THE EFFECT OF ACCOUNTING TIMELINESS ON EARNINGS MANAGEMENT FOR BRAZILIAN COMPANIES LISTED ON B3

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Abstract

Objective: Accounting timeliness consists in the availability of information to users in time to influence their decisions. The purpose of this article is to verify the effect of the timeliness of financial reporting on earnings management of publicly traded Brazilian companies listed on B3, using three proxies for timeliness: delay in publication, missing the disclosure deadline and republication.
Method: The sample consists of 172 companies, in the period between 2010 and 2018. The dependent variable represents earnings management and was measured by the Jones Model modified by Dechow, Sloan and Sweeney (1995). The independent variable represents the timeliness and control variables were included, which are: company size, companies audited by Big Four, indebtedness, corporate governance, operating cash flow and loss for the period. Panel data regressions were used.
Results: The results provided by the six models show that timeliness has a positive and significant relationship with earnings management, that is, companies that delay and even miss the deadline for publishing their financial reports signal greater earnings management. The findings also denote that companies that republish, spontaneously or mandatorily, tend to a better earnings management.
Contributions: One of the main contributions of the research is to show that the timeliness of financial reports can signal opportunistic management practices through the use of earnings management, thus interfering in the decision-making process of users of accounting information.

Keywords: Timeliness, Earnings Management, Earnings Quality, Loss of Disclosure Deadline.

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▪ DOI: http://dx.doi.org/10.14392/asaa.2021140102
▪ Recieved: 01/10/2020. Accepted: 07/12/2020.

INTRODUCTION

To help internal and external users in the necessary decision-making process, information from financial reports is used. Thus, more and more users demand accounting demonstration to report quality information, which means they are useful to their decisions. The Committee of Accounting Announcements (CPC) (2019) states that the information utility is, fundamentally, its relevance and reliable representation, and to improve the information provided, they need to be comparable, verifiable, understandable and timely. However, there are factors that may affect, intentionally, the quality of the information, due to the managers' accounting discretion, resulting in earnings management due to informational aspect or opportunistic way of acting (Subramanyam, 1996).

To assess information quality, the accounting profit is normally used, due to its power to inform the company's financial performance (Dechow, Ge & Schrand, 2010) and prediction ability (Hendriksen & Van Breda, 2012). Among many measurements used to verify the effects on the accounting information quality, Paulo (2007), from the analysis of previous research, highlights three measurements: persistence; conservatism and earnings management.

The accounting earnings management is the managers' deliberative action of modifying, intentionally, accounting earnings to obtain particular benefits that are not to express the company's real performance nor to promote information transparency (Martinez, 2001; Schipper, 1989).

The information reliable representation is affected by the earnings management in an opportunistic way. Besides, another factor that makes information useful to users is relevance, which is improved by timeliness (CPC, 2019). Timeliness consists of having information available in the appropriate time to influence the users' choices (CPC, 2019). The information is useful not only by its nature or content, but it is also associated with the time of accounting demonstrations disclosure, thus the quality of information relates to how fast it is disclosed to its users (Kirch, Lima & Terra, 2012).

Accounting information timeliness is a relevant qualitative characteristic since it can influence the users' decision-making when made available in the appropriate time (Ahmad & Kamarudin, 2003; Barcellos, Costa & Laurence, 2014).

There are gaps in Brazilian literature regarding timeliness. Previous research limits to investigate factors that influence in the moment of disclosure of financial reports (Barcellos et al., 2014; Kirch et al., 2012; Sá, 2014; Souza, Silva & Macedo, 2018).

In light of these facts, the research brings the main question: What is the effect of timeliness in the publishing of financial reports in earnings management of public Brazilian companies? Specifically, the study aims to verify the impact of timeliness measures of accounting information in the earnings management of public Brazilian companies listed on B3.

The investigation about the timeliness effect on the disclosure of reports in the earnings quality implies the quality of accounting information reported to the users, a characteristic that may influence in decision-making. The research is relevant to the many accounting information users, given that it reduces informational asymmetry and, consequently, damages caused by the managers' opportunistic behavior.

The research is important to the regulator agency of the market because it cooperates to the well and fair functioning of the financial market to attract new investments and foment economic activity growth, indicated by the increase of Gross Domestic Product (PIB), which reflects the country's economic development, verified by job creation and, consequently, growth in products and services offer, assisting in inflation control.

