


Characteristics of CFOs and earnings management in Brazilian companies


Características dos CFO e gerenciamento de resultados em companhias brasileiras

Características del CFO y la gestión de resultados en empresas brasileñas

Neirilaine Silva de Almeida*

Doutora em Contabilidade na
 Universidade Federal de Uberlândia (UFU)
 Professora do Curso de Ciências
 Contábeis (UFU), Uberlândia/MG, Brasil
 neirilaine@ufu.br
<https://orcid.org/0000-0001-5687-9833> 

Sirlei Lemes

Doutora em Controladoria e Contabilidade na
 Universidade de São Paulo (USP)
 Professora do Programa de Pós-Graduação em Ciências
 Contábeis (UFU), Uberlândia/MG, Brasil
 sirlemes@uol.com.br
<https://orcid.org/0000-0003-3334-4240> 

Address of the primary contact for correspondence *

Avenida João Naves de Ávila, 2121, Bairro Santa Mônica, CEP: 38408-100 – Uberlândia/MG, Brasil

Abstract

Although the Senior Management Theory maintains that top management managers rely on their characteristics to interpret situations, form opinions, and make decisions, research in Brazil predominantly investigates how contractual, economic, and institutional aspects affect organizational choices. Thus, this study aimed to fill this gap and verify whether the characteristics of the Chief Financial Officer (CFO) are associated with the adoption of earnings management practices in entities. To this end, quantitative research was carried out, carried out by collecting information on Brazilian publicly-held companies. It was identified that the age and educational level of CFOs are negatively associated with earnings management practices. The findings suggest that, just as contractual, economic, and institutional characteristics affect the earnings management of entities, the observable characteristics of CFOs are also decisive in this process.

Keywords: Observable characteristics; CFO; Earnings management

Resumo

Apesar de a Teoria do Alto Escalão sustentar que os gestores da alta administração se pautam em suas características pessoais para interpretar as situações, formar opiniões e tomar as suas decisões, as pesquisas no Brasil investigam, predominantemente, como os aspectos contratuais, econômicos e institucionais afetam as escolhas organizacionais. Assim, este estudo teve o objetivo de preencher esta lacuna e verificar se as características dos *Chief Financial Officer* (CFO) estão associadas com a adoção de práticas de gerenciamento de resultados nas entidades. Para tanto, realizou-se uma pesquisa quantitativa, efetuada por meio do levantamento das informações referentes às companhias abertas brasileiras. Identificou-se que a idade e o nível educacional dos CFO apresentam associação negativa com as práticas de gerenciamento de resultados. Os achados sugerem que, assim como as características contratuais, econômicas e institucionais afetam o gerenciamento de resultados das entidades, as características observáveis dos CFO também são determinantes nesse processo.

Palavras-chave: Características observáveis; CFO; Gerenciamento de resultados

Resumen

Aunque la Teoría de Alto Nivel sostiene que los altos directivos se basan en sus características personales para interpretar situaciones, formar opiniones y tomar sus decisiones, la investigación en Brasil investiga, predominantemente, cómo los aspectos contractuales, económicos e institucionales afectan las decisiones organizacionales. Así, este estudio tuvo como objetivo llenar esta brecha de investigación y verificar si las características del *Chief Financial Officer* (CFO) están asociadas con la adopción de prácticas de administración de utilidades en las entidades. Se realizó una investigación cuantitativa, a través de la encuesta de información sobre las empresas públicas brasileñas. Se encontró que la edad y el nivel educativo del CFO tienen una asociación negativa con las prácticas de gestión de ingresos. Los resultados

sugieren que, así como las características contractuales, económicas e institucionales afectan la gestión de resultados de las entidades, las características observables del CFO también son determinantes en este proceso.

Palabras clave: Características observables; CFO; Gestión de resultados

1 Introduction

The factors that motivate managers to manage the results of companies in which they work have attracted the attention of several researchers in the accounting area. Most researchers have sought to answer this question by studying the effects of contractual and economic factors (Cheng & Warfield, 2005; Dichev & Skinner, 2002; Healy, 1985; Quagli & Avallone, 2010) and institutional aspects (Cole et al., 2011; Collin et al., 2009; Nobes & Perramon, 2013; Stadler & Nobes, 2014) in accounting choices. In recent years, there has been an increase in the number of studies that assess choices of entities delineated by the values and cognitive bases of their managers (Hambrick, 2007). In this sense, this research expands the studies that assess the determining factors of organizational decisions by identifying the impact of managers' characteristics on the entities' earnings management practices.

Earnings management impacts the quality of financial information, mainly because the disclosed results may not represent companies' economics and financial reality (Martinez, 2001). However, despite this impact, earnings management seems to be a reality in business. The results of Dichev et al. (2013), for example, point out that 20% of CFOs of large companies believe that managers manage the results of the entities in which they work. Thus, identifying the motivations of these managers may be relevant for improving the quality of financial information disclosed by organizations.

Researchers who use the Positive Accounting Theory to explain earnings management consider the premise that managers choose to obtain economic benefits for themselves or the companies in which they operate (Scott, 2009). Researchers based on Institutional Theory consider that managers make decisions based on the institutional pressures they receive. Instead, the Upper Echelons Theory, on the other hand, holds that managers' decisions are not always opportunistic or motivated by institutional demand. Therefore, according to that theory, managers have limited rationality, which means they rely on their characteristics to interpret situations, make judgments and make decisions (Hambrick, 2007).

Earnings management impacts the quality of financial information because the results disclosed may not represent the economic and financial reality of the entities (Martinez, 2001). However, despite this impact, earnings management seems to be a reality in business. The results of Dichev et al. (2013), for example, point out that 20% of CFOs of large companies believe that managers manage the results of the entities in which they work. Thus, identifying the motivations of these managers may be relevant for improving the quality of financial information disclosed by organizations.

Managers' characteristics can be segmented into psychological (cognitive basis and values) and observable (gender, age, professional experiences, education, among others). Given the difficulty in measuring psychological characteristics, in The Upper Echelons Theory, it is postulated that managers' values and cognitive basis can be identified, at least partially, through the observable characteristics of these professionals (Hambrick & Mason, 1984). Based on this reasoning, it can be conjectured that the observable characteristics of top managers are associated with company decisions (Hambrick, 2007).

Although the characteristics of managers are associated with organizational decisions, it is relevant to point out that the environment in which the manager works can impact the magnitude of this association. After all, managers who work in companies located in countries with stricter rules or with greater enforcement may have less freedom to make decisions considering their cognitions and abilities (Hambrick, 2007). On the one hand, in countries with more flexible legislation and less enforcement, on the other hand, managers may consider their cognitions and skills more in the decision-making process (Hambrick, 2007).

At the international level, research predominantly includes samples of companies from developed countries to assess: age (Bamber et al., 2010; Huang et al., 2012), academic background (Hambrick & Mason, 1984), professional experiences (Benmelech & Frydman, 2015; Park & Shin, 2004; Ran et al., 2015; Troy et al., 2011), educational level (Troy et al., 2011), and the internationalization of managers (Dauth et al., 2017; Hooghiemstra et al. 2019; Patzelt, 2010) affect earnings management. In emerging countries such as Brazil, on the other hand, studies that verify the association between the characteristics of managers and earnings management are still scarce.

