Workforce and earnings management: Evidence in the Brazilian capital market*

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ABSTRACT

We aimed to investigate the relationship between workforce [*força de trabalho* (FT)] and earnings management in the Brazilian capital market and, additionally, identify whether operating activities management is a substitute for management by accruals. Evidence of the effect of the FT on earnings management practice is controversial, sometimes showing an effect on the reduction or smoothing of profit or even no effect. In Brazil, there are no studies that investigate how the intensity of the FT affects the managers' behavior regarding the manipulation of profit. The research is relevant to the regulatory bodies because it brings empirical evidence of the incentives generated by the pressure of the FT so that the top executives reduce the result of the period, in a substitute way, to the manipulation of the company's operational activities. In addition, it is relevant for users of accounting information, as it demonstrates that the FT influences the recognition of results, affecting the quality of accounting information. The findings may assist regulatory bodies and investors, as it demonstrates that pressure from the FT is an important incentive for decision-making by executives and workers at the operating levels of companies and can support the improvement of labor regulations. Following Pae (2005), we use Jones' modified model (1991) with lagged accruals to detect earnings management. To capture the FT intensity, we employed the proxies presented by Hilary (2006) and a variable calculated from the statement of value added [*demonstração do valor adicionado* (DVA)]. We analyzed 119 companies listed on the Brazilian stock exchange during the period 2012-2018. It were found that the intensity of the FT negatively influences earnings management by accruals [*gerenciamento de resultados por accruals* (GRA)], expanding the evidence on the effects of workers' bargaining power on accounting choices.

Keywords: workforce, earnings management, statement of value added.

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1. INTRODUCTION

According to the literature on workforce [*força de trabalho* (FT)], the presence of a strong union, or other significant labor representation, creates incentives for a company's top executives to manage their earnings, by smoothing or reducing them (Hamm et al., 2018; Ng et al., 2015). Hence, job security concerns may lead lower-level members of an organization (like branch managers, store supervisors, sellers, etc.) not to be completely reliable in their communications with superiors (Cohen, 1958; Read, 1962). For Bruns and Merchant (1990), one of the problems of defining standard results for division managers is that such goals put pressure on them and, consequently, create pressure on the other workers of that division for achieving those targets, thus impelling them to hide bad news and store good news, establishing a "cookie jar" earnings management. Such behavior can lead to results that do not reflect the aggregate performance of the firm.

As happens with explicit contracts, implicit conditions regarding the company's economic and financial situation and its reputation in fulfilling its future commitments tend to influence the practice of earnings management (Bova, 2013). Collective bargaining between the workers' union and company's management is a type of implicit contract linked to accounting numbers that can be an incentive for managers' discretionary actions. For Hilary (2006), an organized labor is capable of extracting a significant part of the firm's resources, and is present in companies through union entities or other forms of organization. Hirsch (2008) provides a similar definition – that unions' bargaining power stems from their ability to start a strike if employers do not meet their claims.

Most of theoretical and empirical evidence that associate labor and accounting choices focuses on the effect of variables such as concern with unemployment (Ng et al., 2015) and the bargaining power of union strength (Frost, 2000; Kleiner & Bouillon, 1988; Scott, 1994) on these choices. Such studies observed a null effect of the bargaining power of employees, significant for reducing profits in periods prior to the negotiation (Liberty & Zimmerman, 1986) or significant for association with earnings management through earnings' smoothing.

Cullinan and Knoblett (1994) find that labor influences the choice of accounting policies in several sectors, and Bowen et al. (1995) state that labor-intensive companies or that offer pension plans of the "defined benefit" type are more likely to adopt accounting methods that reduce earnings. Hamm et al. (2018), in turn, suggest that managers who deal with strong labor unions have a high incentive for keeping stable results, rather than biasing downwards the performance of the current period.

Recent studies on the effect of the FT on earnings management have used the metrics developed by Hilary (2006), composed by two factors: unionization rate [*taxa de sindicalização* (TS)] and work intensity [*intensidade de trabalho* (IT)]. FT is measured by the interaction between the TS and the number of employees, aiming to encompass two dimensions widely used in studies on this topic. Both factors seek to capture the bargaining power of employees in extracting company's resources, and findings suggest a reduction in the volatility of earnings as answers to the FT (Hamm et al., 2018).

According to data available on Ministry of Labor's website (http://www3.mte.gov.br/sistemas/cnes/relatorios/painel/GraficoTipo.asp), there are 17,106 union entities in Brazil, 11,752 of which are workers' unions and 5,354 employers' unions. However, in 2016, there were around 17.3 million workers affiliated to unions, with a 16.2% affiliation rate. Thus, the low union representation, in contrast to the high percentage of value distributed by companies to workers, creates a motivating scenario to study if workers' bargaining power affects accounting choices. Such apparently contradictory data can be explained, in part, by the union model in Brazil, in which the benefits obtained by union members extend to the entire class of workers that the union represents.

