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Internal Control Deficiencies and Conservative and Opportunist Accounting Choices

ABSTRACT
Objective: To analyze the influence of internal control deficiencies on conservative and opportunistic accounting choices.
Method: Objective description, documentary procedures and quantitative approach to the problem. The sample consisted of 63 to 77 companies with unbalanced data for each year from 2010 to 2015, which had an audit committee, as well as other information necessary for this analysis. The main analysis was carried out based on panel data regression using STATA software.
Originality/relevance: It presents as relevant in the current study the measurement and analysis of internal control deficiencies, since little has been discussed in national surveys, mainly due to the difficulty of measurement.
Results: The results showed that the company's internal environment, when presented deficiencies, did not impact on differentiated conservative accounting choices, but significantly influenced in the increase of the level of management to reduce the result. In addition, it was found that the control variables size of the company and profitability of the asset influenced in the reduction of the level of management in order to increase the result, which evidences the company's choice to reduce political costs.
Theoretical and methodological contributions: As a contribution of the study, it is clear that in a weak internal control environment, even if the company has an audit committee, there may be an increase in the level of management earnings, which impairs the quality of accounting information.

Keywords: Internal Control Deficiencies; Audit Committee; Accounting Conservatism; Opportunistic Accounting Choices.

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1 INTRODUCTION

Amid corporate scandals that led to the discontinuation of large corporations and audit firms due to accounting fraud or internal control errors, the Sarbanes Oxley Act (SOX) was created in 2002. SOX, through sections 302 and 304, has implemented new internal control rules and procedures, requiring companies to demonstrate the effectiveness of internal controls in the reports to be disclosed (Ge & Mcvay, 2005; Zhang, Zhou & Zhou, 2007).

Taking this SOX standard scenario, according to Zhang *et al.* (2007), the company's audit should provide an assessment of internal control reports, attesting their effectiveness and pointing out control deficiencies. SOX's fundamental premise regarding internal controls is that the more effective it is, the greater the benefit to the company's information users, particularly investors, thereby reducing distortions of financial information and making it more reliable (Ashbaugh -Skaife, Collins, Kinney Jr. & Lafond, 2008).

When internal controls are ineffective, these may have some control deficiencies, i.e. failures in the design or implementation of a control activity that could compromise company operations as well as the accounting information to be disclosed to external users (Bryan & Lilien, 2005). According to Hogan and Wilkins (2008), internal control deficiencies and "poor quality" accounting are closely related, since financial reporting is a product of management. Regarding the management of the company, if the controls issued by the company are not robust and efficient, then they may present reports that do not comply with the recommended standards.

Regarding to the recommended standards, there are conservative and opportunistic practices (not recommended), which can be adopted by company managers, whereas conservative practices refer to the use of conservative accounting and opportunistic practices refer to the non-observance of the qualitative characteristic of faithful representation. Accounting conservatism refers to the use of choices that report overvaluation of assets and revenues, as well as overvaluation of liabilities and expenses, in order to not report overly optimistic accounting information (Basu, 1997).

Faithful representation, according to the Accounting Pronouncements Committee 00 (CPC 00, 2011), refers to the fact that accounting information should be trustworthy and reported correctly, whereas this information must also be complete, neutral and error free and mainly unbiased. Therefore, non-compliance with the faithful representation may be associated with the practice of earnings management, which is caused by managers opportunistic biases to mask results, reporting incomplete and biased information.

The weak internal control structure creates timely situations for agents to manage results (Chan, Farrel & Lee, 2005) and leads to deficiencies in internal controls. On the other hand, the complexity and effectiveness of control can help to reduce timely practices, also impacting the levels of conservatism, timeliness and relevance (Almeida, 2010).

In this sense, studies published in international journals have investigated the relationship between internal control deficiencies and the use of accounting conservatism or earnings management practice in order to observe whether certain accounting choices are more or less associated with internal control deficiencies (Ashbaugh-Skaife *et al*., 2008; Doyle, Ge & Mcvay, 2007; Goh & Li, 2011; Ji; Lu & Qu, 2016). In the study by Doyle *et al.* (2007) the authors analyzed the relationship between the quality of internal controls and the quality of profits, from the perspective of earnings management in US companies.

Ashbaugh-Skaife *et al*. (2008) observed whether deficiencies in internal control led to less reliable financial information under profit quality proxies and conditional conservatism in US companies. Goh and Li (2011) analyzed the relationship between internal controls and conditional conservatism in companies that reported material weaknesses in controls under

SOX. Ji *et al*. (2016) investigated the impact of internal control deficiencies on accounting conservatism in Chinese companies.

These international studies show that the relationship between internal control deficiencies and certain accounting practices, such as accounting conservatism and / or earnings management, was found in US and Chinese companies, a fact that makes it possible to analyze Brazilian companies. Thus, the research problem is: what is the influence of internal control deficiencies on conservative and opportunistic accounting choices? In order to assist in solving this problem, this research aims to analyze the influence of internal control deficiencies on conservative and opportunistic accounting choices.

The research justification is the analysis of internal control deficiencies and accounting practices in Brazilian scenario, since most studies (Ashbaugh-Skaife *et al*., 2008; Doyle *et al*., 2007; Goh & Li, 2011; Jiang , Rupley & Wu, 2010,) focus on analysis of US companies, which are required, according to the Securities and Exchange Commission (SEC), to release reports on internal control deficiencies, thus making such research timely for the availability of information. However, in the Brazilian scenario, as companies listed on the stock exchange market do not need to disclose information about the deficiencies or effectiveness of internal control, they may lead to the incipience of studies on this subject, due to the difficulty of identifying and measuring such phenomenon.