Some Brazilian studies, such as the one by Sprenger et al. (2017), bring relevant findings on the effects of managers' characteristics on earnings management. However, these studies focus on the observable characteristics of the Chief Executive Officer (CEO), who tends to be a holistic manager and deal with various organizational matters (Jiang et al., 2010). Therefore, the study of the characteristics of Brazilian Chief Financial Officers (CFOs) may also be relevant because these professionals tend to have closer proximity to financial and accounting decisions (Ge et al., 2011) and have a more significant influence on the earnings management of companies than CEOs. In this context, there is a gap in the development of a study that complements the results of the research by Sprenger et al. (2017) and presents evidence of the observable characteristics of CFOs associated with earnings management in Brazilian companies.

The main goal of this work is to verify whether the characteristics of CFOs are associated with embracing the earnings management practices in Brazilian companies. Therefore, specific goals were established to investigate the association between the entities' earnings management and: a) age; b) educational level; and c) the professional and educational internationalization of CFOs.

This work provides three contributions. First, it expands the literature on the determinants of earnings management (Hoff & Vicente, 2016; Martinez, 2010; Martins et al., 2016; Mazzioni et al., 2015; Sincerre et al., 2016) because it does not focus on contractual and economic aspects (Positive Accounting Theory) and institutional aspects (Institutional Theory) only. Thus, contrary to most previous studies, this research is based on the Upper Echelons Theory to identify the personal characteristics of CFOs that can affect the earnings management of companies. This contribution is relevant from a theoretical point of view, as it expands the literature on the determinants of earnings management, and from a practical point of view, as it points out that the results evidenced by the entities can be affected by the characteristics of the CFOs of these companies, from choices made by them.

As for the second contribution, it is noteworthy that the research that sought to identify the observable characteristics of CFOs that affect the earnings management of companies predominantly portrayed the reality of developed countries. In this way, this work contributes because it brings new insights into the characteristics of CFOs that are associated with the earnings management of entities that operate in an emerging country with different attributes in terms of cultural, economic, and social factors, ownership concentration, enforcement level, and perceived corruption.

Finally, in this work, specific characteristics of CFOs are evaluated. Thus, the third contribution of this study refers to the expansion of the work by Sprenger et al. (2017) when detecting which characteristics of CFOs, which is the professional who is closest to the economic-financial decisions that affect the financial statements, are associated with the earnings management of Brazilian companies.

This study presents five sections. The second section discusses the concepts of earnings management and Upper Echelons Theory, as well as previous studies and the development of the research's central hypothesis. The methodological aspects are in the third section, and the results are discussed in section 4. The final considerations are in section 5.

2 Literature Review

2.1 Earning management

Accounting choices are known as decisions made by managers that affect the entities' financial statements (Fields et al., 2001). These choices are present in the standards to enable managers to choose accounting policies that best represent companies' economic and financial situation (Nobes, 2013; Watts, 1992). After all, evaluating inventories for all types of entities in the same fashion may compromise the relevance of the financial information. Thus, accounting choices can contribute to the quality improvement of financial information (Fields et al., 2001). However, the discretion arising from accounting choices does not have only positive points (Leuz, 2010). Managers can use discretion to improve informational relevance and transmit information that can help stakeholders to anticipate future performance. However, they can manage accounting choices promptly and, consequently, affect the reliability, comparability, and quality of the financial information disclosed (Fields et al., 2001).

Earnings management can occur through the manipulation of actual activities or accounting choices. The manipulation of real activities occurs when the manager decides, for example, to considerably increase production to reduce costs with products sold or when he decides to grant temporary discounts on sales to increase the value of sales revenue (Paulo, 2007). In accounting choices, management occurs mainly with accruals, which represent the values that affect the organizational result but do not impact the company's availability (Scott, 2009). According to Paulo (2007), accruals can be calculated through the difference between the company's net income and operating cash flow (OCF) or by identifying changes in working capital accounts.

The total accruals are composed of two parts: the non-discretionary accruals, which represent the recognition of accounting events that are normal to the operational reality of the entities, and the discretionary accruals, which encompass the accounting choices that can be managed (Scott, 2009).

Due to the level of discretion of accruals and the possibility of their management in an opportunistic way, research on accounting choices predominantly focuses on identifying the factors that are associated with discretionary accruals (Paulo, 2007). To this end, researchers use different methodologies, such as those presented by the models of Healy (1985), DeAngelo (1986), Jones (1991), Sectorial (Dechow & Sloan, 1991), KS (Kang & Sivaramakrishnan, 1995), Modified Jones (Dechow et al., 1995), Marginal (Peasnell et al., 2000), Forward Looking Jones model (Dechow et al., 2003), Pae (2005), Modified performance-adjusted Jones Model (Kothari et al., 2005)) and Paul (2007). Among these methodologies, Jones model and its adaptations are the most used in the international literature (Paulo, 2007; Dechow et al., 2011).

In general, research indicates that earnings management of Brazilian entities is associated with contractual, economic, and institutional aspects. Specifically, studies point to the association between

earnings management and managers' compensation (Hoff & Vicente, 2016), the issuance of debt securities (Sincerre et al., 2016), the independent audit firm (Martinez, 2010), corporate governance practices (Mazzioni et al., 2015) and analysts' forecasts (Martins et al., 2016). Regarding the characteristics of managers, the results of Sprenger et al. (2017) point out that the age and gender of CEOs are associated with earnings management in Brazilian companies. Considering that earnings management can affect the quality of financial statements and distort the economic and financial reality of entities, as evidenced in the financial statements, the identification of OCF characteristics that affect earnings management may be relevant.

2.2 The Upper Echelons Theory

The understanding of the factors that impact the decision-making of managers has instigated researchers. Although most research on the subject focuses on contractual, economic, and institutional factors that affect the decision-making process, Hambrick (2007) highlights that the identification of the motivating factors of organizational choices must also include the psychological and sociological aspects of managers.

According to the Upper Echelons Theory, senior managers commonly need to make strategic decisions that affect the operations and performance of the entities in which they work. As managers have limited rationality and act in accordance with models built throughout their lives, they tend to use values, cognitions, and personal experiences to interpret, judge, and make organizational decisions (Hambrick, 2007; Hambrick & Mason, 2007; Hambrick & Mason, 2007). 1984). This means that the particular characteristics of these professionals serve as filters in their processes of interpretation, judgments, and choices. Thus, the personal characteristics of managers can interfere with the decisions of the entities in which they work (Hambrick, 2007).

The association between the characteristics of managers and organizational decisions can be impacted by the environment in which the company operates and by the discretion and complexity of choices. After all, managers tend to consider their values and cognitive bases more in environments with less enforcement and, consequently, greater freedom to make choices. Similarly, the individual characteristics of managers tend to be more associated with the choices involved with a higher level of discretion and with choices whose decision-making involves high complexity (Hambrick, 2007).

