

**CUE353 - DIVIDEND PAYMENT AND EARNINGS MANAGEMENT
PRACTICES IN BRAZILIAN PUBLIC FIRMS****AUTORIA**

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Resumo

This paper examines the relation between dividend payment policy and earnings management practices in Brazilian public firms. Based on a sample of 200 Brazilian public firms from 2011 to 2017, we applied multilevel panel data with three structural levels: firm, industry and ownership concentration. Our findings show that is a positive and significant relation between dividend payout ratio and absolute discretionary accruals, as a proxy for earnings management practices. However, a singular form to distribute cash to shareholders by Brazilian firms seems to mitigate this agency conflict since our results show a negative and significant relation between interest on equity and absolute discretionary accruals. Finally, additional tests demonstrate that higher dividend payment levels also reduce the earnings management practices, even when we consider the joint effect of interest on equity. Consequently, this reduction in earnings management practices could benefit shareholders by providing better accounting information quality.

DIVIDEND PAYMENT AND EARNINGS MANAGEMENT PRACTICES IN BRAZILIAN PUBLIC FIRMS

ABSTRACT

This paper examines the relation between dividend payment policy and earnings management practices in Brazilian public firms. Based on a sample of 200 Brazilian public firms from 2011 to 2017, we applied multilevel panel data with three structural levels: firm, industry and ownership concentration. Our findings show that is a positive and significant relation between dividend payout ratio and absolute discretionary accruals, as a proxy for earnings management practices. However, a singular form to distribute cash to shareholders by Brazilian firms seems to mitigate this agency conflict since our results show a negative and significant relation between interest on equity and absolute discretionary accruals. Finally, additional tests demonstrate that higher dividend payment levels also reduce the earnings management practices, even when we consider the joint effect of interest on equity. Consequently, this reduction in earnings management practices could benefit shareholders by providing better accounting information quality.

Keywords: Dividend Policy; Interest on Equity; Earnings Management; Accruals.

1. INTRODUCTION

Information asymmetries between managers and shareholders give rise to agency conflicts since managers have incentives to keep excess cash in order to obtain personal benefits (Jensen & Meckling, 1976). In this sense, Easterbrook (1984) suggests that dividend payment policy play a role in reducing agency conflicts since it helps market on monitoring manager's performance and behavior.

The dividend payment can be viewed as a form to reduce manager's opportunistic behavior because dividend-paying firms have fewer resources available and are more subordinated to market monitoring, reducing the incentives for engaging in earnings management practices (He, Ng, Zaiats & Zhang, 2017; Sirait & Siregar, 2014; Tong & Miao, 2011). Moreover, cash dividends based on profits that do not reflect the firm's performance tend not to be sustainable in the future, once managers need actual cash flow for the dividend payment (Sirait & Siregar, 2014).

Prior literature investigates the implications of dividend payment policy focusing on developed economies (Chen, Shevlin & Tong, 2007; Skinner & Soltes, 2011; Tong & Miao, 2011). However, Adaoglu (2000) and Sirait and Siregar (2014) suggest that there are significant differences between developed and emerging markets that could impact on firm's dividend payment policy and their attributes of earnings quality, especially due to the institutional characteristics of these countries.

Despite the relevance of dividend-payment policy, few studies examine the effects of this policy on earnings management considering emerging markets environment, such as Sirait and Siregar (2014), He et al. (2017) and Pathak and Ranajee (in press). In this sense, we consider that is desirable and useful better understand the relation between dividend payment policy and earnings management in this kind of context, which presents specific institutional features, as low investor protection and weak mechanisms of governance.

Brazilian capital market presents specific characteristics related to the dividend policy since there are mandatory rules that force Brazilian public firms to pay out, typically, 25% of the year's net income to their shareholders, as evidenced by Martins and Novaes (2012). In addition, Brazilian public firms can remunerate shareholders via interest on equity, which became an important and attractive way to pay dividends for corporate tax reasons (Gonzalez, Molina, Pablo, & Rosso, 2017; Velez-Pareja & Benavides-Franco, 2011).

In this context, a recent study provided prior evidence of the relation between dividend policy and earnings management, demonstrating that dividends tend not to constrain managers from engaging in opportunistic activities in Brazilian firms (Rodrigues, Rodrigues & Sarlo, 2014). However, this prior evidence could be attributed to the specific context (e.g. mandatory dividends) and also to potential effects from the International Financial Report Standards (IFRS). Moreover, Rodrigues et al. (2014) did not consider the effects of interest on equity on dividend policy.

Therefore, our paper aims to analyze the relation between dividend payment policy and earnings management practices in Brazilian public firms, considering additional effects from the interest on equity. For this purpose, we analyzed 200 Brazilian public firms from the post mandatory IFRS adoption (2011-2017), by applying a multilevel panel data model to control three structural levels: firm, industry, and ownership structure.