Motivated by this need to assess internal control deficiencies in national researches, Teixeira (2015) developed a methodology for identifying internal control deficiencies in Brazilian companies through content analysis of business reports. The author observed the determinants and consequences of internal control deficiencies, not observing the relationship between control deficiencies with accounting practices. This is highlighted as a gap to be filled by the present study.

Also, according to Goh and Li (2011), findings about the relationship between internal control deficiencies and accounting practices help develop the literature on the effects of strong and weak controls on companies. The assumption is that accounting has good quality when controls are effective and rigid enough so that accounting standards and principles are met by companies.

The present study investigates the relationship between these phenomena in a unique institutional setting in relation to previous research, which may contribute with empirical evidence on the possibility of the establishment of a regulatory framework, by regulatory bodies, on internal control in Brazilian companies. Such contribution on a regulatory framework was also observed by Ji *et al.* (2016), who observed such phenomena in Chinese companies, which also had no obligation to disclose the deficiencies in internal control.

2 RELATIONSHIP BETWEEN CONSERVATIVE AND OPPORTUNITY ACCOUNTING CHOICES AND INTERNAL CONTROL DISABILITIES

Accounting choices involve a diverse set of activities that can affect numbers and deserve greater attention over those that have a direct impact on corporate profit or cash flow (Francis, 2001). For Fields, Lys and Vincent (2001) one of the accounting choices refers to the practice of earnings management, caused by opportunistic behavior of the manager, however this is not the only one, with other forms of accounting choices.

Accounting choice refers to the decision on one of several alternatives for accounting measurement or disclosure to influence the accounting system and the output of information in financial statements and reports (Fields, Lys & Vincent, 2001). There are contracts to restrict such choices, which delimit specific information such as fixed compensation, variables, periods of sale and purchase of shares, management objectives proposed by shareholders, among others (Fields *et al*., 2001; Watts; Zimmerman, 1986).

The Agency Theory helps to explain these phenomena, as it foresees some agency problems caused by different incentives and the separation between ownership and control of companies. One way to reduce these agency problems is the creation of contractual restrictions, which governs the agent's activities (Warfield, Wild & Wild, 1995). Although these contractual restrictions may provide incentives for agents or managers to choose specific accounting techniques, thus reporting information as expected, they may manipulate such information.

According to Fields *et al*., (2001), accounting regulators have raised attention and concern about shortcomings that accounting standards have which may favor certain accounting choices. It is up to regulators to understand the advantages and disadvantages of each accounting choice, whereas the permission of a given choice can cause in the financial statements and their users, as well as to observe an acceptable level of those.

According to Watts and Zimmerman (1990) accounting choices can be separated into *ex ante* and *ex post*, where *ex ante* accounting choices are foreseen in contracts, in order for the manager to make efficient accounting choices, whereas *ex post* accounting choices are characterized as opportunistic, where the agent makes accounting choices in order to report some benefit to the company or for his own benefit, and may manipulate information.

In this sense, there is no formalized and / or standardized separation of accounting choices in the literature, neither *ex ante* nor *ex post*, i.e. accounting choices being made to bring efficiency to the company and accounting choices being made to report private benefits to the agents. The *ex ante* and *ex post* accounting choice is given by the motivation to perform such behavior, and this motivation or incentive may vary from company to company, and these arguments are guided by Watts and Zimmerman (1986).

However, there are some findings in empirical studies that contribute to the identification of an accounting choice as *ex ante* or *ex post*, i.e. an accounting choice that can improve the quality of accounting information or impair accounting information. According to Hu, Li and Zhang (2014), accounting information presents higher quality when it is more conservative and according to Jones (1991) it has lower quality when it is opportunistic from the perspective of earnings management.

In relation to accounting conservatism, according to Basu (1997), this refers to the accounting choice of asymmetric recognition of economic gains and losses, and managers have incentives to voluntarily disclose bad news and suppress good news about the company, in order not to report more optimistic accounting information than it actually is. Still, for Hu *et al.* (2014), conservative choices can be observed when losses are recognized in the income statement as probable and also when the recognition of gains is postponed until they are verifiable. According to FASB (1980), accounting conservatism is a prudent choice that attempts to ensure that uncertainties and business risks of companies are reported in by the less optimistic choice of a given accounting fact.

On the other hand, regarding earnings management, there is evidence that it arises from opportunistic accounting choices of managers, which may increase information asymmetry and impair the quality of the accounting information. Opportunism comes from an unrestricted accounting choice, where information is transmitted for the benefit of the company or the manager himself. For example, managers may choose specific accounting methods for raising share prices over certain periods for the benefit of their own shares, or they may be motivated by an objective assessment of shareholders to increase the share price (Fields *et al.*, 2001).

With the occurrence of corporate scandals involving Enron and other organizations, there was a greater realization that earnings management is used opportunistically by managers to secure their own private benefits, not observing shareholder´s benefits (Jiraporn, Miller, Yoon & Kim, 2008). Based on the aforementioned authors, it can be inferred that accounting choices can be efficient to promote the quality of accounting information and decrease information asymmetry, but can also be opportunistic, aiming at masking results in order to bring particular benefits without observing the interests of information users.

In this sense, the context of conservative and opportunistic accounting choices emerges, and the first choice for reporting less optimistic information to users to report business risks and uncertainties to them, and the second (opportunistic) choice, observed mainly by results management, aims to mask results in order to bring particular benefits, without concern for the interests of information users.

Based on these inferences, studies were carried out to identify in which internal contexts of companies conservative or opportunistic accounting choices emerged, and when internal control does not present deficiencies, the tendency is to reduce earnings management and increase conservative choices.