The decision-making process is considered a 'black box' process since it is a challenge to identify the psychological characteristics of managers that affect their decisions. In this scenario, the Upper Echelons Theory contributes to the understanding of the decision-making process by sustaining that the observable characteristics of managers, such as gender, age, and educational level, can be considered proxies of the psychological characteristics of these professionals (Hambrick, 2007). In this scenario, it is understood that the Upper Echelons Theory can help in the understanding of earnings management since it points out that, in addition to economic, contractual, and institutional factors, the observable characteristics of each manager also affect, at least partially, the accounting decisions and business performance.

2.3 Previous studies and development of hypotheses

The results of studies based on the Upper Echelons Theory indicate that age (Huang et al., 2012; Qi & Tian, 2012; Xiong, 2016), academic background (Hitt & Tyler, 1991; Malmendier & Tate, 2008), educational level (Ran et al., 2015; Xiong, 2016), professional experiences in finance (Jiang et al., 2013; Park & Shin, 2004) and internationalization (Dauth et al., 2017) of managers are associated with organizational decisions.

Regarding age, the foundations of the Upper Echelons Theory indicate that older managers act differently from younger ones. This aspect may relate to the fact that young people are overconfident, want to grow in their careers quickly, and are more likely to make decisions that involve risks (Zahra et al., 2007) and to accept more easily the existence of unethical behavior in the business environment (Twenge & Campbell, 2008). Previous research indicates that older managers, on the other hand, are less likely to yield to pressure (Zahra et al., 2007), to take risks (Hambrick & Mason, 1984), to disclose voluntary information (Bamber et al., 2010) and to adhere to earnings management practices (Xiong, 2016).

Hambrick and Mason (1984) point out that the academic training of managers is also a differential when making decisions. This is because a particular type of formal education can develop different skills for problem-solving and decision-making about strategic choices (Hitt & Tyler, 1991). For example, managers with an engineering background tend to have skills that allow them to make decisions differently from managers who do not have this academic background. Furthermore, managers with a business-oriented academic background understand accounting and financial language better and are less likely to take risks in their decisions (Hambrick & Mason, 1984).

The educational level of managers can affect organizational decision-making. According to the Upper Echelons Theory, managers with higher educational levels are more critical (Hambrick & Mason, 1984), have a higher level of knowledge (Xiong, 2016), and are more likely to distinguish between right and

wrong (Zahra et al., 2007), in addition, they are less likely to commit fraud (Troy et al., 2011) and less likely to adhere to earnings management practices (Xiong, 2016). Thus, higher education professionals tend to be concerned about the quality of financial information (Ran et al., 2015) and adopt more conservative postures than managers who only have a degree.

Furthermore, the managers' professional experiences allow them to have a baggage of knowledge that becomes a differential in the decision-making process (Hambrick & Mason, 1984). Previous experiences in finance allow managers to know financial and accounting matters, which impacts how they make decisions that affect financial statements (Gounopoulos & Pham, 2018). Bamber et al. (2010) point out that managers with previous experience in finance and accounting adopt more conservative postures in disclosing financial information.

By studying the association between the composition of the entities' boards and earnings management, Park and Shin (2004) identified that the existence of managers with professional experience in the financial area provides better monitoring of earnings management practices. In addition, Jiang et al. (2013) found that managers with experience in finance tend to manage less the results of the entities in which they work. Gounopoulos & Pham (2018), in turn, found that managers with professional experience in finance are less likely to perform earnings management in the initial offering of shares.

Finally, the internationalization of managers can affect accounting decisions (Dauth et al., 2017). Since managers with professional or educational experiences in other countries tend to have valuable knowledge and skills for the operational results of the entities in which they work (Carpenter et al., 2001; Patzelt, 2010). In addition, they tend to be more concerned with the quality of financial statements and are less likely to adhere to earnings management practices (Dauth et al., 2017). The research hypothesis was formulated considering all the results of previous studies:

Hypothesis: The personal characteristics of CFOs are associated with earnings management practices in companies.

In short, the research hypothesis of this study is based on the Upper Echelon Theory and seeks to verify how the personal characteristics of CFOs, such as age, educational level, and professional and educational experiences abroad, are associated with the entities' earnings management.

3 Research Method

3.1 Research sample

In order to achieve the research objective, all publicly-held companies listed in different levels of corporate governance of B3 (Level 1, Level 2, and New Market), which had shares traded during the period from 2010 to 2017, were used. They were chosen for, supposedly, adopting the best corporate governance practices and, consequently, prioritizing the transparency of the entity's information and its managers.

After the survey of companies listed in the differentiated levels of corporate governance of B3, financial companies were excluded due to the specificities of the sector, and entities from sectors that had few companies due to the model used in the research requiring at least ten observations in each sector (Kothari et al., 2005). Thus, the final sample is limited to a set of 99 entities listed at different levels of corporate governance and, therefore, does not include companies listed in the traditional segment (Table 1).

Table 1
Survey sample selection based on 2017 data

Process for sample selection	Number of companies
Companies listed in different levels of corporate governance	150
(-) Financial companies	(31)
(-) Companies from sectors that contain less than 10 entities (Oil)	(8)
(-) Companies from sectors that contain less than 10 entities (Health)	(6)
(-) Companies from sectors that contain less than 10 entities (Technology)	(4)
(-) Companies from sectors that contain less than 10 entities (Telecommunications)	(2)
Total	99

Source: Authors

The sample entities are part of the five economic sectors of B3, with the cyclical consumption sector (38.38%) being the most representative (Table 2).

Table 2
Sample distribution by sector and by governance segments based on 2017 data

Sectors	Number of companies	Percentage of companies	Differential levels of corporate governance	Number of companies	Percentage of companies
Industrial goods	17	17.18%	Level 1	15	15.15%
Cyclical consumption	38	38.38%	Level 2	11	11.11%
Non-cyclical consumption	10	10.10%	New Market	73	73.74%
Basic materials	13	13.13%			
Public benefit	21	21.21%			
Total	99	100%	Total	99	100%

Source: Authors

Note that the majority (73.74%) of the institutions are listed in the segment that requires the adoption of best corporate governance practices (New Market) and that only 26.26% belong to Level 1 (15.15%) and Level 2 (11.11%) (Table 2).

3.2. Definition of variables

The model used to process the data corresponds to a multiple regression with panel data (Equation 1).

$$EM_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 EDUC_{it} + \beta_3 INTER_PROF_{it} + \beta_4 INTER_EDUC_{it} + \sum Control\ variables_{it} + \sum Year_{it} + \varepsilon_{it} \quad (1)$$

Where:

EM: Earning management;

AGE: Age of CFO in years;

EDUC: Educational level;

INTER_PROF: Professional experiences abroad;

INTER_EDUC: Educational experiences abroad;

Control Variables: SIZE (Total Asset); LEV (Leverage); ROA (Return on Assets); MTB (Market-to-Book); IND (Sector of activity of the company); CONC (Ownership concentration); AUD (Independent Audit);

YEAR: 2010 to 2017.

