopt measures that increase accounting revenues, thus, decreasing assessment of the risk of breaking contractual debt clauses, as verified by Mosebach and Simko (2010). Similar to what is found in Model 1, the negative relationship with Size indicates that larger companies present lower levels of earnings management by discretionary revenue. Finally, the ROA variable presented a statistically significant relationship ($p < 0.01$), indicating that companies with a higher return on assets tend to manage earnings by the means of discretionary revenues, corroborating with the assumption that overestimated revenues tend to result in greater profitability and, consequently impact the index.

5. Final Considerations

This study's objective was to investigate the relevance of disclosing auditors' opinions on a specific paragraph according to the NBA TA 701 and verify the extent to which such opinions influence the use of earnings management mechanisms. This assessment is important because this standard guides auditors to emphasize critical audit matters found during the process of reviewing accounting reports of publicly held companies. This descriptive, documental and quantitative study presents an analysis of 2016 and 2017, the two first years in which NBA TA 701 became effective, of the 96 companies that composed the theoretical portfolio of IBRX100 of B³. The analysis included descriptive statistics and cross-section regression panel data for the econometric model, seeking to analyze the effect of these specific paragraphs on earnings management proxies.

Regarding the number of CAM that was issued by auditors, the results reveal an average of 3.49 CAM per company in 2016 and 3.30 CAM on average per company in 2017, showing a small decrease in the number of specificities appointed by auditors. The CAM most frequently reported were: (i) Asset recovery (RECU), (ii) Contingencies (CON), and (iii) Revenue recognition (REC), representing approximately 62% of CAM issued in the period under study. Note that companies that do not belong to the Big4 reported a higher number of CAM compared to audit firms that belong to the Big4. Additionally, companies from the sectors of Public Utility and Financial were the ones that issued the highest numbers of CAM. Companies in the New Market present a small number of CAM. These results are substantially in line with those reported by Marques & Souza (2017).

Concerning the relationship between the number of CAM and earnings management proxies, three out of the four models indicate a statistically significant relationship between variables. The models of discretionary accruals and discretionary revenues show a positive and statistically significant relationship at 1%, showing that companies that reported a higher number of CAM tend to present a higher level of earnings management. In the discretionary expenses model, on the other hand, there was a negative and significant relationship at 5%, indicating that firms with a higher number of CAM tend to present lower levels of discretionary expenses. Regarding the positive association between the number of CAM, accruals and discretionary revenues, the results are adjusted, considering that the matters most frequently reported by auditors were those that could indicate some type of manipulation of accounting information, such as "Assets Recovery" (RECU), "Contingencies" (CONT) and "Revenue Recognition" (REC). On the other hand, a greater reporting of CAM, which exposes potential risks of distortions of accounting information suggests that these mitigate the discretion on the part of managers.

Additionally, considering the Critical Audit Matters (CAM) issued by the Public Company Accounting Oversight Board (PCAOB), Gimbar et al. (2016) state that critical audit matters could be interpreted as exempting auditors from liability for the most subjective parts of financial statements, which are beyond reasonable control. This discussion corroborates this study's findings, as explained, in which the number of CAM was positively and significantly related to Accruals and Discretionary Revenue, that is, items which, due to discretion, may be recognized in financial statements according to judgment of agents (an entity's manager), influencing results and increasing the likelihood to be characterized as a critical and/or subjective matter, according to the skepticism and professional assessment of auditors, which in turn, should be reported to the audit committee.

The results should consider the conclusions of Chen, Hsu, Huang, and Yang (2013) and Church, Davis and McCracken (2008), in which they argue that the more information provided in Financial Statements, the less relevant they become, considering that stakeholders do not interpret information elements in their entirety. In this sample, however, an analysis of CAM shows that they can contribute to stakeholders, given the associations found, reinforcing the relevance of disclosing this information. Segal (2017) highlights that, as the most relevant procedures related to the companies' internal control are disclosed, auditors may indirectly show which are the most flawed procedures, generating distrust on the part of potential investors.

As pointed by Coram, Mock, Turner & Gray (2011), there is a concern on the part of regulatory bodies in improving the quality of the information provided in Accounting Reports by emphasizing auditors' opinions expressed in specific paragraphs, keeping a critical assessment of the practical results of expressing an opinion on specific paragraphs. In this sense, this study suggests that auditors, regulators, and remaining controlling bodies should reinforce the disclosure of accounting information, as this phenomenon subverts the purpose of accounting, jeopardizing the reliability of financial information.

This study was intended to present empirical evidence regarding the association between CAM and earnings management proxies. This study's results partly contribute to the Brazilian literature, considering that the standard addressed here is recent and empirical research is still incipient (Marques & Souza, 2017). This study also contributes to auditors and regulators in general to the extent that its results show that CAM is associated with earnings management. Therefore, the history of a company's reports may be an important red flag for agents when considering the quality of a company's information.

Despite its contributions and implications, this study presents limitations concerning sample size, the period studied, and modeling adopted. Therefore, future studies are suggested to use different modeling and earnings management models, or yet, to verify the association between CAM and the report of deficient internal controls. Another suggestion is to verify whether companies report different CAM over time to investigate whether the problems reported by auditors persist. Finally, we suggest analyzing whether there is an association between disclosure of CAM with the type of auditor's opinion, audit fees, change of auditors and quality of auditing.

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