Poor internal control creates interference and / or bias in a negative way, thus affecting the quality of internal and external accounting reports (Ashbaugh-Skaife *et al*. 2008; Ji, Lu & Qu, 2016). The types of deficiencies that can be found in the internal controls of companies can be classified as significant deficiencies or material weaknesses. A significant deficiency adversely affects a company's ability to reliably initiate, authorize, process or report external financial data in accordance to generally accepted accounting principles (Epps & Guthrie, 2010). There are certain indications to consider these types of deficiencies as significant, such as the likelihood that they will cause material errors in the financial statements, and the possibility that the result could lead to loss or fraud (PCAOB, 2004).

Material weakness in internal control is defined as resulting from a significant deficiency or a combination of significant deficiencies that may adversely affect the quality of accounting reports (Epps & Guthrie, 2010). Material weaknesses are more likely to result in material misstatements in the financial statements than significant weaknesses, and in both cases managers´ attention is required to correct such weaknesses in the internal control system (Teixeira, 2015).

Doyle *et al.* (2007) analyzed the relationship between the quality of internal controls and the quality of earnings in the perspective of earnings management in US Companies from 2002 to 2005. As a result, they observed that companies with weak internal control have lower quality of profits. Ashbaugh-Skaife *et al.* (2008) observed if the presence of internal control deficiencies led to less reliable financial information under profit quality proxies and conditional conservatism in US companies from 2003 to 2005. The findings of this study showed that after the disclosure of the companies' internal control deficiencies and when they were able to correct the control issues pointed out by the audit, these companies adopted more conservative and cautious practices, as well as showed smaller variations in accounts as provisions, which are subject to earnings management.

Goh and Li (2011) analyzed the relationship between internal controls and conditional conservatism in companies that reported material weaknesses in controls under SOX from 2000 to 2005. The results showed that companies that had material weaknesses in internal controls presented lower accounting conservatism than those without such weaknesses.

Ji *et al.* (2016) investigated the impact of internal control deficiencies on accounting conservatism in Chinese companies from 2010 to 2011. The findings showed that internal control deficiencies negatively impacted accounting conservatism, in other words, companies that had greater weaknesses in their accounting practice controls showed lower conservative accounting choices.

Due to the still preliminary and contradictory results on the influence of internal control deficiency on opportunistic and conservative practices, the research hypotheses present only the significant relationship between these phenomena, not highlighting the positive or negative signs expected, since this relationship is still incipient. Therefore, we present Hypotheses 1 and 2, which demonstrate significant influence of internal control deficiencies on conservative and opportunistic practices.

H1: Internal control deficiencies have a significant influence on the conservative accounting choice level adopted by Brazilian companies.

H2: Internal control deficiencies have a significant influence on the level of opportunistic accounting choice adopted by Brazilian companies.

H2a: Internal control deficiencies have a significant influence on the level of opportunistic accounting choice adopted by Brazilian companies to increase results.

H2b: Internal control deficiencies have a significant influence on the level of opportunistic accounting choice adopted by Brazilian companies to reduce results.

In case these hypotheses are confirmed, it can be demonstrated that if the internal environment of companies is weak (in relation to specific accounts, financial statements, subsidiaries, technology, senior management, litigation and general, according to Teixeira (2015)) it can provide certain practices performed by managers, demonstrating the importance of the company's internal control over the quality of accounting information. Hypothesis 2 was delimited in sub-hypotheses, since earnings management can be performed to increase or decrease profits, and may present a different relationship with internal control deficiencies.

3 METHODOLOGICAL PROCEDURES

The study population corresponded to the companies listed in Brazil, Bolsa and Balcão SA (B3). The sample consisted of information from 67 companies in 2010, 69 companies in 2011, 63 companies in 2012, 64 companies in 2013, 69 companies in 2014 and 77 companies in 2015, the sample is unbalanced due to the analysis of companies that had valid information on all analyzed variables.

The sample was restricted to listed companies that had an audit committee in each analyzed year, as well as having the necessary data to be analyzed. According to SOX, the internal control function is the responsibility of the audit committee in companies. The analysis period comprised the years 2010-2015, since prior to 2010 not all companies had reference forms, handicapping the survey. It was analyzed until 2015, as it provided a sufficient set of information for the analysis and the elapsed time since then tends not to affect factor data and behaviors, as the recommended set of standards has been maintained since 2010.

To collect information on opportunistic and conservative accounting choices, we used the Economática database. The data collection for information on internal control deficiencies was based on the methodology of Teixeira (2015), which required the analysis of companies' report content. The table below presents the operationalization of the accounting opportunism and conservatism variables, as well as the deficiencies in internal control.

The dependent variables of the main analysis models are composed of two variables: conservative accounting choice, opportunized by the Banker, Basu, Byzalov & Chen (2016) accounting conservatism model, and opportunistic accounting choice, opportunized by the accounting model of Modified Jones (Dechow, Sloan & Sweeney

(1995)). In the next equations, Banker *et al.* (2016) and Modified Jones (Dechow *et al.* (1995)) models are presented.

(1) Model by Banker *et al.* (2016)

$$LPA_{it}/P_{it-1} = \beta_0 + \beta_1 R_{it} + \beta_2 D_{it} + \beta_3 D_{it} * R_{it} + \beta_4 DS_{it} + \beta_5 \Delta S_{it}/P_{it-1} + \beta_6\ DS_{it}\ X\ \Delta S_{it}/P_{it-1}\ v_{it}$$

On what:

LPA_{it} : denotes the accounting result for the year (profit / loss) per share of company i in year t;

P_{it-1} : denotes the share price of company i in year t-1;

R_{it} : denotes the logarithmic return of the action of company i in year t;

D_{it} : denotes dummy variable that assumes 1 when the stock return of company i in year t is negative and 0 when the stock return of company i in year t is positive;

$D_{it} * R_{it}$: denotes the difference between the impact of positive and negative returns. Conservatism implies that this coefficient is positive because bad news (negative return) will be reflected in profit to a greater extent than good news (positive return).