ε : error

For calculating discretionary accruals, the Modified Jones model adjusted for performance was used (Equation 2). This model was chosen for its wide use in the international literature and for being considered efficient for calculating discretionary accruals (Kothari et al., 2005).

$$\frac{TACC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{1}{TA_{it-1}} + \beta_2 \frac{(\Delta REV - \Delta REC)}{TA_{it-1}} + \beta_3 \frac{PPE_{it}}{TA_{it-1}} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (2)$$

Where:

TACC_{it}: accruals of entity *i* in period *t* weighted by total assets at the end of period *t-1*;

TA_{it-1}: total assets of entity *i* at the end of period *t-1*;

ΔREV_{it} : change in revenue of entity *i* in period *t* weighted by total assets at the end of period *t-1*;

ΔREC_{it} : change in accounts receivable of entity *i* in period *t* weighted by total assets at the end of period *t-1*;

PPE_{it}: property, plant and equipment of entity *i* in period *t* weighted by total assets at the end of period *t-1*;

ROA: net income of entity *i* in period *t* weighted by total assets at the end of period *t*;

ε_{it} : discretionary accruals of entity *i* at the end of period *t*.

Discretionary accruals correspond to the residuals of cross-sectional regressions calculated for each sector of activity with at least ten observations each year (Kothari et al., 2005). Studies on earnings management generally consider the absolute values of discretionary accruals because they aim to identify whether managers engage more or less in management practices, regardless of whether the managed values caused reductions or increases in the entities' earnings. Thus, the dependent variable of this research concerns the absolute values of discretionary accruals.

The present study was based on the results of previous studies to test the following operational hypotheses:

H₁: Older CFOs are less likely to adhere to earnings management practices.

H₂: CFOs with graduate degrees are less likely to adhere to earnings management practices.

H₃: CFOs with professional and educational experiences abroad are less likely to adhere to earnings management practices.

In the test of hypotheses H₁, H₂ and H₃, the independent variables refer to the observable characteristics of the CFOs (Table 3).

Table 3
Independent variables used in the research

Name	Variable	Definition	Expected signal
Age	AGE	CFO age in reporting year	(-)
Educational level	EDUC	Postgraduate degree: 1	(-)
Professional experiences abroad	INTER_PROF	Worked abroad: 1	(-)
Educational experiences abroad	INTER_EDUC	Studied abroad: 1	(-)

Source: Authors

The first variable (AGE) corresponds to the CFO's age at the reporting date (Table 3). Based on previous research (Huang et al., 2012; Qi & Tian, 2012; Xiong, 2016), older managers are expected to be less likely to adopt earnings management practices.

The EDUC variable corresponds to the CFO's educational level, and in situations where the CFO had an MBA, Master's, or Doctorate, one (1) was assigned, and, on occasions when they had only a degree, zero was assigned (0) (Table 3). Based on previous studies (Ran et al., 2015; Troy et al., 2011; Xiong, 2016; Zahra et al., 2007), more educated CFOs are expected to be less likely to adopt management practices of results.

Finally, INTER_PROF is a dummy variable in which one (1) was assigned to entities whose CFO had professional experience in other countries, and the variable INTER_EDUC is a dummy variable in which one (1) was assigned to entities whose CFO had educational experiences in other countries (Table 3). Considering the research results by Dauth et al. (2017), CFOs with professional and educational internationalization are expected to be less likely to adopt earnings management practices. The control variables used in this research correspond to contractual, economic, and institutional factors (Table 4).

Table 4
Control variables used in the research

Name	Variable	Definition	Expected signal
Total Asset	SIZE	Natural logarithm of the asset at the end of the year	(-)
Leverage	LEV	Ratio between the amount of liabilities and total assets for the year	(+)
Asset Return	ROA	Return on total assets at the end of the year	(+)
Market-to-book	MTB	Ratio between market value and book value of the share	(-)
Independent audit	AUD	Big four: 1	(-)
Ownership concentration	CONC	Percentage of shares of the three main shareholders	(+)
Industry	IND	Industrial goods: 1; Cyclical consumption: 2; Non-cyclical consumption: 3; Basic materials: 4; Public benefit: 5	(+/-)
Period	YEAR	2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017	(+/-)

Source: Authors

Total Asset (SIZE) was used as a control variable in line with previous research (Quagli & Avallone, 2010; Waweru et al., 2011), which showed that an entity's asset size is associated with decisions that reduce the result of organizational structure and avoid political costs. The leverage (LEV), return on assets (ROA), Market-to-Book (MTB), and ownership concentration (CONC) were included in the survey. Since results of previous studies indicate that entity managers are indebted (Defond & Jiambalvo, 1994; Dichev & Skinner, 2002; Sweeney, 1994), with higher profitability (González & García-Meca, 2014; Nelson & Davi, 2013), with lower MTB (Parker et al., 2016; Quagli & Avallone, 2010) and with greater ownership concentration (Ali & Ahmed, 2017; Lassoued et al., 2017; Missonier-Piera, 2004) tend to adopt aggressive accounting choices or manage earnings.

The type of independent audit firm (AUD) was included in the study because previous research indicates that managers of entities audited by big-four companies (Becker et al., 1998; Tendeloo & Vanstraelen, 2005) tend to have lower levels of discretionary accruals. Finally, the sector of activity was considered in the research because previous studies (Collin et al., 2009; Nobes & Perramon, 2013) show that entities that operate in the same sector tend to make decisions similarly.

The observable characteristics of the CFOs were collected in annual reports, in the reference forms, and the CVs available in the Bloomberg database. The data used to calculate discretionary accruals and control variables (SIZE, LEV, ROA, MTB, CONC, IND) were obtained from the Economatica Platform. In addition, the independent audit firm (AUD) was collected in the financial statements.

The regression assumptions (normality, homoscedasticity, absence of error autocorrelation, and multicollinearity) were tested according to the foundations of Gujarati and Porter (2011).

4 Results Presentation and Discussion

Most of the financial statements of the entities that made up the sample were audited by a big-four (95%) and other independent auditing companies verified only 5%. In addition, the CFOs of the entities in the sample were between 31 and 68 years of age, attended postgraduate studies (84%) and did not have significant professional (29%) and educational (42%) experiences in other countries.

The entities' average indebtedness level was 58%, with a minimum of 13% and a maximum of 95%. The average profitability of the companies in the sample was 4%, however some entities recorded losses. The ownership concentration of the entities varied between 15% and 99%, with the average percentage being approximately 62% (Table 5).

Table 5

Descriptive statistics based on data from 2010 to 2017

Variable	Observations	Average	Standard Deviation	Minimum	Maximum
EM	752	0.04	0.03	0.00	0.16
SIZE	752	15.57	1.30	12.84	19.18
LEV	752	0.58	0.18	0.13	0.95
ROA	752	0.04	0.07	-0.20	0.24
CONC	752	0,62	0.22	0.15	0.99
MTB	752	2.36	3.03	0.14	20.08

Source: Research data

Variables defined in tables 3 and 4.

As for the MTB index, note that, on average, the market values of the shares were approximately twice as high as their book values. Moreover, some entities presented market values much higher than book values, since the maximum MTB index was 08.20. The correlation matrix between the research variables and the entities' earnings management is in Table 6.