Our main results indicate a positive relation between dividend payment and earnings management in Brazilian public firms. Otherwise, our results also show that the interest on equity, as a singular form to distribute cash to shareholders by Brazilian firms, seems to mitigate agency conflict. Finally, additional analyzes provide evidence that firms with higher dividend payment levels also reduce their earnings management practices, even when we consider the joint effect of interest on equity. Consequently, these aspects could benefit the shareholders by propitiating better information quality to support their investment decisions.

The remainder of this study is presented as follows. In the second section, we develop our research hypothesis based on previous studies. In the third section, we describe our sample selection procedure and outline our research design. Finally, in the last two sections, we present the empirical results and the conclusions, respectively.

2. THEORY AND HYPOTHESES DEVELOPMENT

Dividends play a role in minimizing agency conflicts between corporate managers and shareholders as they reduce the agency costs of free cash flow. Thus, managers with substantial free cash flow can increase dividends and thereby pay out current cash that would otherwise be invested in low-return projects (Jensen, 1986) or used to obtain personal benefits at the expense of shareholders (Boulton, Braga-Alves & Shastri, 2012).

Considering that dividend payment limits private control benefits available to managers since the cash paid out to shareholders provides fewer opportunities to consume these benefits (Pinkowitz, Stulz, & Williamson, 2006), firm managers who decide to pay dividends could be less likely to engage in earnings management practices (He et al., 2017).

Furthermore, the ability to pay dividends is dependent on the availability of cash, and significant differences between the levels of reported earnings and cash available for dividends would eventually be a red flag of potential problems. Consequently, it is expected that dividends increase the credibility of reported earnings because it is costly for managers to pay cash dividends on managed earnings that are not supported by underlying cash flows (Tong & Miao, 2011).

Based on this view, some recent studies show that dividend-paying firms have significantly lower absolute values of discretionary accruals compared to non-dividend paying firms (Tong & Miao, 2011; Sirait & Siregar, 2014; He et al., 2017; Pathak & Ranajee, in press). However, Rodrigues et al. (2014) do not confirm that dividends constrain managers from engaging in opportunistic activities in Brazilian firms since they found a positive and statistically significant relation between dividends and discretionary accruals.

According to Rodrigues et al. (2014), this unexpected result can be attributed to the Brazilian institutional environment (mandatory/non-taxation of dividends), Brazilian investor behavior, which prefers to receive dividends, and misrepresenting discretionary accruals,

since data from *ex-ante* or transition period to the IFRS may decrease the accounting information quality to the discretionary accruals estimation.

Despite this exception, previous empirical evidence supports the view that dividend-paying firms are less inclined to engage in earnings management practices (Tong & Miao, 2011; Sirait & Siregar, 2014; He et al., 2017; Pathak & Ranajee, in press). Thus, we can expect that the dividend payment level reduces the exploiting of corporate resources for manager personal interests (and consequently their involvement in earnings management practices) since amount paid to shareholders cannot be used by them as a way of obtaining private benefits or directed to omit non-profitable investments due to managerial inefficiencies.

Based on the above discussion, our first hypothesis is stated as follows:

H1: Dividend payment level is negatively associated with earnings management.

To further understand the role of dividend-payment on earnings management by Brazilian firms, we have to consider that the dividend policy of this emerging market differs from other countries since corporations can remunerate shareholders via interest on equity (Velez-Pareja & Benavides-Franco, 2011).

The interest on equity is a singular form to distribute cash to shareholders by Brazilian firms, which became an important and attractive way to pay dividends for corporate tax reasons. In this sense, Brazilian firms usually combine it with cash dividends (Gonzalez et al., 2017).

The incentive to distribute cash to shareholders through interest on equity is due to the net tax effect, since although shareholders are subject to a withholding tax on interest on equity payments and no personal taxes are assessed on dividends, the net tax effect of interest on equity payments is lower because they are deductible at the corporate level, as evidenced by Boulton et al. (2012).

Considering that Brazilian firms' undergo a dramatic increase in the use of interest on equity (Boulton et al., 2012), we also expect that this singular form to distribute cash to shareholders also reduces the likelihood of obtaining private control benefits by managers, resulting in lower levels of earnings management.

Therefore, our second hypothesis is stated as follows:

H2: Interest on equity payment is negatively associated with earnings management.

Finally, we provide additional evidence from the interaction between dividend payment policy, measured by payout to assets, and interest on equity. This kind of analysis seeks to demonstrate the joint effect of a firm that pays dividends and also detains a distribution form by interest on equity. Consistent with prior hypotheses, we expect a negative coefficient on this interaction variable, demonstrating a possible way to mitigate agency conflicts to market.