Despite this contrasting situation, since the 2000s Brazilian unions were able to promote an increasing number of strikes and achieve important collective bargaining. However, to start a strike, the decision of union leaders is not sufficient; it requires the adhesion of the employees, which depends on the proximity between unions and workers. For this reason, the TS is an indicator of this vicinity, thus affecting union mobilization (Campos, 2016).

There are two theoretical explanations for FT's influence on earnings management. In the first, based on the ability-to-pay theory, main studies are those of Bova (2013), Bowen et al. (1995), Bronars and Deere (1991), DeAngelo and DeAngelo (1991), D'Souza et al. (2001), and Liberty and Zimmerman (1986). These studies suggest, although not conclusively, that companies tend to manage profits downwards in the presence of a larger FT (Hamm et al., 2018). In the second perspective,

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based on the theory of attraction and retention, Abowd and Ashenfelter (1981), Agrawal and Matsa (2013), Chemmanur et al. (2013), and Topel (1984) observed that companies with a good reputation of fulfilling their future commitments may have a lower relative labor cost (Bowen et al., 1995).

In line with this theoretical perspective, workers tend to act actively as one of the firm's stakeholders, requiring for themselves part of the value added by organizational activities. On the other hand, managers are expected to minimize the amount to be distributed to this group of stakeholders.

This paper seeks to investigate the temporal association between companies' FT and their discretionary accruals, by identifying if there is a FT effect, in any fiscal year, on the occurrence of practices of accrual earnings management in the following fiscal year.

To answer the research question, we used the metrics developed by Hilary (2006) for measuring FT, calculated by the product of TS and IT, aiming to compare the production factors "labor" and "capital." Hamm et al. (2018) used this proxy, based on the idea that managers have incentives – due to the large share of labor costs in the firms' total costs – to keep a good relationship with the employees, in order to minimize the costs arising from this production factor. The presence of a workers' union strengthens these incentives, since unions can limit the relationships between employers and employees (Banning & Chiles, 2007).

In addition to this measure, we propose a new way to identify it, based on data available in the statement of value added [*demonstração do valor adicionado* (DVA)]. This statement, released by Brazilian companies, has a more direct measure to capture the labor production factor. Without abandoning the basis used by Hilary (2006), we calculated IT through the ratio between value added distributed to employees and total assets. Discretionary accruals are obtained based on Jones' modified model (1991) proposed by Dechow et al. (1995). Moreover, following Pae (2005), we include as additional regressor 1-year lag of total accruals in order to control their expected reversal in subsequent periods.

The article contributes to national literature by investigating a new potential determinant for earnings management and provides subsidies for regulatory bodies to diagnose another possible earnings management vector in Brazilian companies. In addition, research findings can assist regulatory bodies, such as Brazilian Securities and Exchange Commission [Comissão de Valores Mobiliários (CVM)] and Brazilian Accounting Pronouncements Committee [Comitê de Pronunciamentos Contábeis (CPC)], as they show that pressure from the FT is an important incentive for decision-making by company executives. They can subsidize the improvement of regulations that seek to safeguard the quality of accounting information by disciplining negotiations between employers and employees and the different forms of union activism.

Next section presents the literature review and hypothesis' formulation. In section 3, we present the methodology. Section 4 discusses descriptive statistics and empirical results. Section 5 shows the conclusions, suggestions for future research, and limitations of the study.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1 Hypotheses of Political Costs

The hypothesis of the political costs (Watts & Zimmerman, 1986) suggests that companies with greater visibility tend to incur higher political costs. These may occur, for example, upon the requirement of better wages and benefits for employees and unions. The size of a company measures its political sensitivity, since large companies are considered more politically sensitive than small ones; therefore, they face different incentives when choosing accounting procedures (Watts & Zimmerman, 1986). Although the company's size is widely used as a proxy to test the hypothesis of political costs (Wrubel et al., 2016), Watts and Zimmerman (1986) emphasize that, in order to improve studies, researchers should look for closer relationships between the theory and empirical tests.

The political cost hypothesis predicts that, since a company is subject to potential wealth transfers in the political process, managers tend to make accounting choices to reduce such transfers. In the case of employees, wealth transfer takes place through higher salaries and benefits.

Although unions do not explicitly base their contracts on accounting numbers, they use them during wage negotiations to extract information about the company's economic and financial performance (Liberty &

Zimmerman, 1986). Hence, from the perspective of the political costs' hypothesis, managers' opportunistic behavior acts to avoid such a transfer of resources to employees, reducing profits or smoothing them over the periods.