Table 6
Spearman correlation matrix based on data from 2010 to 2017

	EM	AGE	EDUC	INTER_PROF	INTER_EDUC	AUD	SIZE	LEV	ROA	CONC	MTB
EM	1										
AGE	-0.1197***	1									
EDUC	-0.1062***	-0.2057***	1								
INTER_PROF	-0.0374	-0.1118***	0.0853**	1							
INTER_EDUC	-0.0069	-0.1624***	0.1120***	0.3638***	1						
AUD	0.0532	-0.1573***	0.0384	-0.0321	0.035	1					
SIZE	-0.1495***	0.2239***	-0.1503***	0.1379***	0.0878**	-0.0806**	1				
LEV	0.1019***	0.0163	-0.0217	0.0415	0.0165	-0.0143	0.285***	1			
ROA	0.0657*	-0.0394	0.0116	-0.0226	0.0212	0.1158***	-0.1746***	-0.3477***	1		
CONC	-0.0029	0.2059***	-0.0014	0.1199***	0.0696*	-0.0739**	0.1816***	0.054	-0.0562	1	
MTB	0.1022***	-0.1426***	-0.0431	0.0512	0.1364***	0.1319***	-0.0272	0.1889***	0.5077***	-0.0782**	1

***, **, * highlights statistically significant results at the level of 0.01, 0.05 and 0.10, respectively.

Where: earnings management (EM) is obtained using the model by Kothari et al. (2005), age (AGE) corresponds to the age the CFO was at the date of the report, educational level (EDUC) is a dummy variable in which 1 is assigned to CFOs who had postgraduate degrees, professional internationalization (INTER_PROF) corresponds to the dummy variable in which 1 is assigned to CFOs who have worked in other countries, educational internationalization (INTER_EDUC) is a dummy variable in which one (1) is assigned to entities whose CFOs had educational experiences in other countries, the independent audit (AUD) is a dummy variable where 1 is assigned to entities that have been audited by a big-four, the total asset (SIZE) corresponds to the natural logarithm of total assets, the leverage (LEV) is the percentage of debt (liabilities) in relation to total resources (total assets), profitability (ROA) corresponds to the return on total assets, ownership concentration (CONC) is the percentage of shares concentrated in strategic shareholders and the Market-to-book (MTB) refers to the ratio between the market value and the book value of the share.

The age (p-value: 0.001) and educational level (p-value: 0.003) of CFOs present negative correlation with earnings management practices (Table 6). In addition, professional and educational experiences in other countries are not correlated with the adoption of earnings management practices in companies. The results show that none of the coefficients of the Spearman Correlation matrix was greater than 0.80 (Table 6). Hence, it is possible to assume that there are no multicollinearity problems in the model (Gujarati & Porter, 2011).

Considering the result of the Hausman Test (p-value: 0.9114), multiple regression with random effects was estimated to identify the association between CFO characteristics and entity earnings management (Table 7). Based on a significance level of 1%, it was identified that there is no autocorrelation of errors (p-value: 0.0259). However, the correction of robust standard errors was used to mitigate the non-compliance with the assumptions of normality of residuals (p-value: 0.000) and homoscedasticity (p-value: 0.0000).

Table 7

Regression based on panel data from 2010 to 2017

Variables	Coefficient	Robust standard errors	z statistics
AGE	-0.000*	0.000	-1.810
EDUC	-0.012***	0.003	-3,680
INTER_PROF	-0.003	0.003	-1.130
INTER_EDUC	0.004	0.003	1.360
AUD	-0.002	0.006	-0.320
SIZE	-0.001	0.001	-0.790
LEV	0.038***	0.011	3.450
ROA	0.053**	0.026	2.020
CONC	0.017**	0.008	2.230
MTB	-0.000	0.001	-0,660
Constant	0.060**	0.0240	2.540
Year Dummy	Included		
Industry Dummy	Included		
Observations	752		
Wald chi2	195.28		
R ²	0.2054		

Source: Research data

***, **, * highlights statistically significant results at the level of 0.01, 0.05 and 0.10, respectively.

Variables defined in tables 3 and 4.

The first hypothesis (H₁) considered that older CFOs are less likely to adopt earnings management practices. After all, older managers are more concerned with maintaining their reputations, are more cautious when carrying out analyzes for decision-making, are more averse to risk, give in less to internal and external pressures, and tend to adopt different behaviors concerning younger, especially when it comes to choices and risk (Zahra et al., 2007). So, as expected, the survey results (Table 7) show that older managers tend to adopt lower levels of earnings management when compared to younger managers (p-value: 0.070). These findings represent the Brazilian reality but also converge with the results of studies carried out in other countries (Huang et al., 2012; Ran et al., 2015; Xiong, 2016), which have already identified that older managers are more conservative and less likely to adopt earnings management practices. In practical terms, investors, market analysts, and other users of financial information may consider that younger managers are likely to take more risks and even more readily accept unethical behavior in the business environment (Twenge & Campbell, 2008).

The second hypothesis (H₂) considered that CFOs with an MBA, Master's, or Ph.D. are less likely to adopt earnings management practices. The aforementioned hypothesis is based on arguments related to the possibility that the manager with a graduate degree has a greater intellectual background, greater criticality, greater ability to find solutions, greater discernment to differentiate between right and wrong, and greater awareness of the importance of quality of financial information (Ran et al., 2015; Xiong, 2016; Zahra et al., 2007). In this sense, as expected, the results of this study (Table 7) show that managers with graduate degrees tend to adopt lower levels of earnings management when compared to managers who do not have graduate degrees (p-value: 0.000). These findings corroborate previous studies (Ran et al., 2015; Xiong, 2016) that found a negative association between educational level and earnings management practices. This convergence in the results is relevant because it may indicate that, both in Brazil and in other countries, companies whose CFOs have graduated may be less likely to disclose financial information with earnings management.

Finally, in the last hypothesis (H₃), it was considered that CFOs who had professional or educational experiences abroad are less likely to adopt earnings management practices. The present study raised this hypothesis based on the possibility that managers with international experience have more access to new

knowledge, cultures, and experiences that allow them to value the relevance of the primacy of financial statements with quality, comparability, and reliable representation (Dauth et al., 2017). However, different from what was seen in the study by Dauth et al. (2017), the results of this survey (Table 7) do not support H_3 . One of the possible explanations for these results is that the percentage of Brazilian CFOs who had professional (29%) and educational (42%) experiences in other countries are not so high. Another explanation is the possibility of professional and educational internationalization being different in other countries, such as Germany.

In general, it is noted that age (H_1) and educational level (H_2) are associated with earnings management in Brazilian companies, which is in line with the results of previous studies (Huang et al., 2012; Ran et al., 2015; Xiong, 2016) and with the Upper Echelon Theory. The present research findings indicate that investors, market analysts, and other users can assume that companies with older managers and higher educational levels tend to have lower levels of earnings management. On the other hand, international experiences (H_3) are not associated with earnings management of the Brazilian companies in the sample, which is not consistent with studies from other countries (Carpenter et al., 2001; Dauth et al., 2017). Patzelt (2010) pointed out that the internationalization of managers is a differential in organizational decisions. These results reinforce the evidence that some personal characteristics may be relevant in the context of particular countries but not in others.

Additionally, it is highlighted that the research results denote the sectors of activity (IND), the leverage (LEV), profitability (ROA), and shareholding concentration (CONC) are associated with management practices (Table 7). These results indicate that economic, contractual, and institutional factors are relevant to explaining earnings management, which shows that the foundations of the Positive Accounting Theory and Institutional Theory need to be considered in analyzing the quality of financial information.