Finally, the research is relevant because it contributes to the Brazilian literature by expanding the perspective of timeliness investigation relating to other information quality proxy, previously limited to investigation of factors for the disclosure moment, and also because it arouses interest in students for further research and foments the importance of checking the information provided by accounting professionals.

Besides introduction, there are other four sections to this study structure. The second part refers to the theoretical background; the third one, methodology; the fourth one, research data presentation; finally, the last section shows the final considerations, limitations and suggestions for further research

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2 THEORETICAL REFERENCES

2.1 Information asymmetry and agency theory

Business development brought a more complex organizational system, showing the necessity for decentralization of managerial control, previously exclusive to owners (Nascimento & Reginato, 2008). In this connection, the agency theory came up, bringing contractual relationships as fundamental principle, both formal and informal; it is a principal-agent relationship in which, presumably, the agent will perform something for the principal and receive compensation in return (Martinez, 1998).

The principal-agent relationship does not boil down to owners and managers, but also among managers, which means the relationship exists between external users and administrators and among the internal users of the information (Nascimento & Reginato, 2008). The agency theory seeks to reach an efficient contractual model, but, with principal's and agent's interests misaligned, there is the agency problem, which comes from the need to consider that the agent also has their own function utility consisting of their actions (Hendriksen & Van Breda, 2012).

Considering the function utility of both parties, Jensen e Meckling (1976, p. 5) state that "If both parties to the relationship are utility boosters, there is good reason to believe that the agent will not always act in the best interests of the principal". From this conflict of interest, according to Nascimento and Reginato (2008), comes the informational asymmetry phenomenon, due to the lack of awareness of the necessary information to help users choose.

Information asymmetry may come up from two problems: adverse selection and moral hazard. The former means non-available information equally between the principal and the agent, which means there is hidden information before contract establishment. The latter happens when the agent has an opportunistic behavior or provides distorted information for their own advantage and the principal is unable to monitor the agent's actions due to said hidden actions (Milgrom & Roberts, 1992).

2.2 Earnings quality

Accounting earnings are important because they have informational power, such as the probable capability of prediction (Hendriksen & Van Breda, 2012). Therefore, it is necessary to investigate their quality, determining if companies report earnings with lower or greater quality. There are factors that may affect quality, such as conservatism, depreciation method, earning originating from the company's operation and not from extraordinary operations, tax legislation, among others (Costa, Teixeira & Nossa, 2002).

Earnings quality may be defined, according to Dechow et al. (2010, p. 344), as "high-quality earnings that provide more information about the financial performance resources of a company and that are relevant for a specific decision made by a specific decision-maker". From this definition, there are three decisive characteristics: (1) dependency of the information relevance for decision-making; (2) reported earnings are financial performance information; and (3) combination of financial performance relevance over decision and of measurability of performance by the accounting system.

There is a number of possible measurements to check the impacts on accounting information quality. Paulo (2007), from previous research analysis, highlights three measurements: persistence; conservatism and earnings management. In this study, the earnings management will be used as earnings quality proxy, given that, due to the law and accounting standards flexibilization, it is possible to be subjective when adopting criteria and accounting procedures by the managers from the user's informational need (Goulart, 2007).

Managers use subjectivity to intervene, intentionally, in the financial reports making, in order to manipulate them to fool information users about the company's performance and influence contractual earnings that rely on the accounting information providing (Healy & Wahlen,1999; Schipper, 1989).

It is important to stress that, apart from the earnings management from an opportunistic perspective, such management is also possible to happen from an informational perspective, in which accounting discretion is used to improve the earnings capacity reported in reflecting the company value, that is, improve informational quality (Schipper, 1989; Subramanyan, 1996).

To investigate managers' earnings management practices, it is possible to consider the incentives that may influence the administrators' actions, through test of non-expected accruals (discretionary accruals), checking if they are consistent with the incentives (Healy & Wahlen, 1999).

Among the many incentives related to earnings management practices, Martinez (2011) highlights four classifications: motivations linked to the capital market; contractual motivations; regulatory motivations and political costs. Martinez (2013) points out two earnings management practices: through accruals and through operational decisions. The former means accounting practices choices allowed by legislation and the latter, by the operational decision-making aiming to report and disclose divergent accounting numbers (Martinez & Cardoso, 2009).

The measurement of accruals of discretionary accruals by a company may seggregate, comparatively, into companies that manage earning roughly, given that, through the measurement metric, all companies would manage earnings at some point (Martinez, 2013).