3. RESEARCH METHODOLOGY

3.1 Data Description

Aiming to analyze the relation between dividend payment policy and earnings management practices in the Brazilian context, our initial sample comprises Brazilian public firms from 2011 to 2017. We consider the period after the full adoption (mandatory) of International Financial Reporting Standards (IFRS) in Brazil because the convergence process

improves the accounting information quality (Sousa, Sousa & Demonier, 2016; Pelucio-Grecco, Geron, Grecco & Lima, 2014).

Consistent with prior literature (Liu & Espahbodi, 2014; Tong & Miao, 2011; Skinner & Soltes, 2011), we excluded the financial industry, due to specific operational characteristics and special regulation environment. We limited the sample to firms with available annual data to calculate the variables from Appendix A. We also excluded firms with negative equity in order to avoid confusing effects.

Our final sample comprises 200 Brazilian public firms from 2011 to 2017, in an unbalanced panel data with 1,147 firm-year observations. Table 1 shows the sample composition.

Table 1
Sample composition

Brazilian public firms	496
(-) financial industry firms	216
(-) firms with null obs - accruals variables	23
(-) firms with null obs - interest variable	30
(-) firms with null obs - controls	19
(-) firms with negative equity	8
(=) final sample	200

Financial information was obtained from Thomson Reuters® and Economatica® databases. After data collection, we applied winsorization data at 1% and 99% levels to mitigate the outliers. Table 2 shows descriptive statistics to characterize our final sample.

Table 2
Descriptive Statistics from the final sample

Variable	Obs	Mean	Std. Dev.	Min.	Max.
Absolute Discretionary Accruals	1,147	0.046	0.044	0.000	0.287
Payout	1,147	0.028	0.038	0.000	0.202
Interest on Equity	1,147	0.401	0.490	0	1
Size	1,147	21.06	1.563	17.332	25.192
Big Four	1,147	0.714	0.452	0	1
Growth	1,147	-0.006	0.277	-0.659	1.442
Operating Cash Flow	1,147	0.071	0.070	-0.128	0.273
Leverage	1,147	0.284	0.175	0	0.699
Roa	1,147	0.044	0.068	-0.187	0.251
Tangibility	1,147	0.234	0.215	0.001	0.776
Loss	1,147	0.187	0.390	0	1
Dispersed	1,147	0.125	0.330	0	1
Dominated	1,147	0.211	0.408	0	1
Concentrated	1,147	0.664	0.472	0	1

The mean for the dependent variable of earnings management (absolute discretionary accruals) is 0.046 (4,6%), with a standard deviation of 0.044 (4,4%), which is comparable to a multiple countries study (He et al., 2017) and also for Latin American context (Rathke, Santana, Lourenço & Dalmácio, 2016). Table 2 also shows the mean for payout to assets is 2,8%, in which the highest value is 20,2%. In relation to interest on equity, 40% of firms present this kind of distribution.

In addition, the percentage of controlling shareholding is on average 66,4%, demonstrating that the majority of three shareholders own more than 50% of total voting

shares. This is consistent with the ownership concentration environment in Brazil, which could influence dividend policy.

We proceed to the normality test in our data, by Shapiro-Wilk test. Due to the non-normality of the variables, we applied Spearman correlation coefficients (see Appendix B). There is no evidence from the presence of collinearity in the variables since the correlation matrix showed that the correlations are between -0.73 and 0.63, not existing high correlations between independent variables. We highlighted that the highest value for correlation (-0.73) is between dummies of ownership concentration (Dominated x Concentrated), not affecting our estimations since they are included as levels on the regressions.

In addition, we performed the factors of inflation variance (VIF) to evaluate the presence of multicollinearity. For all models, the VIF numbers (not reported) were below the suggested value of 4.0 (O'Brien, 2007), which does not require the need to exclude any variable.

Based on Appendix B, overall results show that there is a positive and significant correlation between payout and interest on equity (0.38). It could indicate that firms usually combine these forms of distribution (Gonzalez et al., 2017), as an attractive way for tax planning.

3.2 Variables Definition

Our dependent variable is earnings management, which is measured by discretionary accruals from the performance-adjusted discretionary accruals model (Kothari, Leone & Wasley, 2005). In this model, return on assets (ROA) is included as an additional variable, because previous models could be misspecified for well-performing or poorly performing firms, as evidenced by Kothari et al. (2005) and Tucker and Zarowin (2006).