The type of independent audit firm (AUD), the size of the asset (SIZE), and the MTB are not determinant factors of earnings management of the Brazilian entities included in the sample of this study (Table 7). Hence, to increase the robustness of the results, a new model was estimated without including the AUD, SIZE and MTB variables. As a result, the regression results did not change significantly, which suggests that the results of this study are robust and that the age and educational level of the CFOs are important factors for understanding the earnings management of the entities in which these professionals work.

5 Final Comments

This study aimed to verify whether the observable characteristics of CFOs are associated with adopting earnings management practices in Brazilian entities. To this end, information regarding the CFOs of 99 Brazilian publicly-held companies listed in the differentiated levels of corporate governance was collected from 2010 to 2017.

The research findings indicate that the professional and educational internationalization of the CFOs (H_3) do not present a significant association with the earnings management of the Brazilian entities present in the sample. Furthermore, the comparison of these results with the findings of studies carried out in other countries, such as the one by Dauth et al. (2017), may suggest that, depending on the characteristics of the country in which the company operates, the CFO may have greater or lesser freedom to use their characteristics in the decision-making process. These indications can be explained by the Upper Echelons Theory, which maintains that the environment of each country influences the manager's discretion in making his decisions. Thus, in countries with more flexible rules and less enforcement, managers are likely to have greater freedom and use more of their personal characteristics to make accounting decisions. In countries with less flexibility and greater enforcement, on the other hand, managers may use their characteristics less and make their decisions mainly considering the institutional pressures to which they are subjected. In practical terms, these results suggest that, at least in the context of the Brazilian companies in the sample, the international experiences of the CFOs are not significantly associated with the entities' earnings management practices. Therefore, it is conjectured that these experiences do not necessarily need to be considered by investors, market analysts, and other users of financial information when making decisions about investments, financing, and dividends.

The study results also indicate that age (H_1) and higher educational level (H_2) are negatively associated with adopting earnings management practices. This suggests that investors, market analysts, and other users of financial information can make decisions considering that entities whose managers are older or have a higher educational level tend to have lower levels of earnings management. On the other hand, entities whose managers are younger or do not have a graduate degree tend to adopt more management practices.

Based on the evidence of the study, it is conjectured that managers' decisions are not always rational because they consider their values and cognitions in the decision-making process. This implies that the personal characteristics of managers can be the subject of further investigation in the accounting area, mainly to understand which personal aspects of managers motivate them to manage the results of the

entities in which they work. Furthermore, the findings of this research also suggest that users of financial information, consultants, auditors, academics, and other stakeholders may consider that, in an accounting environment that requires managers to interpret standards, make judgments and make accounting decisions, managers' characteristics may affect the quality of financial information disclosed to users. Therefore, it is pertinent that more research needs to be carried out to broaden the understanding of the effects of managers' characteristics on accounting decisions.

The non-random sampling of Brazilian entities limited this research, that is, by the arbitrary choice of non-financial companies that were listed at different levels of corporate governance, a fact that prevents the generalization of the results for the other companies of B3. Even so, it is believed that the research results are robust, considering the context of the entities that adopt the best corporate governance practices and, supposedly, are more transparent regarding the information of their managers. Based on this methodological decision, 99 companies were part of the sample, representing approximately a quarter of publicly traded Brazilian companies. Finally, due to the model used to calculate discretionary accruals, in which ten companies are needed per year in each sector, not all sectors were represented in the survey.

Sprenger et al. (2017) evaluated the effect of CEO characteristics on entities' earnings management. This study, in turn, verified the observable characteristics of CFOs associated with earnings management practices. Thus, future developments of the present study can verify the association between the diversification of the observable characteristics of top management managers (directors and board directors) and the earnings management of entities. Another suggestion for future research is the evaluation of other characteristics of managers that may affect earnings management, such as narcissism, overconfidence, and risk propensity.

Finally, it is confirmed that previous research has predominantly sought to explain the earnings management of Brazilian entities through contractual, economic, and institutional aspects. However, the results of this study indicate that the observable characteristics of CFOs should also be considered in research because they can shape managers' decisions and, consequently, affect the entities' choices. Given the above, it is expected that future research on earnings management will also consider the characteristics of entity managers.

References

- Ali, M. J., & Ahmed, K. (2017). Determinants of accounting policy choices under International Accounting Standards: evidence from South Asia. *Accounting Research Journal*, 30(4), 430-446. <https://doi.org/10.1108/ARJ-02-2015-0020>
- Bamber, L. S., Jiang, J., & Wang, I. Y. (2010). What's my style? The influence of top managers on voluntary corporate financial disclosure. *The Accounting Review*, 85(4), 1131-1162. <https://doi.org/10.2308/accr.2010.85.4.1131>
- Becker, C. L., Defond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The Effect of Audit Quality on Earnings Management. *Contemporary Accounting Research*, 15(1), 1-24. <https://doi.org/10.1111/j.1911-3846.1998.tb00547.x>
- Benmelech, E., & Frydman, C. (2015). Military CEOs. *Journal of Financial Economics*, 117, 43-59. <https://doi.org/10.1016/j.jfineco.2014.04.009>
- Carpenter, M. A., Sanders, W. G., & Gregersen, H. B. (2001). Bundling human capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay. *Academy of Management Journal*, 44(3), 493-511. <http://dx.doi.org/10.2307/3069366>
- Cheng, Q., & Warfield, T. D. (2005). Equity Incentives and Earnings Management. *The Accounting Review*, 80(2), 441-476. <https://doi.org/10.2308/accr.2005.80.2.441>
- Cole, V., Branson, J., & Breesch, D. (2011). Determinants Influencing the de Facto comparability of European IFRS Listed Companies. *Working Paper*. <http://dx.doi.org/10.2139/ssrn.1967001>
- Collin, S. O. Y., Tagesson, T., Andersson, A., Cato, J., & Hansson, K. (2009). Explaining the choice of accounting standards in municipal corporations: Positive accounting theory and institutional theory as competitive or concurrent theories. *Critical Perspectives on Accounting*, 20(2), 141-174. <https://doi.org/10.1016/j.cpa.2008.09.003>
- Dauth, T., Pronobis, P., & Schmid, S. (2017). Exploring the link between internationalization of top management and accounting quality: The CFO's international experience matters. *International Business Review*, 26(1), 71-88. <https://doi.org/10.1016/j.ibusrev.2016.05.007>