DS_{it}: denotes a dummy variable that is equal to 1 if sales fall from year t-1 to year t and 0 otherwise.

$\Delta S_{it}/P_{it-1}$: denotes a change in sales from year t-1 to year t, (change in sales) that is scaled (divided) by the stock market value (share price) at the beginning of the fiscal year.

$DS_{it}\ X\ \Delta S_{it}/P_{it-1}$: Multiplication between the variables DS_t and $\Delta S_t/P_{t-1}$.

The most widely used model in the literature for conservatism is the model by Basu (1997). However, according to Banker *et al.* (2016) this model has a 25% error level, caused by cost asymmetry due to sales variations, a variable that is not considered in the model. Thus, the Banker *et al.* (2016) was used, which can be considered an evolution of Basu's (1997) model to capture accounting conservatism, since Banker's model corrects this problem. Based on equation 1, we can observe the level of accounting conservatism by companies (coefficient of β3). This model was captured by company and by year using quarterly information.

The following are the calculations for corporate earnings management, with annual data. To observe earnings management by the Modified Jones model, according to Paulo (2007), firstly it is necessary to run the original Jones model (1991) to observe some information (equation 2) and perform new tests to perceive opportunistic practices by the Modified Jones model (equations 3 and 4).

(2)

$$\mathrm{TA}_{it} = \alpha\left(\frac{1}{A_{t-1}}\right) + \beta_1(\Delta R_{it}) + \beta_2(PPE_{it}) + v_{it}$$

(3)

$$NDA_{it} = \alpha\left(\frac{1}{A_{t-1}}\right) + \beta_1(\Delta R_{it} - \Delta CR_{it}) + \beta_2(PPE_{it})$$

For the calculation of equation 3 it was necessary to multiply the α, β1 and β2 of the Jones (1991) model (equation 2) with the Modified Jones model (equation 3) variables, in which at the end the values of the variables were added, resulting in the value of non-discretionary accruals of each company. Therefore, according to Dechow *et al.* (1995) to estimate discretionary accruals, which are the data subject to earnings management, Equation 4:

(4)

$$AD_{it} = TA_{it} - NDA_{it}$$

Where:
AD_{it} = discretionary accruals of the company in period t;
TA_{it} = total accruals of company i in period t;
NDA_{it} = non-discretionary accruals of company i in period t;

Based on the non-discretionary accruals of companies observed by the Modified Jones Model, the total accruals decreased, which is observed by the decrease in net income from operating cash flow, resulting in the amount of discretionary accruals, results that can be managed by each company analyzed.

Therefore, based on information from accounting conservatism and earnings management equations, these were used as dependent variables in models, and as independent test variable the level of internal control deficiency. For the estimation of the internal control deficiencies of the companies, the operationalization of data collection is presented in Table 1.

Through content analysis in the reports in Table 1, internal control deficiencies can be identified and classified according to the dimensions, and when the company had a certain deficiency, it was assigned 1, otherwise it was attributed 0. After this deficiency identification, the entropy method of information was applied to exponential data to observe the level of information of each dimension (variable) and finally this level (of all companies and the variable) was multiplied for the deficiency information of each company. In the end, all dimensions (variables) of internal control deficiencies were summed up to generate a single indicator (IDCI), demonstrating the level of control deficiencies per company.

Information entropy, according to Zeleny (1982), generates the weight of information, which is a measure of relative importance, related to the amount of information. The more distinct and differentiated the scores, the greater the sum of the decision information.

Table 1
Construct of variables to assemble the Internal Control Disability Index (IDCI)

Variables	Description
Specific Account (DCI_CE)	Operations with complex regulation; Non-routine and systematic transactions; International transactions of management; Measurement uncertainty; Complex accounting measurements.
Accounting statements (DCI_DC)	Unregistered financial instruments; Accounting personnel; History of past errors; Accounting standards; Future Accounting Distortions.
Subsidiaries (DCI_SB)	Shared control; Transactions with related parties; Acquisitions and reorganizations; Sales or sales odds.
Technology (DCI_TI)	IT and business mismatch; Change of IT environment; New IT systems.
High admnistration (DCI_AA)	Unstable and volatile operations; Business continuity and liquidity; Changes activities, products and others; Changes and / or expansion of locations; Changes in senior management.
Litigation (DCI_LT)	Regulatory and government agencies; Contingent obligations.
General (DCI_GG)	General monitoring; SCI revision or implementation; Segregation of Functions; Accounting reconciliations; Deficiencies, errors and frauds.
Data Source	B3: FR 10.6 - Internal Controls; B3: DFP - Opinions and Statements; SEC (Securities and Exchange Commission): redraft letter.
Operationalization of variables	Content analysis in reports, reporting on 1 = incidence of ICD and 0 = no incidence of ICD.

Source: Adapted from Teixeira (2015).

The dimensions of internal control deficiencies presented and used by Teixeira (2015) are: specific accounting deficiencies, deficiencies in the preparation of financial statements, deficiencies in technology, deficiencies in senior management, deficiencies in litigation and general deficiencies (Silva, Cunha & Teixeira, 2018).

The lack of internal control in a specific account is related to deficiencies caused by complex regulation operations, unusual and international transactions, uncertainty of measurement of accounts and complex accounts. Deficiencies with financial statements relate to problems with non-recording of financial instruments, accounting staff, accounting standards, past and future misstatements. In relation to deficiencies with subsidiaries, they are understood as problems with shared control, acquisitions, reorganizations and transactions between the parties (Silva *et al.*, 2018; Teixeira, 2015).