The discretionary accruals are calculated by the residual represented by the error term of the regression (1). Specifically, we applied the same estimation by Bao and Lewellyn (2017), in which consists on estimating the regression (1) using ordinary least squares (OLS) for all firms and controlling for performance. We just performed robust standard errors in the OLS model, because the data presented evidence of heteroskedasticity (White's general test statistic = 111,65***).

$$TA_{i,t}/A_{i,t-1} = \alpha_0 + \alpha_1 \left(1/A_{i,t-1}\right) + \alpha_2 \left(\Delta SALES_{i,t}/A_{i,t-1}\right) + \alpha_3 \left(PPE_{i,t}/A_{i,t-1}\right) + \alpha_4 ROA_{i,t} + \varepsilon_{i,t} \quad (1)$$

where TA is total accruals defined as the difference between net income and operating cash flow. A is total assets. $\Delta SALES$ is change in net sales and net accounting receivables. PPE is net property, plant, and equipment. ROA is return on assets.

As demonstrated by Kothari et al. (2005), there is no single accrual model that is free of the model misspecification problem. Under these circumstances, the performance-matched Jones model is recommended as the best choice among extant accrual models to estimate discretionary accruals (Lee & Vetter, 2015).

Finally, consistent with prior studies (e.g. Bao & Lewellyn, 2017; He et al, 2017; Pelucio-Grecco et al., 2014; Sirait & Siregar, 2014; Tong & Miao, 2011), we use the magnitude of discretionary accruals as a proxy for earnings management.

To capture the dividend policy, we use two different proxies and an interaction between them. Initially, considering the Brazilian dividend mandatory rules, in which profitable firms have to pay out, typically, 25% of the year's net income (Martins & Novaes, 2012), we use the payout ratio instead of a dummy variable that capture whether the firms pay dividends or not.

We measure the payout as the ratio of total dividend paid scaled by total assets instead of scaled by net income, based on the view that the total assets are more stable than the net income (Lintner, 1956), avoiding non-existent variations in the payout since dividends behave more linearly distributed over time (Forti, Peixoto, & Alves, 2015).

Furthermore, we consider that some Brazilian companies pay dividends even when they have losses. In this case, despite the dividend-payment, the payout ratio will be negative since the denominator is a negative value. Thus, the use of total assets as denominator eliminates this bias (Forti et al., 2015).

Our second measure of dividend policy is the interest on equity, which captures this singular form to distribute cash to shareholders by Brazilian firms, measured by a dummy that takes the value of 1 whether the firm reported this kind of distribution and zero, otherwise.

The choice to use a dummy variable as a proxy for interest on equity, instead of a continuous variable, is due that Economatica® and Thomson Reuters® databases do not report the amount of interest on equity, as confirmed by Gonzalez et al. (2017). However, considering that Economatica® database reports the dividend yield (DIVYLD) only considering the interest on equity (excluding dividend-payment), we categorize this information to identify if the firms pay interest equity.

Our third independent variable is an interaction between payout and interest on equity, considering that Brazilian companies usually combine these forms of cash dividend-paying (Gonzalez et al., 2017).

We include dividend payment (and, consequently, interest on equity) as a lagged variable, as considered by He et al. (2017). This assumption is plausible since the decision of paying dividends in one-year influences earnings management practices in further periods.

Finally, based on related studies (e.g. Pathak & Ranakee, in press; He et al., 2017; Sirait & Siregar, 2014; Rodrigues et al., 2014; Tong & Miao, 2011), we added control variables that potentially influence on earnings management practices: firm size, leverage, profitability, tangibility, growth opportunities, operating cash flow, loss and big four.

Size is related to the perspective of larger firms are subjected to a higher level of monitoring, in which could reduce the propensity to engage in earnings management practices (González & García-Meca, 2014). *Leverage* is related to the fact that firms with a high degree of financial leverage are more likely to higher levels of earnings management due to the possibility of potential losses, such as debt violation clauses (Chen & Zhang, 2014).

Profitability is based on the view that managers are motivated to manipulate the results upward, increasing the profits obtained with the intention of making the company more attractive for stakeholders, and in order to improve top executive bonus plans, since the profitability is a measure to evaluate manager performance (Dechow, Sloan & Sweeney, 1995; Kothari et al., 2005; Machuga & Teitel, 2007). *Tangibility* is added based on the argument that tangible asset payoffs are easier to observe, leading to lower levels of information asymmetry (Al-Jaifi, 2017; Munisi, Hermes & Randoy, 2014).

Growth is related to the argument that growing companies tend to exhibit large accruals (Burgstahler, Hail & Leuz, 2006). *Operating Cash Flow* is also mentioned as a proxy for expected growth in the firm's operations (Larcker & Richardson, 2004). *Loss* is based on the view that the market tends to react negatively whether firms experience loss, thus motivating them to manage earnings (Callen, Robb & Segal, 2008). *Big Four* auditorship is related to the argument that big audit firms need to protect their reputation, affecting the propensity of firms audited by them to engage in fewer earnings management (Francis & Wang, 2008).