Normally, discretionary accruals are estimated as earnings management proxy. In Brazilian research, Baptista (2009) verified that the most used proxies for earnings management were: the range of small profits from the frequency distribution of results, the "error" of the aggregate non-discretionary accruals estimation models (i.e., discretionary accruals) and the "error" of the specific non-discretionary accruals estimation models.

2.3 Timeliness of accounting information

According to the Basic Conceptual Announcement 00 (R2) (CPC, 2019), financial accounting information, to be considered useful, needs to be relevant and represent data reliably; these qualititative aspects are fundamental. To improve the information's utility, it must be comparable, verificable, timely and understandable.

Accounting information timeliness is considered to be a qualitative aspect because it can influence the users' decision-making process when the information are made available in the appropriate moment (Ahmad & Kamarudin, 2003; Barcellos, Costa & Laurence, 2014).

Making the information useful is not necessarily connected to its nature and content, but also with its disclosure period, that is, timeliness. Regarding the definition of the disclosure moment, high-quality and reliable information may lose its utility if not provided at the appropriate moment. Therefore, disclosure quality is also related to how promptly the reports are made available to users (Kirch et al., 2012).

The managers' discretion regarding the disclosure moment and definition of accounting practices within corporate legislation allows earnings management through accruals. According to Cupertino (2013), between the year-end closing and the financial reports disclosure dates, managers verify operational earnings and determine the amount to be recorded through accruals management, that is, they are an ex post way of manipulation.

Determining the appropriate moment for financial reports disclosure means discrepancy in publication, which is the period between year-end closing and disclosure date (Kirch et al., 2012). The reports disclosure moment is susceptible to opportunistic action, since, according to the positive accounting theory, the choice is determined by existing incentives to both delay or advance the disclosure (Barcellos et al., 2014; Martinez, 2013).

To ensure access to the accounting information, the Companies Act establishes, indirectly, a deadline of three months after the year-end closing for reports disclosure when it refers to the Ordinary General Meeting (law no. 6404, 1976).

There is an improvement in users' decision-making and, consequently, decrease of informational asymmetry in the capital market through information timeliness announcement (Owusu-Ansah & Leventis, 2006). Presumably, companies that tend to miss the deadline to disclose information are the same that provide untimely information, thus, the delay in reports disclosure increases uncertainty in investments decision and decreases information content and relevance (Turel, 2010).

There is also need to republish both mandatory and spontaneous demonstrations. The former are required by the regulatory agency (Securities and Exchange Commission, CVM) or interested parties (independent auditors), while the latter are the company's initiative, unrelated to contractual or normative determination (Marques, 2016).

According to Marques (2016), republishing accounting demonstrations means there is need for correcting errors and/or omissions regarding acknowledgement, measurement or disclosure of information, which significantly affects the external users' decision-making process, therefore allowing risk mitigation of the adverse selection coming from the informational asymmetry. Such changes come from the intentional choice of accounting policies that are favorable to the managers' interests or even from the request to rectify disclosed information when errors or frauds are identified.

Republishing, intentional or not, due to errors and/or ommissions, affects the quality of the reported information, since it indicates intentional earnings management, which in turn would affect the information users' decision-making process (Dechow et al., 2010; Di Pietra, Mcleay & Ronen, 2014).

2.4 Research hypotheses delineation

The first hypothesis concerns publishing discrepancy. It is expected that companies with longer deadlines for disclosure tend to have greater earnings management. Many studies show that companies with negative results tend to disclose information later compared to the ones that showed profit (Barcellos et al., 2014; Kirch et al., 2012; Paulo & Leme, 2009; Sá, 2014; Silva, Silva & Sancovschi, 2006). Among many incentives for opportunistic earnings manipulation, avoiding the disclosure of accounting losses represents low information quality (Paulo, 2007). Therefore, the first research hypothesis is the following:

H1: Companies that take longer to disclosure financial reports tend to have greater earnings management reporting low-quality profits.

The second research hypothesis concerns missing the disclosure deadline. Souza et al. (2018) point out that companies audited by Big Four show lower chances of missing the disclosure deadline, while indebted and financially damaged companies have higher chances of missing the disclosure deadline. The presence of independent auditors in audited entities in companies of the Big Four group results in lower tendency to earnings management through accounting choices (through discretionary accruals) than those not belonging to the group (Almeida & Almeida, 2009; Martinez, 2011; Martinez, 2013). Among the management incentives, the level of indebtedness signals profits low quality (Dechow et al., 2010; Martinez, 2001). Based on the association of factors that affect the deadline meeting and of those related to incentives and counter-incentives, the second research hypothesis comes up:

H2: Companies that missed the financial reports disclosure deadline tend to have a greater earnings management, reporting lower quality profits.