- DeAngelo, L. (1986). Accounting numbers as market valuation substitutes: a study of management buy outs of public stockholders. *Accounting Review*, 61, 400-420. <https://www.jstor.org/stable/247149>
- Dechow, P. M., Ge, W., Larson, C. R., & Sloan, R. G. (2011). Predicting Material Accounting Misstatements. *Contemporary Accounting Research*, 28, 17-82. <https://doi.org/10.1111/j.1911-3846.2010.01041.x>
- Dechow, P. M., Richardson, S. A., & Tuna, I. (2003). Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies*, 8(2-3), 355-384. <https://doi.org/10.1023/A:1024481916719>
- Dechow, P. M., & Sloan, R. G. (1991). Executive incentives and the horizon problem. *Journal of Accounting and Economics*, 14, 51-89. [https://doi.org/10.1016/0167-7187\(91\)90058-S](https://doi.org/10.1016/0167-7187(91)90058-S)
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting Review*, 70(2), 193-225. <https://doi.org/10.1111/j.1911-3846.1996.tb00489.x>
- Defond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics*, 17, 145-176. [https://doi.org/10.1016/0165-4101\(94\)90008-6](https://doi.org/10.1016/0165-4101(94)90008-6)
- Dichev, I. D., Graham, J., Campbell, R. H., & Rajgopal, S. (2013). Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, 56, 1-33. <https://doi.org/10.1016/j.jacceco.2013.05.004>
- Dichev, I. D., & Skinner, D. J. (2002). Large-Sample Evidence on the Debt Covenant Hypothesis. *Journal of Accounting Research*, 40, 1091-1123. <https://doi.org/10.1111/1475-679X.00083>
- Fields, T., Lyz, T., & Vincent, L. (2001). Empirical research on accounting choice. *Journal of Accounting and Economics*, 31, 255-308. [https://doi.org/10.1016/S0165-4101\(01\)00028-3](https://doi.org/10.1016/S0165-4101(01)00028-3)
- Ge, W., Matsumoto, D., & Zhang, J. L. (2011). Do CFOs have style? An empirical investigation of the effect of individual CFOs on accounting practices. *Contemporary Accounting Research*, 28(4), 1141-1179. <https://doi.org/10.1111/j.1911-3846.2011.01097.x>
- González, J. S., & García-Meca, E. (2014). Does corporate governance influence earnings management in Latin American markets? *Journal of Business Ethics*, 121(3), 419-440. <https://doi.org/10.1007/s10551-013-1700-8>
- Gounopoulos, D., & Pham, H. (2018). Financial Expert CEOs and Earnings Management Around Initial Public Offerings. *International Journal of Accounting*, 53(2), 102-117. <https://doi.org/10.1016/j.intacc.2018.04.002>
- Gujarati, D. N., & Porter, D. C. (2011). *Econometria básica*. Tradução Denise Durante, Mônica Rosemberg, Maria Lúcia G. L. Rosa. Porto Alegre, AMGH, 5. ed.
- Hambrick, D. C. (2007). Upper e echelons theory: An Update. *Academy of Management Review*, 32(2), 334-343. <https://doi.org/10.5465/amr.2007.24345254>
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: the organization as a reflection of top managers. *Academy of Management Review*, 9, 193-206. <https://dx.doi.org/10.5465/AMBPP.1982.4976402>
- Healy, P. (1985). The impact of bonus schemes on the selection of accounting principles. *Journal of Accounting and Economics*, 7, 85-107. [https://doi.org/10.1016/0165-4101\(85\)90029-1](https://doi.org/10.1016/0165-4101(85)90029-1)
- Hitt, M. A., & Tyler, B. B. (1991). Strategic Decision Models: Integrating Different Perspectives. *Strategic Management Journal*, 12, 5, 327-351. <https://doi.org/10.1002/smj.4250120502>
- Hoff, J., & Vicente, E. F. R. (2016). Gerenciamento de resultados e a remuneração variável dos executivos das companhias brasileiras listadas na BM&FBOVESPA. *Revista Contabilidade Ufba*, 10(2), 64-81. <http://dx.doi.org/10.9771/rc-ufba.v10i2.17027>

- Hooghiemstra, R., Hermes, N., Oxelheim, L., & Randoy, T. (2019). Strangers on the board: The impact of board internationalization on earnings management of Nordic firms. *International Business Review*, 28(1), 119-134. <https://doi.org/10.1016/j.ibusrev.2018.08.007>
- Huang, H. W., Rose-Green, E., & Lee, C. C. (2012). CEO Age and Financial Reporting Quality. *Accounting Horizons*, 26(4), 725-740. <https://doi.org/10.2308/acch-50268>
- Jiang, F., Zhu, B., & Huang, J. (2013). CEO's financial experience and earnings management. *Journal of Multinational Financial Management*, 23(3), 134-145. <https://doi.org/10.1016/j.mulfin.2013.03.005>
- Jiang, J., Petroni, K. R., & Wang, I. Y. (2010). CFOs and CEOs: Who have the most influence on earnings management? *Journal of Financial Economics*, 96, (3), 513-526. <https://doi.org/10.1016/j.jfineco.2010.02.007>
- Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193-228. <https://doi.org/10.2307/2491047>
- Kang, S., & Sivaramakrishnan, K. (1995). Issues in testing earnings management and an instrumental variable approach. *Journal of Accounting Research*, 33(2), 353-367. <https://doi.org/10.2307/2491492>
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Lassoued, N., Attia, M. B. R., & Sassi, H. (2017). Earnings management and ownership structure in emerging market: Evidence from banking industry. *Managerial Finance*, 43(10), 1117-1136. <https://doi.org/10.1108/MF-11-2015-0312>
- Leuz, C. (2010). Different approaches to corporate reporting regulation: How jurisdictions differ and why. *Accounting and Business Research*, 40(3), 226-256. <https://doi.org/10.1080/00014788.2010.9663398>
- Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics*, 89, 20-43. <https://doi.org/10.1016/j.jfineco.2007.07.002>
- Martinez, A. L. (2001). *Gerenciamento dos resultados contábeis: estudo empírico das companhias abertas brasileiras*. Tese de doutorado, Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, Brasil.
- Martinez, A. L. (2010). Quando o conselho de administração e a auditoria evitam o gerenciamento de resultados? Evidências empíricas para empresas brasileiras. *Revista de Informação Contábil*, 4(1), 76-93. <https://doi.org/10.34629/ric.v4i1.76-93>
- Martins, V. G., Paulo, E., & Monte, A. (2016). O gerenciamento de resultados contábeis exerce influência na acurácia da previsão dos analistas no Brasil? *Revista Universo Contábil*, 12(3), 73-90. <https://doi.org/10.4270/RUC.2016322>
- Mazzioni, S., Prigol, V., Moura, G. D., & Klann, R. C. (2015). A influência da governança corporativa e da estrutura de capital no gerenciamento de resultados. *Revista Contemporânea de Contabilidade*, 12(27), 61-86. <https://doi.org/10.5007/2175-8069.2015v12n27p61>
- Missonier-Piera, F. (2004). Economic determinants of multiple accounting method choices in a Swiss context. *Journal of International Financial Management and Accounting*, 15(2), 118-144. <https://doi.org/10.1111/j.1467-646X.2004.00104.x>
- Nelson, S. P., & Devi, S. (2013). Audit committee experts and earnings quality. *Corporate Governance: The international journal of business in society*, 13(4), 335-351. <https://doi.org/10.1108/CG-02-2011-0009>
- Nobes, C. The continued survival of international differences under IFRS. *Accounting and Business Research*, v. 43, n. 2, pp. 83-111, 2013. <https://doi.org/10.1080/00014788.2006.9730023>
- Nobes, C., & Perramon, J. (2013). Firm Size and National Profiles of IFRS Policy Choice. *Australian Accounting Review*, 23(3), 208-215. <https://doi.org/10.1111/j.1835-2561.2012.00203.x>