3.3 Regression Specification

We analyze the relation between dividend payment policy and earnings management by applying multilevel modeling, also called hierarchical models. The multilevel models were also applied in the paper by Bao and Lewellyn (2017). They verified the relation between ownership structure and earnings management. Multilevel modeling for panel data is more robust and performs better than traditional panel models with fixed or random effects. Raudenbush and Bryk (2002) describe that they are models that recognize the existence of multilevel structure or clusters in the data.

This study estimates the model considering three levels in the specification of the hierarchical model: firm, industry and ownership structure. Level 1 represents the firm. Level 2 represents the industrial sectors, based on Global Industry Classification Standard (GICS), with ten industry groups (industrials, consumer discretionary, consumer staples, materials, energy, health care, information technology, communication services, utilities, and real estate). According to McGahan and Porter (1997), the industry sectors influence the behavior of the financial indicators of the firms. Finally, Level 3 represents the ownership structure since they influence on earnings management practices on emerging markets (Bao & Lewellyn, 2017), including Brazil (Dalmácio & Corrar, 2007).

Besides that, Latin American companies are characterized by a highly concentrated structure with shareholders who hold a predominant role as a manager too, consequently, they could engage in accounting decisions that reflect personal reasons (Saona & Muro, 2018). However, in the Brazilian context, concentrated ownership patterns have recently diluted, indicating the first stage of diffused ownership, as described by Gorga (2009).

The ownership structure is measured by the cumulative percentage of voting shares held by the three largest shareholders in relation to total voting shares (Rodrigues et al., 2014). This variable is categorized into three categories, based on the study by Anjos, Tavares, Monte and Lustosa (2015): (i) dispersed – equal or lower to 20%, (ii) dominated - above 20% and equal or lower to 50% and, (iii) concentrated - above 50%.

Considering the previous aspects presented, a 3-level model is adequate, with ownership structure (k) at level 3, industry (j) at level 2 and firm (i) level 1.

Given the Absolute Discretionary Accruals, as the dependent variable, we propose the following models:

Model 1

$$DA_{ijk} = \pi_{0jk} + \pi_{1jk}PAYOUT_{ijk} + \sum_{i=2}^n \pi_{ijk}Controls_{ijk} + e_{ijk} \quad (2)$$

Model 2

$$DA_{ijk} = \pi_{0jk} + \pi_{1jk}INTEQ_{ijk} + \sum_{i=3}^n \pi_{ijk}Controls_{ijk} + e_{ijk} \quad (3)$$

Model 3

$$DA_{ijk} = \pi_{0jk} + \pi_{1jk}PAYOUT_{ijk} \times INTEQ_{ijk} + \sum_{i=2}^n \pi_{ijk}Controls_{ijk} + e_{ijk} \quad (4)$$

where DA_{ijk} represents the Absolute Discretionary Accruals dependent variable in the firm i , sector j with k structure of ownership. $PAYOUT$ represents the payout independent variable in the firm i , industry j with k structure of ownership. $INTEQ_{ijk}$ is the interest on equity

dependent variable. π_{0jk} is the mean accruals of the firm. e_{ijk} is the deviation of this firm's average accruals. $e_{ijk} \sim N(0, \sigma_e^2)$

Level 2 – Industry

$$\pi_{0jk} = \beta_{00k} + r_{0jk} \quad (5)$$

where β_{00k} is the mean accruals of firms in the industry j and ownership structure k and r_{0jk} is the random main effect of industry j with k ownership structure. $r_{0jk} \sim N(0, \sigma_r^2)$.

Level 3 – Ownership structure

$$\beta_{00k} = \gamma_{000} + u_{00k} \quad (6)$$

where γ_{000} is the accruals grand-mean and u_{00k} is the random main effect of ownership structure k .

According to Brush and Bromiley (1997) and Goldszmidt, Brito and Vasconcelos (2011), the ratio of each variance component to total variance indicates the magnitude of each effect.

4. RESULTS AND DISCUSSION

4.1 Regression Results and Analyzes

Table 3 presents the estimation results for Model (1) in order to test our first hypothesis (H1), which predicts that the dividend payment level is negatively associated with earnings management. In addition, we estimate the Model (2) to test our second hypothesis (H2), which predicts that interest on equity payment is negatively associated with earnings management, and finally, based on Model (3), we show additional evidence from interaction between dividend payment policies, since Brazilian companies usually combine the interest on equity payment with cash dividends.