The third research hypothesis is related to financial reports republishing. Marques, Amaral, Souza, Santos and Belo (2017) reported that the earnings mangement incentives referring to political costs (measured through the company's size) and the agent's opportunism (measured by the compensation package) have significantly positive effect on republishing; the level of indebtedness showed expected results, but not enough significant statistic support. Republishing indicates earnings management (Dechow et al., 2010). Therefore, the third research hypothesis is the following:

H3: Companies that republish their financial reports tend to have greater earnings management, reporting lower quality profits.

3 METHODOLOGY

3.1 Definition of sample and data collection

This research seeks to analyze if timeliness in publishing financial reports impacts the profts quality through earnings management. Therefore, 301 companies were initially analyzed, all listed on Brazil Stock Exchange and Over-the-Counter Market (B3) between 2010 and 2018.

Table 1 depicts the amount of companies that compose the sample, the initial amount of companies in the study and the criteria used to remove companies from the sample:

Table1 – Criteria for removing companies from the sample

Observation of companies from 2010 to 2018	301
(-) Companies that do not repeat in the analysis years	(85)
(-) Financial sector companies	(44)
(=) final amount of companies in the research	172

Source: Authors' elaboration (2020).

After removing companies from the sample according to defined criteria, 172 companies were analyzed in each year from 2010 to 2018, adding up to 1,548 observations in the analysis period.

It is important to stress that the financial-economic information was obtained from the ComDinheiro database and tabulated in Excel spreadsheets, which serve as basis for the statistical system used to obtain the results.

3.2 Earnings management model

Discretionary accruals were used in the study as earnings management proxy, given they can be used by managers as tools to reach their own interests (Paulo, 2007). To measure the discretionary accruals of the research, the Jones model modified by Dechow et al (1995) was used. Hereinafter, two necessary moments for discretionary accruals measurement are systematically described.

First, finding the total accruals (TA) of the company, commonly made focused on financial statements (Martinez, 2013) according to Equation 1:

$$TA_{it}=(\Delta CA_{it}-\Delta CL_{it}-\Delta Cash_{it}+\Delta STD_{it}-Dep_{it})/At_{it-1} \quad (1)$$

For the second moment, it is necessary to find estimatives of parameters α, β1 and β2 and discretionary accruals (DA) through the Jones model modified according to Equation 2:

$$TA_{it}= \alpha\,(1/A_{t-1})+\beta_1\,(\Delta R_{it}-\Delta CR_{it})+\beta_2\,(PPE_{it})+\mu_{it} \quad (2)$$

For the research, the discretionary accruals were obtained through residues ($\mu_{i,t}$) of regression of Equation 2 and regression models were used.

For a better understanding of the equations, Table 2 explains the abreviations and symbols.

Table 2 – Abbreviations, symbols and meanings of the management model variables

Abbreviations	Meaning
$TA_{i,t}$	Total accruals of company i in period t, measured through total assets in t-1
$\Delta CA_{i,t}$	Variation in current assets of company i in period t
$\Delta CL_{i,t}$	Variation in current liability in company i in period t
$\Delta Cash_{i,t}$	Variation of cash and equivalent to cash of company i in period t
$\Delta STD_{i,t}$	Variation of debt of current liability in company i in period t
$Dep_{i,t}$	Depreciation and amortisation expenses of company i in period t
$AT_{i,t-1}$	Total assets of company i in the end of period t-1
ΔR_{it}	Variation of liquid revenues of company i in period t-1 for period t, measured through the total assers in the end of period t-1
ΔCR_{it}	Variation of accounts receivable (clients) of company i in period t-1 for period t, measured through the total assers in the end of period t-1
PPE_{it}	Balance of accounts of fixed asset of company i in period t-1 for period t, measured through the total assers in the end of period t-1
$\mu_{i,t}$	Regression error (residues) that represents the accruals' discretionary part
α, β1, β2	Coefficients estimated in regressions of Equation 2

Source: Authors' elaboration (2020).

3.3 Definition of study variables

The earnings management (EM) is the interesting variable of this research, that will be measured through the Jones model modified by Dechow et al (1995), which provides mensuration of companies' discretionary accruals.

In this research, to check dependent variable, three independent variables were tested, that represent proxies of timeliness in the companies financial reports disclosure. They are: missing of the deadline for financial reports disclosure; discrepancy in disclosure and republishing (Kirch et al., 2012; Marques et al., 2017; Souza et al., 2018).