Also, technology deficiencies refer to the incompatibility between IT - information technology and business, system changes and the use of new systems. Shortcomings with senior management relate to unstable operations, problems with business continuity, changes in activities and products, change of location and management. Shortcomings with litigation are problems with regulatory agencies and contingent obligations. General deficiency relates to problems in company monitoring, review or implementation of new controls, problems with segregation of duties, account reconciliation, errors or fraud (Silva *et al.*, 2018; Teixeira, 2015). The classification of size deficiencies assists in the analysis of the nature of each problem (Silva *et al.*, 2018).

Table 2 shows the Internal Control Deficiency Index (IDCI), which is presented as an independent test variable, as well as the dependent variables of opportunism and conservatism, besides the independent control variables.

Table 2
Research Construct

Variable	Description	Data Source	Authors
Dependent Variables			
CN (conservative accounting choice)	Demonstrates the level of accounting conservatism of companies.	B3 coefficient of the Banker *et al.* (2016)	Banker *et al.* (2016)
GR (opportunistic accounting choice)	Demonstrates the level of earnings management of companies.	From the Modified Jones Model (Dechow *et al.*, 1995)	Dechow *et al.* (1995)
Independent Test Variable			
Internal Control Disability Index (IDCI)	Index formed from variables (Painting 2): DCI_CE; DCI_DC; DCI_SB; DCI_TI; DCI_AA; DCI_LT; DCI_GG. The index ranges from 10 to 0, and closer to 10 represents deficiencies with internal control.	Data of the internal control deficiency variables.	Teixeira (2015)
Independent Control Variables			
Audit Company Type (BIGFOUR)	Companies that are audited by Big Four = 1; companies that are not audited by Big Four = 0.	B3: FR 2.1/2 – Identification and Remuneration Independent Auditors.	Krishnan (2005); Ge & Mcvay (2005).
Company size (LASSET)	Natural log of the total assets of companies.	Economática	Krishnan (2005)
Return on Assets (ROA)	Fraction between net income and total assets.	Economática	Ge & Mcvay (2005)

According to the variables in Table 2, the conservative accounting choice level (NC), as well as the opportunistic accounting choice level (GR) are observed, which are presented in the main analysis models as dependent variables. The independent test variable for both models is the Internal Control Disability Index (IDCI). Equations 5 and 6 present the main models of analysis.

$$CN_{it} = \beta_0 + \beta_1 IDCI_{it} + \beta_2 BIGFOUR_{it} + \beta_3 LASSET_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (5)$$

$$GR_{it} = \beta_0 + \beta_1 IDCI_{it} + \beta_2 BIGFOUR_{it} + \beta_3 LASSET_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (6)$$

$$GRP_{it} = \beta_0 + \beta_1 IDCI_{it} + \beta_2 BIGFOUR_{it} + \beta_3 LASSET_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (6a)$$

$$GRN_{it} = \beta_0 + \beta_1 IDCI_{it} + \beta_2 BIGFOUR_{it} + \beta_3 LASSET_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (6b)$$

Equations 5 and 6 aim to observe whether different levels of accounting conservatism or conservative practices of managers (5) and the level of earnings management or opportunistic practices (6) are related to different levels of internal control deficiencies (IDCI). In the earnings management equation 6, besides observing the influence of internal control deficiencies and control variables on the total GR of companies, sub-equations were delimited from this one, in which GR was separated to increase the result (GRP). and GR to decrease the result (GRN). For data analysis we used statistical tests such as: descriptive statistics, multiple linear regression to identify the level of earnings management and accounting conservatism using the SPSS software and panel data regression using the STATA software, which was necessary for the analysis of equations 5 and 6.

4 RESULTS PRESENTATION

This section presents the analysis and description of the results. Initially, Table 3 shows the descriptive analysis of the variables.

Table 3
Descriptive analysis of variables

Variables	Minimum	Maximum	Average	Standard deviation
CN	-8.360	6.446	-0.255	1.547
GR	-0.944	0.419	-0.050	0.182
IDCI	0.000	5.864	0.250	0.565
BIGFOUR	0.000	1.000	0.961	0.194
LASSETAT	10.808	21.086	16.067	1.746
ROA	-41.400	51.800	3.957	8.129

Note. CN - Conservative Accounting Choice; GR - Opportunistic Accounting Choice; IDCI - Internal Control Disability Index; BIGFOUR - Type of Audit firm; LASSET - Company Size; ROA - Return on Assets.

According to Table 3, it is observed that the average of the companies was not to present conservatism (NC) as an accounting choice, since they showed an average of -0.255, and according to the Banker *et al.* (2016) model , in order to have conservatism one must have the coefficient with the positive sign. Regarding earnings management (GR), it was observed that most companies performed this practice to reduce the result, as opposed to increasing it. According to Watts and Zimmerman (1990) when making an accounting choice to reduce the result, the company may be thinking about the political cost of paying less taxes due to their size and revenue, since they are listed in the stock exchange, granting greater visibility of companies to the government. Therefore, these companies make choices to reduce their results, drawing less attention, and neutralizing the possibility of paying new taxes when they grow.

Regarding the internal control deficiency index (IDCI), it is observed that there are some companies analyzed that have audit committee and have no disclosed control deficiency, demonstrating the efficiency of the audit committee in limiting such problems. On the other hand, there are companies with a high level of internal control deficiency (5,864). Regarding the Big Four variable, since this variable is dichotomous from 0 for companies audited by non-Big Four companies and 1 for companies being audited by Big Four, because the average is closer to 1, it is associated that most companies are audited by Big Four, and this result is already expected due to the characteristics of the companies adopted in the research.