Table 3
Influence of Payout and Interest on Equity on Earnings Management

Dependent variable	Absolute Discretionary Accruals		
	Model 1	Model 2	Model 3
Fixed Effects			
<i>Payout</i>	0.096** (0.040)		
<i>Interest on Equity</i>		-0.007*** (0.002)	
<i>Payout x Interest on Equity</i>			0.046 (0.043)
<i>Leverage</i>	0.026*** (0.009)	0.018*** (0.008)	0.025*** (0.009)
<i>Profitability</i>	0.079** (0.033)	0.108*** (0.031)	0.094*** (0.032)
<i>Loss</i>	0.011** (0.005)	0.012** (0.004)	0.012*** (0.005)
<i>Big Four</i>	0.001 (0.003)	0.001 (0.002)	0.001 (0.003)
<i>Size</i>	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)
<i>Tangibility</i>	-0.019*** (0.007)	-0.012** (0.007)	-0.020*** (0.007)

<i>Operating Cash Flow</i>	-0.044** (0.022)	-0.025 (0.021)	-0.039* (0.022)
<i>Growth</i>	0.029*** (0.005)	0.025*** (0.005)	0.027*** (0.005)
<i>Constant</i>	0.132*** (0.020)	0.127*** (0.020)	0.133*** (0.020)
Random Effects	Estimate	Estimate	Estimate
<i>Industry</i>	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
<i>Ownership</i>	0.000 (0.040)	0.000 (0.040)	0.000 (0.040)
<i>Residual</i>	0.001 (0.960)	0.001 (0.960)	0.001 (0.960)
Wald chi2	80.39	90.73	75.56
LR test	5.74*	5.46*	5.96*

Standard errors are reported in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Contrary to our expectations, Model 1 shows a positive and statistically significant relationship between *Payout* and *Absolute Discretionary Accruals*, which lead to rejecting our first hypothesis. In this sense, we highlight that instead of increasing the credibility of reported earnings since it is costly for managers to pay cash dividends on managed earnings that are not supported by underlying cash flows (Tong & Miao, 2011), in the Brazilian context, the dividend payout ratio exacerbate firms' engagement in earnings management practices.

Despite the non-convergence with international evidences (Tong & Miao, 2011; Sirait & Siregar, 2014; He et al., 2017; Pathak and Ranajee, in press), our result corroborate with Rodrigues et al. (2014), indicating that in the Brazilian context the dividend-payment plays a role in increasing firms' earnings management level. In this sense, we consider that this negative influence may be due to the Brazilian institutional environment, considering the mandatory dividend-payment.

Brazilian dividend mandatory rules are very strict, forcing profitable firms to pay out, typically, 25% of the year's net income (Martins & Novaes, 2012). Thus, despite the risk of report managed earnings that are not supported by underlying cash flows, this mandatory dividend-payment may be influencing on earnings management practices to report higher earnings (via income maximization or take a bath), and, consequently, pay dividends.

One aspect that can influence this practice is that managers would maintain the dividend-payment level because if the firm reduces the dividend payout or stops to distribute them may give a bad signal to shareholders (Lintner, 1956).

However, a singular form to distribute cash to shareholders by Brazilian firms seems to mitigate this agency conflict, since the Model 2 show a negative and statistically significant relation between *Interest on Equity* and *Absolute Discretionary Accruals*, supporting our second hypothesis.

This finding shed more light on factors that may reduce earnings management practices, since despite the increase in the use of interest on equity by Brazilian firms over the years (Boulton et al., 2012), to the best of our knowledge, no prior evidence show the relation between this singular form of dividend-payment and earnings management in Brazilian context. However, despite this negative influence of *Interest on Equity* on *Absolute Discretionary Accruals*, Model 3 shows that the interaction between the *Payout* and the *Interest on Equity* do not influence significantly on earnings management.

Regarding the control variables, our results show that *Leverage* coefficients are positive and significant across the models, in line with our expectations that firms with higher levels of financial leverage are more likely to engage in earnings management practices to avoid potential losses, such as debt violation clauses (Chen & Zhang, 2014).

We also find a positive and significant influence of *Profitability* on earnings management, supporting the view that managers are motivated to manipulate the results upward to obtain private benefits, such as bonus compensation plans since the profitability is usually used as a measure to evaluate managers performance (Dechow et al., 1995; Kothari et al., 2005; Machuga & Teitel, 2007).

Considering that the market tends to react negatively whether firms experience loss, which motivates the managers to engage in earnings management practices (Callen et al., 2008), our results show a positive and significant of *Loss* on *Absolute Discretionary Accruals*. However, there is no evidence that big audit firms reduce the propensity of firms audited by them to engage in fewer earnings management, as described by Francis and Wang (2008) since *Big Four* coefficients are not significant.

One explanation for this non-significance of *Big Four* in Brazilian context may be due to a large number of firms (approximately 71%) that is audited by these companies, not having enough variability for the model to capture this relationship.

On the other hand, the coefficients of *Size* are significantly negative across the models, corroborating the view that larger firms are subjected to a higher level of monitoring, which mitigates the propensity to these firms engage in earnings management practices (González & García-Meca, 2014). In addition, our results also show that *Tangibility* coefficients are negative and significant across the models.