Besides, variables were used that aim to control the accruals variation in the entities. They are: size (SIZ), companies audited by Big Four (AUD), indebtedness (DEB), different levels of corporate governance (GOV), losses (LOSS) and operational cash flow (OCF). Table 3 shows the research variables and the way they were measured:

Table 3 – Variables, measurement and data source

Variables	Measurement	Data source
Dependent Variable		
Earnings Management (EM)	Discretionary accruals module in company i in period t through the Jones model modified by Dechow et al. (1995).	ComDinheiro website
Independent Variables		
Publishing Discrepancy (DP)	Discrepancy in disclosing in days (Kirch et al., 2012).	Securities and Exchange Commission Reports
Missing Deadline (MD)	Dummy that takes value 1 if the company missed the disclosure deadline, otherwise 0 (Souza et al., 2018).	Securities and Exchange Commission Reports
Republishing (REP)	Dummy that takes value 1 if the company republished demonstrations, otherwise 0 (Marques et al, 2017).	Securities and Exchange Commission Reports
Control Variables		
Size (SIZ)	LN(Assets), onde LN = natural logarithm. (Kirch et al., 2012)	ComDinheiro website
Auditing (AUD)	Dummy that takes value 1 if the company is audited by Big Four, otherwise 0 (Ahmad & Kamarudin, 2003).	Securities and Exchange Commission Reports
Indebtedness (DEB)	Total liability/Total asset (Sá, 2014).	ComDinheiro website
Corporate Governance (GOV)	Dummy that takes values 1 if the company joined Level 1, Level 2 ou B3 New Market, otherwise 0 (Kirch et al., 2012)	ComDinheiro website
Losses (LOSS)	Dummy that takes value 1 if the company had net losses in the quarter, otherwise 0 (Kirch et al., 2012)	ComDinheiro website
Operational Cash Flow (OCF)	Operational cash flow logarithm (Moreira, Jones, Tavares, Ferh, & Silva, 2014)	ComDinheiro website

Source: Authors' elaboration (2020).

It is important to stress that after adopting timeliness proxies through previous research analysis, hypotheses were formulated (H1, H2 and H3), described in subsection 2.4 of this study.

3.4 Models used in the study

To examine the data, the data panel regression statistical model was used, for both fixed and random effects, to verify the relationship between the variables shown in Table 3. Equation 3 shows the general model of the proposition of equation for data panel regression, split into specific models.

$$|EM_{i,t}|=\beta_0+\beta_1 TIME_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (3)$$

The variable named ADD refers to the discretionary accruals obtained through the earnings management model by Dechow et al. (1995), described in section 3.2 of this study. After the equation equality,

the independent and control variables are shown, as described in Table 3, and ε_(i,t) refers to the model estimated error term.

Regressions were estimated for each timeliness proxy (TIME) used in the study to obtain the results of the independent variable. Next, the equations corresponding to the regression models used are shown.

First, for the publishing discrepancy proxy (H1), two regression models were estimated, regarding the number of days the company took to disclosure the first (DP1) and last (DP2) version of demonstrations, which are Models 1 and 2 of this study.

$$|EM_{i,t}|=\beta_0+\beta_1 DP1_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (4)$$

$$|EM_{i,t}|=\beta_0+\beta_1 DP2_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (5)$$

Then, the same happened to the deadline missing proxy (H2), in which regressions were estimated regarding the companies that missed the disclosure deadline of the Standard Financial Demonstrations, the Quarterly Information, separately, and then the SFD and QI together, corresponding to Models 3, 4 and 5 of this study.

$$|EM_{i,t}|=\beta_0+\beta_1 PDSFD_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (6)$$

$$|EM_{i,t}|=\beta_0+\beta_1 PDQI_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (7)$$

$$|EM_{i,t}|=\beta_0+\beta_1 PDSFDQI_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (8)$$

Finally, model 6 is the regression estimate of companies that republished (H3) their demonstrations, be it due to Securities and Exchange Commission request or own initiative, as shown next:

$$|EM_{i,t}|=\beta_0+\beta_1 REP_{i,t}+\beta_2 SIZ_{i,t}+\beta_3 DEB_{i,t}+\beta_4 AUD_{i,t}+\beta_5 GOV_{i,t}+\beta_6 LOSS_{i,t}+\beta_7 OCF_{i,t}+\varepsilon_{i,t} \quad (9)$$

The results of the regressions described above and additional tests were obtained through a statistical software: Gnu Regression, Econometrics and Time- series Library (GRETL).