- Pae, J. (2005). Expected accrual models: the impact of operating cash flows and reversals of accruals. *Review of Quantitative Finance and Accounting*, 24(1), 5-22. <https://doi.org/10.1007/s11156-005-5324-7>
- Park, Y. W., & Shin, H. H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance*, 10, 431-457. [https://doi.org/10.1016/S0929-1199\(03\)00025-7](https://doi.org/10.1016/S0929-1199(03)00025-7)
- Parker, P. D., Swanson, N. J., & Dugan, M. T. (2016). Management of pension discount rate and financial health. *Journal of Financial Economic Policy*, 8(2), 142-162. <https://doi.org/10.1108/JFEP-08-2015-0047>
- Patzelt, H. (2010). CEO human capital, top management teams, and the acquisition of venture capital in new technology ventures: An empirical analysis. *Journal of Engineering and Technology Management*, 27(3-4), 131-147. <https://doi.org/10.1016/j.jengtecman.2010.06.001>
- Paulo, E. (2007). *Manipulação das informações contábeis: uma análise teórica e empírica sobre os modelos operacionais de detecção de gerenciamento de resultados*. Tese de doutorado, Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, Brasil.
- Peasnell, K. V., Pope, P. F., & Young, S. (2000). Detecting earnings management using cross-sectional abnormal accrual models. *Accounting and Business Research*, 30(4), 313-326. <https://doi.org/10.1080/00014788.2000.9728949>
- Qi, B., & Tian, G. (2012). The Impact of Audit Committees' Personal Characteristics on Earnings Management: Evidence from China. *Journal of Applied Business Research*, 28(6), 1331-1344. <https://doi.org/10.19030/jabr.v28i6.7347>
- Quagli, A., & Avallone, F. (2010). Fair Value or Cost Model? Drivers of Choice for IAS 40 in the Real Estate Industry. *European Accounting Review*, 19(3), 461-493. <https://doi.org/10.1080/09638180.2010.496547>
- Ran, G., Fang, Q., Luo, S., & Chan, K. C. (2015). Supervisory board characteristics and accounting information quality: Evidence from China. *International Review of Economics & Finance*, 37, 18-32. <https://doi.org/10.1016/j.iref.2014.10.011>
- Scott, W. R. (2009). *Financial Accounting Theory*. Toronto: Pearson.
- Sincerre, B. P., Sampaio, J. O., Famá, R., & Santos, J. O. (2016). Emissão de dívida e gerenciamento de resultados. *Revista Contabilidade & Finanças*, 27(72), 291-305. <https://doi.org/10.1590/1808-057x201601660>
- Sprenger, K. B., Kronbauer, C. A., & Costa, C. M. (2017). Características do CEO e o Gerenciamento de Resultados em Empresas Listadas na BM&FBovespa. *Revista Universo Contábil*, 13(3), 120-142. <https://doi.org/10.4270/RUC.2017321>
- Stadler, C., & Nobes, C. W. (2014). The Influence of Country, Industry, and Topic Factors on IFRS Policy Choice. *Abacus*, 50(4), 386-421. <https://doi.org/10.1111/abac.12035>
- Sweeney, A. P. (1994). Debt-covenant violations and managers accounting responses. *Journal of Accounting and Economics*, 17, 281-308. [https://doi.org/10.1016/0165-4101\(94\)90030-2](https://doi.org/10.1016/0165-4101(94)90030-2)
- Tendeloo, B. V., & Vanstraelen, A. (2005). Earnings management under German GAAP versus IFRS. *European Accounting Review*, 14(1), 155-180. <https://doi.org/10.1080/0963818042000338988>
- Troy, C., Smith, K. G., & Domino, M. A. (2011). CEO demographics and accounting fraud: Who is more likely to rationalize illegal acts? *Strategic Organization*, 9(4), 259-282. <https://doi.org/10.1177/1476127011421534>
- Twenge, J. M.; Campbell, S. M. (2008)._Generational differences in psychological traits and their impact on the workplace. *Journal of Managerial Psychology*, 23(8), 862-877. <https://doi.org/10.1108/02683940810904367>
- Watts, R. L. (1992). Accounting choice theory and market-based research in accounting. *The British Accounting Review*, 24(3), 235-267. [https://doi.org/10.1016/S0890-8389\(05\)80023-X](https://doi.org/10.1016/S0890-8389(05)80023-X)

Waweru, N. M., Ntui, P. P., & Wangena, M. (2011). Determinants of different accounting methods choice in Tanzania. *Journal of Accounting in Emerging Economies*, 1(2), 144-159. <https://doi.org/10.1108/20421161111138503>

Xiong, J. (2016). Chairman Characteristics and Earnings Management: Evidence from Chinese Listed Firms. *Open Journal of Accounting*, 5, 82-94. <https://dx.doi.org/10.4236/ojacct.2016.54008>

Zahra, S. A., Priem, R. L., & Rasheed, A. A. (2007). Understanding the Causes and Effects of Top Management Fraud. *Organizational Dynamics*, 36(2), 122-139. <https://doi.org/10.1108/hrmid.2007.04415gad.001>

NOTES

ACKNOWLEDGMENT

Does not apply.

AUTHORSHIP CONTRIBUTION

Design and preparation of the manuscript: N. S. Almeida

Data collection: N. S. Almeida

Data analysis: N. S. Almeida, S. Lemes

Discussion of results: N. S. Almeida, S. Lemes

Review and approval: N. S. Almeida, S. Lemes

DATASET

The dataset that supports the results of this study is not publicly available.

FINANCING

Does not apply.

CONSENT TO USE IMAGE

Does not apply.

APPROVAL OF THE RESEARCH ETHICS COMMITTEE

Does not apply.

CONFLICT OF INTERESTS

Does not apply.

USE LICENSE

Copyrights for articles published in this journal are the author's, with first publication rights for the journal. Due to appearing in this Public Access Journal, the articles are free to use, with their own attributions, in educational, professional and public management applications. The journal adopted the [Creative Commons Attribution 4.0 International license - CC BY NC ND](https://creativecommons.org/licenses/by-nc-nd/4.0/). This license allows accessing, downloading, copying, printing, sharing, reusing and distributing the articles provided that the source is acknowledged, attributing the due authorship credits. In such cases, no permission is required from the authors or editors. Authors are authorized to assume additional contracts separately, for non-exclusive distribution of the version of the work published in this journal (eg, publishing in institutional repository or a book chapter).

PUBLISHER

Federal University of Santa Catarina. Accounting Sciences Course and Postgraduate Program in Accounting. Publication on the [UFSC Journal Portal](https://ufsc.br/portal). The ideas expressed in this article are the responsibility of their authors, and do not necessarily represent the opinion of the editors or the university.

EDITORS

José Alonso Borba, Denize Demarche Minatti Ferreira, Carlos Eduardo Facin Lavarda.

HISTORIC

Received on: 20/04/2021 - Peer reviewed on: 17/08/2021 - Reformulated on: 25/10/2021 - Recommended for publication on: 29/06/2022 - Published on: 30/06/2022