However, *Operating Cash Flow* provides mixed results since the coefficients are significant only in the models that capture the payout effect (Models 1 and 3). Thus, it is possible to attest partially that this proxy influence negatively on *Absolute Discretionary Accruals*. Finally, our results show a positive and significant relationship between *Growth* and *Absolute Discretionary Accruals* in all models, corroborating with the fact that growing companies tend to exhibit large accruals (Burgstahler et al., 2006).

4.2 Additional Tests

To further understand the role of dividend-payment on earnings management by Brazilian firms, we examine if higher levels of dividend payout (*Big Div*) lead to lower levels of *Absolute Discretionary Accruals*. Thus, the results of this robustness test (Models 4 and 5) are presented in Table 4.

Table 4
Influence of Large Dividends and Interest on Equity on Earnings Management

Dependent variable	<i>Absolute Discretionary Accruals</i>	
	Model 4	Model 5
<i>Fixed Effects</i>		
<i>Big Div</i>	-0.006** (0.003)	
<i>Big Div x Interest on Equity</i>		-0.005* (0.003)
<i>Leverage</i>	0.025*** (0.009)	0.023*** (0.009)
<i>Profitability</i>	0.110*** (0.031)	0.110*** (0.031)
<i>Loss</i>	0.012*** (0.004)	0.013*** (0.004)

<i>Big Four</i>	0.001 (0.003)	0.001 (0.003)
<i>Size</i>	-0.004*** (0.001)	-0.004*** (0.001)
<i>Tangibility</i>	-0.020*** (0.007)	-0.019*** (0.007)
<i>Operating Cash Flow</i>	-0.027 (0.022)	-0.027 (0.022)
<i>Growth</i>	0.026*** (0.005)	0.026*** (0.005)
<i>Constant</i>	0.134*** (0.020)	0.132*** (0.020)
Random Effects	Estimate	Estimate
<i>Industry</i>	0.000 0.000	0.000 0.000
<i>Ownership</i>	0.000 0.040	0.000 0.040
<i>Residual</i>	0.001 0.096	0.001 0.096
Wald chi2	80.04	77.27
LR test	6.92**	6.65**

Standard errors are reported in parentheses. *,***,*** indicate significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 4 brings interesting results regarding the influence of higher dividend-payment levels on earnings management since there is a negative and statistically significant relation between *Big Div* and *Absolute Discretionary Accruals* in Model 4. Thus, this higher dividend-payment level, that could be attributed as a form to exceed the mandatory level, can play a role in minimizing agency conflicts, corroborating with Bortolon (2013), arguing that higher levels of payout induce the external investor to believe that there are not enough margins for expropriations by the controlling shareholders, which mitigates the agency problem.

However, we cannot infer that the managers seem to be paying to shareholders excess of mandatory dividends since our proxy capture only whether a firm presents payout ratio higher than 0.25, as a general standard by previous literature (see definition in Appendix A).

Nevertheless, this finding supports prior evidence that large dividend-paying firms have higher (lower) earnings quality (earnings management) than firms that distribute small dividends or do not pay dividends, considering that firms who pay large cash dividends are certainly supported by cash, which is less likely to come from managed profits that do not have a strong cash basis (Tong & Miao, 2011).

This negative effect is also identified on the Model 5, in which the interaction between *Big Div* and *Interest on Equity* influence negatively and significantly on the *Absolute Discretionary Accruals*. Hence, our results show that a more restrictive group with higher levels of dividend payment that could exceed the mandatory dividend level even separately, or considering the joint effect with the *Interest on Equity*, mitigates the consumption of private control benefits available to managers, since the high level of cash paid out to shareholders provides fewer opportunities for managers to consume these benefits, as described by Pinkowitz et al. (2006).

Finally, overall results from the control variables from the Models 4 and 5 are convergent with those presented in Table 3, excepting for the *Operating Cash Flow*, which became non-significant.

5. CONCLUSION

Our study aims to analyze the relation between dividend payment policy and earnings management practices in Brazilian public firms. For this purpose, we applied a multilevel panel data model, based on a sample from 200 Brazilian public firms from 2011 to 2017.

Our main findings suggest that dividend payment policy plays a role in increasing earnings management practices in Brazilian firms, probably due to the mandatory dividend payment existing in Brazil. However, the tax benefit from interest on equity provides incentives to reduce earnings management practices since our findings demonstrated a reduction in absolute discretionary accruals by interest on equity.

We performed additional analyzes considering higher levels of payout. The results showed that higher payout levels tend to mitigate agency problems, by decreasing the available resources for managers consumption. This effect is also perceived in firms that combine higher payout levels and interest on equity.