4 RESULTS AND DISCUSSION

4.1 Regression model validation tests

This subsection depicts the results obtained through the esimate of the six data panel regression models for timeliness proxies used in the research. It was necessary to analyze the data behaviors through validation tests of the regression models.

The tests applied to each model were: (1) residues heteroscedasticity through the White test; (2) normality test; and (3) multicollinearity test through Variance Inflation Factors (VIF).

Also for choosing the type of effect used for data interaction in regressions in panel, panel diagnosis tests were used. They were: (1) residues variance test; (2) Breusch-Pagan test and finally (3) Hausman test.

Regarding heteroscedasticity, regression residues of the six models used showed LM result between 209.86 and 224.508, and Chi-squared (2) between 279.245 and 293.567; also p- value <0.05 indicating

the residues are heteroscedastic, thus the White test was used to correct robust standard errors through the HAC matrix.

The regression residue normality test showed that the six models reject null hypothesis of normal residue distribution, because they showed p- value <0,05. However, taking into account that 1,548 observations were made for the research, it is possible to consider the residues have normality in their distribution.

The multicollinearity test through VIF results showed the variables are not multicollinear, since all models show VIF under 10.00 in the range between 1.014 and 1.823, which indicates the variables do not present a multicollinearity problem, that is, none of the independent variables have correlation.

Seeking to find the most appropriate panel effect for the data used in this research, the diagnosis in panel tests were applied. Through residue variance test, all models validate the alternative hypothesis of fixed effects, to the disavantage of the grouped OLS. In the Breusch-Pagan test, all models validate the alternative hypothesis of random effects instead of grouped OLS. Finally, through the Hausman test, all models validate the alternative hypothesis of fixed instead of random effects. All models used in this research adopted the fixed model effect, except for models 2 and 5.

For the research, models 2 and 5 and random effects in data panel regressions were chosen, since they offer more robust and, consequently, more consistent results.

It is important to highlight that in the models that used the panel fixed model, the variable corresponding to the corporate governance different level was, automatically, omitted when running the statistics software, Gretl, given the variable exhibited the same values over the years of the sample, that is, it showed exact collinearity problem, the relationship between independent variables. Due to that fact, only models 2 and 5 using random effects model showed results related to the variable.

4.2 Data panel regression tests

As shown in subsection 4.1, the data panel regression models were tested by both fixed and random effects. The results are depicted in Tables 4, 5 and 6, summarized with the independent and control variables.

Table 4 shows the results obtained through data panel regression by fixed and random effects for the independent variable timeliness related to the financial reports diclosure discrepancy.

Table 4 – Relationship between publishing discrepancy and earnings management

Variables	Model 1 (DP1)	Model 2 (DP2)
Constant	0,359763	0,197766
	(0,0001) ***	(0,0001) ***
DP	0,000253706	5,40014e-05
	(0,0474) **	(0,0805) *
SIZ	-0,0360287	-0,0150614
	(0,0001) ***	(0,0001) ***
DEB	0,0446614	0,0313674
	(0,0005) ***	(0,0028) ***
AUD	0,00409222	-0,00451055
	(0,4198)	(0,3026)
GOV	-	0,00434986
	-	(0,4029)
LOSS	0,00370163	0,0138929
	(0,3615)	(0,0001) ***

OCF	0,000887563	-0,000925361
	(0,5168)	(0,4837)
R^2	0,381067	0,113803
N	1548	1548
Panel Effect	Fixed	Random
DP = Days of publishing; DP1 = First Version Days of Publishing; DP2= Last Version Days of Publishing; SIZ = Company Size; AUD = Companies Audited by Big Four; DEB = Indebtedness Level; GOV = Corporate Governance Level; LOSS = Companies that presented loss; OCF = Operational Cash Flow of the Companies.		

*Note. The constant values out of brackets represent the regression coefficient, the values in brackets represent p-value and ***, ** and * relate to statistical significance in levels 1%, 5% and 10%, respectively. Source: Research data (2020).*

Table 4 confirms that, in model 1, variable DP1 has positive relationship and significance level of 5% with dependent variable EM. Control variables AUD, LOSS and OCF show positive relationship with dependent variable EM, but none of these variables showed significant results. Variables SIZ and DEB have significant relationship to level 1% with dependent variable EM, but SIZ has negative relationship, while DEB has a positive one.