Regarding employees, the political cost hypothesis foresees that unions create incentives for earnings management under two perspectives. According to the first, supported by the ability-to-pay theory, labor negotiation can create incentives for managers to make accounting choices that minimize profit, in order to reduce the perception of the company's ability to pay higher wages (Mora & Sabater, 2008). The other perspective, based on the theory of attraction and retention, predicts that managers tend to make choices that show a good reputation of fulfilling their future commitments, in order to reduce labor costs, as they know that employees and unions, faced with a scenario of greater risk of unemployment, will demand a compensatory wage differential. The FT, like debt holders, requires compensation for the risk of bankruptcy (Shah, 1985).

On the other hand, if labor is a significant part of the production factors, financial officers, to reduce income expropriation, tend to manage earnings in order to change the perception of the company's economic performance.

Therefore, managers are encouraged to act, within the margin of discretion, to change the recognition or measurement of current assets, revenues, or expenses, in order to reduce or smooth the earned profit. Such actions result in an effort to achieve a better personal result or to privilege other stakeholders in the distribution of the wealth created by the firm.

2.2 Earnings Management

According to Cupertino et al. (2016), earnings management takes place when managers make decisions to achieve specific goals related to the results disclosed in the financial statements; to do this, they choose an accounting method instead of another (accrual management), or direct operational decisions far from ideal, regarding time or volume (management of real activities). As pointed out by Sundvik (2019, p. 80), "several empirical studies suggest that reporting quality is affected by accounting standard characteristics".

Accrual records, which represent compliance with the accrual method, measure profit in its economic sense, regardless of financial realization (Silva & Fonseca, 2015). If financial realization occurs in the same period as the recognition, there are no accruals. These only occur when there is a financial transaction in periods subsequent to recognition. According to Wrubel et al. (2016), accrual earnings management occurs when earnings accounts are part of the profit calculation, without implying changes in cash movement. Thus, accrual management does not have a direct impact on cash flow.

According to Roychowdhury (2006), in addition to accrual management, several studies discuss the possibility that managerial intervention in the reporting process may occur not only through accounting estimates and methods, but also through operational decisions, which can happen due to changes in production schedules, by granting price discounts or reducing discretionary expenses.

Most of the studies that investigate the relationship between FT and earnings management emphasize the role of unions (Bova, 2013; Bowen et al., 1995; Bronars & Deere, 1991; DeAngelo & DeAngelo, 1991; D'Souza et al., 2001; Liberty & Zimmerman, 1986), since their action is associated with wage increase, which affects companies' profitability (Clark, 1984; Lewis, 1987).

2.3 Hypothesis Development

There are two theoretical explanations for FT's influence on earnings management. In the first perspective, based on the ability-to-pay theory, the main studies were those mentioned above. They suggest, although not conclusively, that companies tend to manage earnings downwards with a larger FT (Hamm et al., 2018). The second perspective, supported by the theory of attraction and retention (Abowd & Ashenfelter, 1981; Agrawal & Matsa, 2013; Chemmanur et al., 2013; Topel, 1984), investigates if firms with a good reputation of fulfilling their future commitments have a lower relative cost of labor (Bowen et al., 1995). Workers seek to be compensated *ex ante* for bearing these risks (Agrawal & Matsa, 2013).

Based on the hypothesis of political costs and on this empirical evidence, we infer the research hypothesis.

H_1: on average, companies will manage earnings by accruals when FT intensity is higher.

3. METHODOLOGICAL PROCEDURES

In this section, we present the model for measuring accrual earnings management and the construct for FT, as well as the sample, the control variables, the procedures to engage the variables, the sources of data collection, and the statistical model for testing the hypothesis.

3.1 Sample

The sample comprises active companies listed on B3 S.A., the Brazilian stock exchange (Brasil, Bolsa, Balcão). Like previous studies (Barros et al., 2014; Cardoso et al., 2015; Cunha & Campos, 2018; Cupertino et al., 2016; Mota et al., 2017), we excluded companies from some segments listed in the database Economatica® and in B3, such as financial, insurance, health and dental plans, energy, and water and sanitation. These are highly regulated sectors, or with a different equity structure and distinct operational structure. To keep them in the sample would affect research results, since financial and insurance companies have a distinct equity and operational structure and a high level of leverage, as well as companies that belong to regulated sectors tend to show a higher level of earnings management (Cupertino, 2013; Rodrigues et al., 2019).

In addition, we also excluded companies undergoing judicial reorganization, because, from the moment of approval by the general meeting of creditors and by the judiciary power, they must fully comply with the recovery plan, without margin for wage negotiations. Besides, employees' perception of the higher probability of unemployment is inherent to the situation of a company under judicial reorganization, which could also affect research results.