Our findings suggest some implications. First, dividend-paying firms just reduce their earnings management levels whether they pay higher levels of dividends. Second, this reduction also could be attributed to the firms with interest on equity payment, which could be seen as a form to mitigate agency conflicts, even in an emerging market context, with lower levels of investor protection than a developed market. Consequently, these aspects could benefit the shareholders by propitiating better accounting information quality to support their investment decisions.

We highlight some limitations of our study. Our proxy for interest on equity did not capture the amount paid to shareholders since is a dummy variable. Further studies could include this aspect. In addition, future researches could consider the excess of mandatory dividends according to each company by-law. Finally, we suggest expanding to other related countries and considering other proxies from earnings quality, as a way to verify the similarities or differences from our study.

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APPENDIX

Appendix A – Variables Definition

Variable abbreviation	Variable name	Definition	Data source
DA	Absolute Discretionary Accruals	Measure of earnings management practices computed as absolute residual from Kothari et al. (2005) model.	Thomson Reuters®
PAYOUT	Payout	Fraction of net income a firm pays to its stockholders in dividends. Measure of dividend payment as the ratio of total dividend paid scaled by total assets.	Thomson Reuters®
BIGDIV	Big Dividend	Measure of higher levels of dividend payment computed as a dummy variable that takes value of 1 if the firm payout ratio is higher than 0.25 and zero, otherwise.	Thomson Reuters®
INTEQ	Interest on Equity	Measure of interest on equity computed as a dummy variable that takes value of 1 if the firm reported this kind of distribution and zero, otherwise.	Economática®
SIZE	Size	Measure of firm size computed as natural log of total assets.	Thomson Reuters®
ROA	Profitability	Measure of profitability computed as the ratio of net equity scaled by total assets.	Thomson Reuters®
LEV	Leverage	Measure of leverage computed as the ratio of total debt scaled by total assets.	Thomson Reuters®
TANG	Tangibility	Measure of tangibility computed as the ratio of net property, plant and equipment scaled by total assets.	Thomson Reuters®
GROWTH	Growth	Measure of sales growth computed as the change in net sales.	Thomson Reuters®
OPCF	Operating Cash Flow	Ratio of cash flow from operating activities scaled by total assets.	Thomson Reuters®
BIG	Big Four	Measure of audit quality computed as a dummy variable that takes value of 1 if the firm is audited by a Big4 auditorship (PwC, KPMG, EY or Deloitte) and zero, otherwise.	Thomson Reuters®
LOSS	Loss	Measure of net loss computed as a dummy variable that takes value of 1 if the firm reported negative net income and zero, otherwise.	Thomson Reuters®
DISP	Dispersed	Measure of ownership dispersion computed as a dummy variable that takes value of 1 if the cumulative percentage of voting shares from the top three shareholders is equal or less than 20% and zero, otherwise.	Economática®
DOM	Dominated	Measure of dominated ownership computed as a dummy variable that takes value of 1 if the cumulative percentage of voting shares from the top three shareholders is higher than 20% and equal or less than 50% and zero, otherwise.	Economática®
CONC	Concentrated	Measure of ownership concentration computed as a dummy variable that takes value of 1 if the cumulative percentage of voting shares from the top three shareholders is higher than 50% and zero, otherwise.	Economática®
INDUSTRY	Industry	Industry control from Global Industry Classification Standard (GICS).	Thomson Reuters®

Appendix B – Spearman Correlation Coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Absolute Discretionary Accruals	1													
2 Payout	0.025	1												
3 Interest on Equity	-0.102	0.382	1											
4 Size	-0.133	0.020	0.031	1										
5 Big Four	-0.026	0.073	0.069	0.219	1									
6 Growth	0.114	-0.017	0.053	0.125	0.011	1								
7 Operating Cash Flow	-0.045	0.447	0.325	0.046	0.092	0.045	1							
8 Leverage	-0.013	-0.221	-0.126	0.385	0.139	0.032	-0.100	1						
9 Roa	0.082	0.627	0.369	-0.060	0.061	0.196	0.440	-0.325	1					
10 Tangibility	-0.085	-0.056	0.158	0.033	-0.085	0.057	0.103	0.124	-0.113	1				
11 Loss	0.020	-0.391	-0.306	-0.048	-0.037	-0.149	-0.267	0.132	-0.674	0.052	1			
12 Dispersed	-0.023	-0.011	-0.115	0.026	-0.100	0.032	-0.077	0.039	-0.035	0.061	-0.005	1		
13 Dominated	-0.014	0.057	0.030	-0.006	0.157	0.035	0.040	0.025	0.097	-0.141	-0.046	-0.195	1	
14 Concentrated	0.029	-0.042	0.054	-0.013	-0.066	-0.053	0.019	-0.049	-0.059	0.079	0.043	-0.531	-0.728	1

Notes. Bolded coefficients are statistically significant at 5% level.