As for the size of the company, this variable is normalized. As for the return on assets, it is observed that most companies have positive returns in relation to the total assets of the company. However, some are failing to earn a return on their assets (-41.40) and others are being able to generate 50% profit on the amount invested in assets. Table 4 presents the summary of model 5, which aims to measure the influence of internal control deficiencies on accounting conservatism.

Table 4
Influence of Internal Control Deficiency and Control Variables on Accounting Conservatism Level - Random Effect

Variables	Coeffic.	P-value
IDCI	0.1407291	0.295
BIGFOUR	0.2260049	0.585
LASSET	-0.1171777	0.028
ROA	-0.0044824	0.666
_Constant	1.397471	0.150
R Within	0.0001	
R Between	0.0466	
R Overall	0.0317	
Test F	0.1397	
LM Breusch-Pagan	0.000*	
Test Chow	0.000*	
Test Hausman	0.1909	
OBS	409	

Note. IDCI - Internal Control Disability Index; BIGFOUR - Type of Audit Firm; LASSET - Company Size; ROA - Return on Assets. * Significant at 5%.

According to the Breusch-Pagan, Chow and Hausman LM tests, a random effect model was used for data analysis. However, according to the model's significance test F, it was found that it was not significant, inferring that internal control deficiencies, Big Four control variables, company size and return on assets did not influence managers in the analyzed companies that have an audit committee to have differentiated accounting conservatism practices. This result may be linked to why few companies (as shown in Table 3) practice accounting conservatism.

Thus, it is clear that among the accounting practices adopted by the managers of the listed companies that have an audit committee, most do not practice accounting conservatism. Still, it is inferred that having deficiencies in internal control, the committee does not recommend managers to be more conservative in recognizing their accounting operations. Table 5 presents the summary of models 6, 6a and 6b.

Regarding the results shown in Table 5, it is observed that the POLS effect model was applied for equation 6 and fixed effect model for equations 6a and 6b, due to the results of Chow, Breusch-Pagan and Hausman LM tests. Equation 6 was not significant, demonstrating that it is not sufficient to capture whether internal control deficiencies, the type of audit firm, the size of the firm, and the profitability of the asset impact different levels of earnings management practice (without separation into positive and negative accruals) in the analyzed companies which have an audit committee.

Table 5

Influence of Internal Control Deficiency and Control Variables at Earnings Management Level

Variables	Equation 6 – POLS		Equation 6a P – FIXED		Equation 6b N – FIXED	
	Coeffic.	Pvalue	Coeffic.	Pvalue	Coeffic.	Pvalue
IDCI	-0.0264665	0.102	-0.003665	0.750	0.0961388	0.005*
BIGFOUR	0.0420177	0.369	0.02581	0.401	0.2642884	0.076***
LASSET	-0.0034697	0.518	-0.0280623	0.097***	0.0012566	0.975
ROA	-0.0017067	0.136	-0.0054968	0.000*	-0.0001979	0.969
_Constant	-0.0214616	0.832	0.5046312	0.068	-0.1526577	0.822
R Within	-		0.2324		0.0805	
R Between	-		0.0407		0.0720	
R Overall	-		0.0631		0.0031	
R-squared	0.0131		-		-	
Test F	0.2535		0.0001*		0.0277*	
LM Breusch-Pagan	1.0000		0.1534		1.0000	
Test Chow	0.9163		0.0129*		0.6682	
Test Hausman	0.4763		0.0001*		0.0208	
OBS	409		187		222	

Note. IDCI - Internal Control Disability Index; BIGFOUR - Type of Audit Firm; LASSET - Company Size; ROA - Return on Assets. * Significant at 1%; ** Significant at 5%; *** Significant at 10%.

Concerning the results of equation 6a, we observed significance of the model, which demonstrates that the variables tested explained different levels of accounting choice to increase the result. With reference to the significant variables, it was found that the size of the company and the profitability of the asset impacted the reduction of earnings management practice. This result shows that companies that have large assets and high return on assets manage less the results to increase these profits. This result is in line with the Watts and Zimmerman (1990) hypothesis of the political cost, in which large companies with high profitability, in order to avoid the political cost of new taxes, adopt accounting choices to reduce the result and avoid political costs. In this model, it was observed that the deficiencies in internal control did not impact differentiated accounting choices to increase the result.

As the results of equation 6b, there was also significance of the model, demonstrating that the tested variables influenced at different managerial levels to decrease the result. In this equation, it was found that deficiencies in internal control significantly influenced on increasing the level of earnings management to decrease the result, that is, companies that have deficiencies in control tend to manage more to decrease the result. In addition, it was found that companies audited by Big Four also managed more towards decreasing its result, and this result turns out to be unusual, since this type of audit firm tends to be associated with lower management level results in order to improve the quality of accounting information. Thus, further studies on such relationship are suggested.

4.1 Discussion of Results

It was found that the deficiencies in internal control did not significantly influence conservative accounting choice, and this result rejects hypothesis 1 “the deficiencies in internal control have a significant influence on the conservative accounting choice adopted by Brazilian companies”. The relationship between internal control deficiencies and the level of opportunistic accounting choices (not considering positive or negative accruals) was not significant, and IDCI did not significantly impact accruals to increase company results, thus rejecting Hypotheses 2 “Internal control deficiencies have a significant influence on the level of opportunistic accounting choice adopted by Brazilian companies” and 2a “Internal control deficiencies have a significant influence on the level of opportunistic accounting choice adopted by Brazilian companies to increase the result".