Whereas in model 2 the independent variable DP2 also has positive and significant relationship to level 10% with dependent variable EM. Variables SIZ, AUD and OCF showed negative relationship and only SIZ has significant relationship to level 1% with dependent variable EM. Variables DEB, GOV and LOSS, however, show positive relationship, but only DEB and LOSS have significant relationship to level 1% with dependent variable EM.

Table 5 shows the results obtained through data panel regression by both fixed and random effects for the timeliness independent variable related to the missing of financial reports disclosure deadline.

Table 5 – Relationships between Missing the Deadline and Earnings Management

Variables	Model 3 (MDSTD)	Model 4 (MDQI)	Model 5 (MDSTDQI)
Constant	0,381661	0,385563	0,196907
	(0,0001) ***	(0,0001) ***	(0,0001) ***
MD	0,0402124	0,00785173	0,0370760
	(0,0199) **	(0,7201)	(0,0655) *
SIZ	-0,0365166	-0,0368042	-0,0149074
	(0,0001) ***	(0,0001) ***	(0,0001) ***
DEB	0,0458846	0,0460478	0,0301602
	(0,0004) ***	(0,0003) ***	(0,0044) ***
AUD	0,00445547	0,00449811	-0,00421151
	(0,3848)	(0,3815)	(0,3361)
GOV	-	-	0,00494845
			(0,3341)
LOSS	0,00454338	0,00492388	0,0135532
	(0,2610)	(0,2224)	(0,0001) ***
OCF	0,000917994	0,000748702	-0,000839763
	(0,5043)	(0,5879)	(0,5243)
R^2	0,381568	0,379338	0,120886
N	1548	1548	1548
Panel Effect	Fixe	Fixed	Random
MD = Missing the Deadline; MDSTD = Missing the Deadline of STD; MDQI = Missing the Deadline of QI; MDSTDQI = Missing the Deadline of STD and QI; SIZ = Company Size; AUD = Companies Audited by Big Four; DEB = Indebtedness Level; GOV = Corporate Governance Levels; LOSS = Companiess that showed Loss; OCF = Companies Operating Cash Flow.			

*Note. The constant values out of brackets represent the regression coefficient, the values in brackets represent p-value and ***, ** and * relate to statistical significance in levels 1%, 5% and 10%, respectively. Source: Research data (2020).*

Table 5 confirms that in models 3 and 5 the variable MD has positive and significant relationship with dependent variable EM, while model 4 shows no significant result, indicating only that variables EM and

MDSTD have positive relationship. Models 3 and 5 showed significant level of 5% and 10%, respectively. Variable SIZ in all three models showed negative and significant relationship to level 1% with dependent variable EM. Variable DEB in all three models showed positive association with dependent variable EM to level of 1% of significance. In models 3, 4 and 5, variables AUD, LOSS and OCF showed positive relationship, but only in model 5 the LOSS variable showed significance level of 1% with dependent variable EM; the others did not show significance level. In model 5, only variable GOV indicated to be positively associated with dependent variable EM, but it did not show statistical support.

Table 6 brings the results obtained through data panel regression by fixed effects for the timeliness independent variable relatdd to financial reports republishing.

Table 6 – Relationships between Republishing and Earnings Management

Variables	Coefficients	P- Value	Significance
Constant	0,376564	0,0001	***
REP	0,00523659	0,0896	*
SIZ	-0,0359874	0,0001	***
DEB	0,0463787	0,0003	***
AUD	0,00389714	0,4510	
GOV	-	-	
LOSS	0,00506841	0,2054	
OCF	0,000740921	0,5890	
R^2	0,380698		
N	1548		
Panel Effect	Fixo		

REP = Republishing; SIZ = Company Size; AUD = Companies Audited by Big Four; DEB = Indebtedness Level; GOV = Corporate Governance Levels; LOSS = Companies that showed Loss; OCF = Companies Operating Cash Flow.

*Note. ***, ** e * correspond to the statistic significance in levels 1%, 5% and 10%, respectively. Source: Research data (2020).*

Table 6 brings the results obtained in model 6 of this research. The results confirm that all variables in this model have positive relationship, except SIZ, with dependent variable EM. Variables AUD, LOSS and OCF do not show significance level with dependent variable EM, but variables REP, SIZ and DEB have significance levels of 10%, 1% and 1%, respectively, with dependent variable EM. Variable GOV did not present any results in this model.

4.3 Results discussion

Models 1 and 2 presented results that confirm the disclosure discrepancy has positive and significant relationship with earnings management, which confirms hypothesis 1 that the longer it takes in days to disclose financial reports, the more the reports tend to have been through earnings management, reporting low-quality profits to the information users.