On the other hand, it was observed that the deficiencies in internal control significantly impacted the increase in the earnings management level in order to decrease profits, accepting hypothesis 2b “the deficiencies in internal control had a significant influence on accounting choice opportunistic, an approach adopted by Brazilian companies to diminish the result”. These results reveal, according to Doyle *et al.* (2007), that companies with weak internal control have lower quality of profits, due to greater earnings management. In addition, Ashbaugh-Skaife *et al.* (2008) point out that when companies are able to correct the control issues identified by the audit, they tend to adopt more conservative and cautious practices, as well as to show smaller variations in accounts as provisions, which are subject to earnings management. Thus, the careful observance of internal control deficiencies by the audit is important, especially where disclosure of internal control deficiencies is not mandatory, and then recommending more cautious practices and diminishing earnings management.

Regarding the non-significant relationship between accounting conservatism and internal control deficiencies, this result is in line with that observed by Goh and Li (2011), who found that companies that presented material weaknesses in controls had lower accounting conservatism compared to those who had no such weaknesses. This result corroborates to what had been observed by Ji *et al.* (2016), who found that deficiencies in internal control impacted less conservative accounting choices.

In addition, it was found that the control variables company size and asset profitability impacted to decrease the level of earnings management, and this result meets the hypothesis of political cost, and companies that stood out in the market (size and profitability) tend to make accounting choices to narrow the bottom line, avoiding new taxes. Moreover, it was surprising that companies that are audited by Big Four tend to manage earnings more in order to decrease profits, and further studies are needed to observe this relationship, since in the current study only companies that are audited have an audit committee.

5 CONCLUSIONS

This research aimed at analyzing the influence of internal control deficiencies on conservative and opportunistic accounting choices. The sample corresponded to companies listed in B3 with unbalanced data from 2010 to 2015, which had an audit committee, as well as other information necessary for the analysis. The main analysis was performed based on panel data regression using STATA software.

The results showed that most of the analyzed companies that have an audit committee did not demonstrate the conservative accounting choice, due to the negative coefficient. According to Banker *et al.* (2016), to demonstrate the use of this accounting choice, the coefficient must be positive. This result may be linked to the fact that after 2010, due to the use of IFRS in the scenario of Brazilian companies, the qualitative characteristic of neutrality for accounting information was recommended, which may have impacted on the reduction of conservatism adopted by these companies. Regarding the accounting choice of GR, it was observed that most companies performed the opportunistic practice to decrease the result.

Thus, in relation to these findings, it was found that the companies analyzed in general made conservative and opportunistic accounting choices, however, to a greater extent they performed earnings management, that is, they used *ex post* opportunistic choices, as opposed to efficient *ex ante*, according to Watts and Zimmerman (1990) classification.

In relation to the results of panel data regression, it was found that the deficiencies in internal control and the control variables did not influence differentiated practices of accounting conservatism. It is inferred that the companies analyzed, when presenting a troubled internal environment, did not adopt accounting conservatism differently, besides that, the size of the company, the profitability of the asset, as well as the audit performed by Big Four did not impact the conservative accounting choice. This result may be linked to the low adoption of companies to the conservative choice of accounting information. Based on this finding, hypothesis 1 was rejected.

Regarding the level of GR, it was observed that when the practice is to increase profits, there was an impact concerning company size and profitability of the asset. This result may indicate that companies, in order to avoid political costs of new taxes due to their size and high profitability, make accounting choices in order to decrease profit (Watts & Zimmerman, 1990). Also, it was found that companies that manage the result to increase it were not influenced by deficient internal controls.

In view of management to decrease the result, a significant influence of the deficiencies in internal control was observed. The analyzed companies that had audit committee and problems in their controls presented, in a greater degree, the opportunistic practice to reduce the result. Thus, based on these results management findings, we rejected hypotheses 2 and 2a, and accepted hypothesis 2b. In addition, in relation to management in order to decrease the result, it was found that companies audited by Big Four contributed to this result, which suggests further investigation in future studies of the quality of accounting information regarding GR in companies that have a committee are audited by Big Four.

In general, it was found that the deficiencies in internal control were associated with poor quality accounting, due to the increased opportunistic practice of managers. A weak internal control structure creates timely situations for agents to manage results (Chan *et al.*, 2005; Goh & Li, 2011).

As contributions to the academia and science, it is noted that environments with poor control have not been associated with efficient accounting choices to promote both the quality of accounting information and decreased information asymmetry, but with opportunistic choices that mask results. Therefore, they do it to bring particular benefits, not observing the interests of information users .

It is indicated that in the scenario of Brazilian companies, in internal contexts of control deficiency, there is interference of behaviors and / or selection bias, negatively affecting the quality of accounting reports (Ashbaugh-Skaife *et al.* 2008; Ji *et al.*, 2016), for the impact on increasing accounting choice to manage earnings. The weak and / or poor control environment generates a “ripple effect” harming other organizational phenomena, such as company information, due to increased earnings management, as opposed to raising internal agents' attention to adopt practices that mitigate these deficiencies, such as for example conservatism. Thus, it is inferred that the deficient internal environment reveals other accounting problems, such as information asymmetry caused by choices such as the manipulation of results.

As contributions of the results to accounting practice, greater attention should be given by regulators to create more robust and efficient methodologies for disclosing control deficiencies. Since the lack of disclosure of ICDs may compromise the quality of accounting information and generate informational asymmetry among the different stakeholders linked to the organization. Disclosure of deficiencies in internal controls to different users of accounting information may create greater pressure on companies to correct them, which will provide better quality of accounting information.

As a suggestion for future research, an exploratory analysis of the influence of Big Four audit firms on the quality of accounting information in companies that have an audit committee is recommended in order to advance the findings of this research.

Furthermore, in future studies it is recommended to analyze accounting choices and internal control deficiencies in companies that do not have an audit committee, in order to bring a counterpoint to this research. A limitation of the study is the use of only one model of conservatism and earnings management for the analysis, since if other models were used, the results may be different. Thus, it is recommended in future studies to use different models for the analysis of the phenomena presented and the expansion of the findings.