Literature mentions that companies with losses tend to be those that delay the financial reports disclosure, and considers it an incentive to earnings managements practices. Model 2 showed significant results of the relationship of loss with earnings management, confirming relationship suggested by hypothesis 1.

The findings in hypothesis 1 support the results obtained regarding decisive factors of publishing discrepancy, among them, loss, according to Paulo and Leme (2009), Silva et al. (2006) and also Kirch et al. (2012), Barcellos et al. (2014) and Sá (2014) associated with incentives for earnings management, indicated in Paulo's research (2007).

The results of hypothesis 2 point out that the earnings management is positive and significantly related with missing the financial reports deadline, which means taht companies that miss the reports disclosure deadline have higher chances of manipulating their results.

This fact supports the evidences found in Souza et al. (2018) that points factors that affect the missing of the deadline, factors that are also considered incentives for earnings management that report low-quality profits to the users, according to Dechow et al. (2010), Paulo (2007), Martinez (2001) and Martinez (2013).

The third hypothesis shows results obtained through the sixth regression model, confirming that there is indeed positive and significant relationship between the variables, accepting the hypothesis that companies that republish their financial reports tend to have higher earnings management, reporting low-quality profit to users.

Therefore, the act of republishing may indicate opportunistic action by the managers, endorsing the research of Dechow et al. (2010) and Marques et al. (2017) that point that republishing has positive relationship with earnings management.

The presence of control variables in this study supports the explanation of the model about the variations of the variables pertinent to this research, in this case, the earnings management through discretionary accruals, since the more variables there are in the data panel regression model, the better its explanatory power.

The results obtained from this research denote that companies that are not timely in disclosing financial reports are more likely to opportunistic actions through earnings management, reporting low-quality profits to the information users, given that, according to Cupertino (2013), the disclosing period is appropriate for the managers' opportunistic action, that allows discretionarity of managers in decision-making due to the flexibilization of regulation and accounting standards (Goulart, 2007).

5 FINAL CONSIDERATIONS

The researched sought to verify the effect of timeliness of financial reports in the quality of the profits reported through earnings management by Brazilian public companies listed on B3. 172 companies were observed between 2010 and 2018, amounting to 1,548 observations.

Previous research brings discrepancy, disclosure deadline missing and financial reports republishing as timeliness proxies. In the study, these timeliness proxies were used to relate them to earnings management.

The earnings management proxy was formed by the discretionary accruals through the Jones model modified by Dechow et al. (1995). This was the interesting variable for the study, and six regression models were delineated with the variable, each model related to a distinct timeliness proxy.

In all six models, control variables were inserted to better explain the variations of the variable pertinent to the study. They were: Size (SIZ), Indebtedness Level (DEB), Companies Audited by Big Four (AUD), Corporate Governance Level (GOV), Loss (LOSS) and Operational Cash Flow (OCF).

The models referring to the first hypothesis showed that the disclosure discrepancy is positive and significantly related to the earnings management practice, which means that companies with a longer deadline for disclosure have high levels of discretionary accruals, indicating earnings management, reporting low-quality profits to the information users.

The models referring to the second hypothesis, regarding missing the financial reports disclosure deadline, showed that earnings management is positive and significantly related with missing the

deadline, which means that companies that tend to miss their reports disclosure dedlines also tend to manage earnings, reporting low-quality profits to the information users.

The model referring to the the financial reports republishing, the third hypothesis, showed that financial reports republishing has positive and significant relationship with earnings management, therefore, republishing is an indication of managers' opportunistic actions. Such result reinforces findings in the literature regarding the investigation of the relationship between both managers' actions.

Finally, this study results provide evidence that timeliness of financial reports has positive and significant effect on the low quality of profits reported by the public companies through earnings management. Thus, they contribute to Healy and Whalen's (1999) and Schipper's (1989) research, that found the earnings management indicates intentional intervention in the financial reports disclosure process, which do not provide information about the actual economic-financial situation of the company, but those of interest to managers.

The research is limited by the use of only one earnings management model, well used in the theoretical framework about accounting earnings management in Brazil. This usage is justified by the acceptability of the model by the Brazilian academy, pointing it as one of the most appropriate models for Brazilian companies.

For further research, it is suggested to analyze data through discretionary accruals using other earnings management models, as well as other earnings quality proxies that are not necessarily related to the managers opportunism regarding accounting data.

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