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Deficiências de Controle Interno e Escolhas Contábeis Conservadoras e Oportunistas

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RESUMO

Objetivo: Analisar a influência das deficiências de controle interno em escolhas contábeis conservadoras e oportunistas.
Método: Descrição do objetivo, procedimentos documentais e abordagem do problema de forma quantitativa. A amostra correspondeu de 63 a 77 empresas com dados não balanceados para cada um dos anos de 2010 a 2015, as quais possuíam comitê de auditoria, bem como as demais informações necessárias para a análise. A análise principal foi realizada com base em regressão de dados em painel, por meio do software STATA.
Originalidade/relevância: Tem-se como relevante no atual estudo a mensuração e análise das deficiências de controle interno, visto que pouco se discute em pesquisas a nível nacional, devido principalmente a dificuldade de mensuração.
Resultados: Os resultados evidenciaram que o ambiente interno da empresa quando apresentava deficiências não impactou em escolhas contábeis conservadoras diferenciadas, mas influenciou significativamente no aumento do nível de gerenciamento para diminuir o resultado. Além disso, constatou-se que as variáveis de controle tamanho da empresa e rentabilidade do ativo influenciaram na diminuição do nível de gerenciamento para aumentar o resultado, o que evidencia a escolha da empresa de diminuir custos políticos.
Contribuições teóricas/metodológicas: Como contribuição do estudo percebe-se que em um ambiente fraco de controle interno, mesmo a empresa tendo comitê de auditoria, pode haver um aumento do nível de gerenciamento de resultados, o que prejudica a qualidade da informação contábil.

Palavras-chave: Deficiências de controle interno; Comitê de Auditoria; Conservadorismo Contábil; Escolhas Contábeis Oportunistas.

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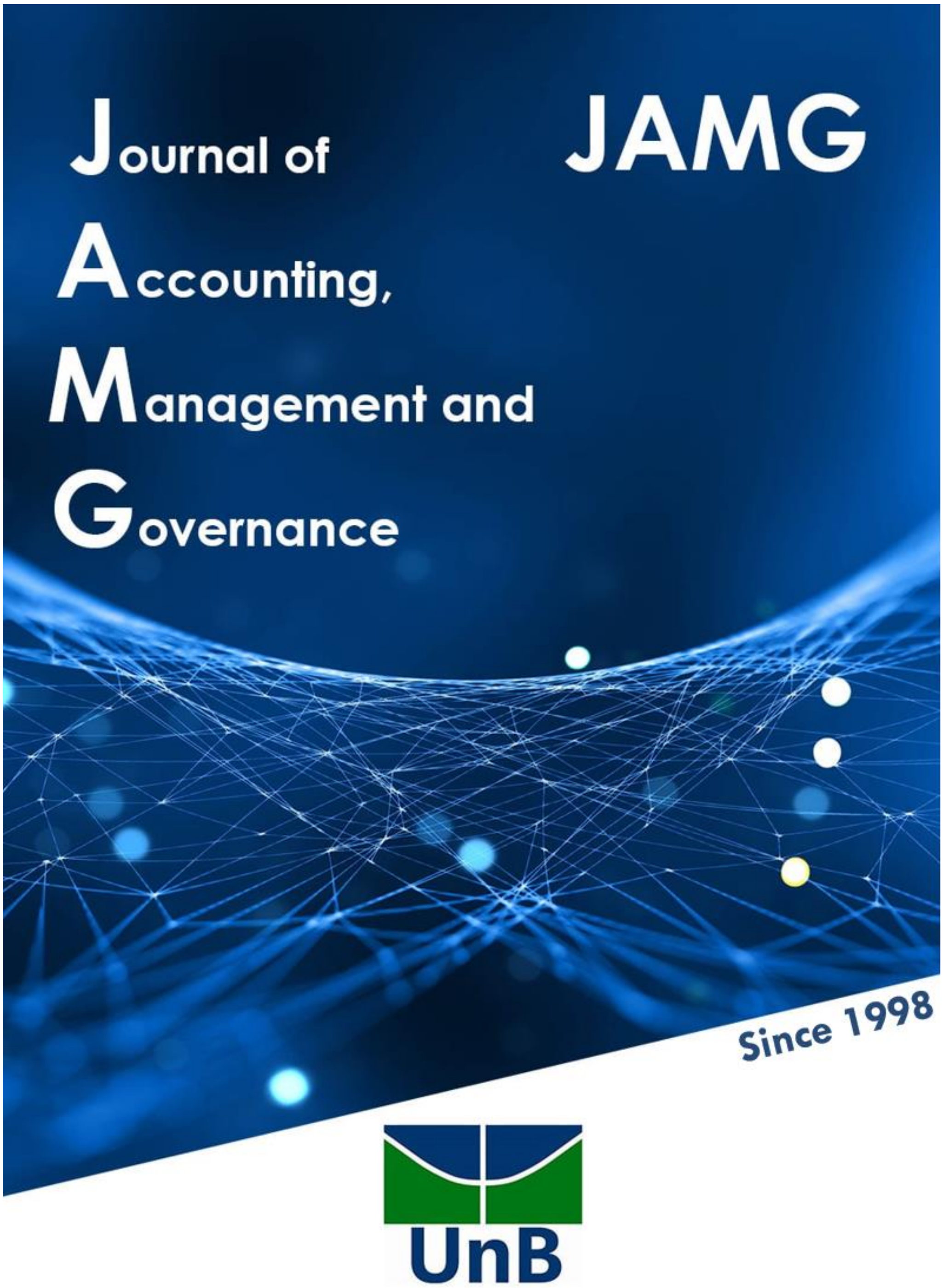
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