We carried out the analysis of accounting and financial information during the period 2012-2018. The initial term of data collection aimed to mitigate the effect caused by the change in Brazilian accounting policy, whose financial statements are no longer prepared according to the former Brazil Generally Accepted Accounting Principles (BR GAAP), and are now prepared fully in line with International Financial Reporting Standards (IFRS), thus following international standards. As did Moura et al. (2017), we chose to exclude the year 2011. Although the full adoption of IFRS norms occurred in 2010, in the first-year firms had to adapt to the new accounting system, and few complied with the requirements (Santos & Cavalcante, 2014).

The population comprised 206 companies, but some of these did not provide all information necessary to apply the model, hence the final sample comprised 119 companies, as shows Table 1.

Table 1
Definition of the population

Definition criteria	n
Companies active in B3 S.A.	352
(-) Finance and insurance sector	68
(-) Energy sector	42
(-) Health sector	12
(-) Water and sanitation sector	5
(-) Companies in judicial recovery	19
Population	206

B3 = Brazilian stock exchange (Brasil, Bolsa, Balcão).
Source: *Prepared by the authors.*

3.2 Measuring Accrual Earnings Management

We developed several accrual-based models for measuring earnings management practice indirectly (Dechow et al., 1995, 2012; Healy, 1985; Jones, 1991; Kang & Sivaramakrishnan, 1995; Kothari et al., 2005).

We calculated total accruals, according to the following equation:

$$ACC_{i,t} = \frac{(\Delta AC_{i,t} - \Delta Cash_{i,t}) - (\Delta PC_t - \Delta DIV_t) - DEP_t}{AT_{t-1}}$$

$\boxed{1}$

where $ACC_{i,t}$ represents total accruals of company i in period t, $\Delta AC_{i,t}$ is the variation of current assets of company i in period t, $\Delta Cash_{i,t}$ is the variation in cash and cash equivalents of company i in period t, $\Delta PC_{i,t}$ is the variation of current liabilities of company i in period t, $\Delta DIV_{i,t}$ is the variation of short-term financing and loans of company i in period t, $DEP_{i,t}$ is the amount of depreciation and amortization expenses of company i in period t, and AT_{t-1} are total assets of company i in the previous period.

After calculating total accruals according to the model described in equation 1, its operationalization followed the equation below:

$$\text{ACC}_{i,t} = \alpha \left(\frac{1}{\text{AT}_{i,t-1}} \right) + \beta_1 \left(\frac{\Delta\text{Rec}_{i,t} - \Delta\text{CR}_{i,t}}{\text{AT}_{i,t-1}} \right) + \beta_2 \left(\frac{\text{IMOB}_{i,t}}{\text{AT}_{i,t-1}} \right) + \beta_3 \, \text{ACC}_{i,t-1} + \varepsilon_{i,t} \qquad \boxed{2}$$

where $ACC_{i,t}$ are total accruals of company i in period t, $AT_{i,t-1}$ are total assets of company i in period t-1, $\Delta Rec_{i,t}$ is the variation of net revenue of company i in period t, $\Delta CR_{i,t}$ is the variation of accounts receivable of company i in period t, $IMOB$ is the sum of the fixed asset accounts of company i in period t, $ACC_{i,t-1}$ are total accruals of period t-1 of company i, and $\varepsilon_{i,t}$ is the regression error term of company i in period t.

3.3 Trade-Off Between Accrual Management and Operational Activities Management

Accrual earnings management is one of the ways to do this practice. However, during a fiscal year, companies can manage results simultaneously by accruals and by operational decisions, so that studies that do not consider the effects of earnings management by operating activities become incomplete, since the total value managed is the sum of the two methods (Rodrigues et al., 2017).

Zang (2012) shows evidence that managers use management by accruals or by operational decisions as substitutes, making the choice according to the costs related to the strategy adopted. The author observes that if manipulation by real activities is unexpectedly high (low), managers will decrease (increase) the amount of accrual earnings management.

Regarding the Brazilian capital market, there is evidence of earnings manipulation by operational decisions (Cupertino, 2013). However, the choice of the management strategy depends on its costs. Therefore, since the methods are used as substitutes, the level of discretionary accruals depends on the amount of management by operational decisions.

Hence, it is essential to include management by operational activities in the model, in order to strengthen the estimation, from both theoretical and methodological standpoints.

To measure earnings management by operational activities [gerenciamento de resultados operacionais (GRO)], we used the Roychowdhury (2006) model, widely adopted in the scientific literature. This model proposes the investigation of cash flow patterns, discretionary expenses, and production costs to detect management

by real activities (Cunha & Campos, 2018; Cupertino et al., 2016; Reis et al., 2015; Rodrigues et al., 2017).

3.4 FT Metrics

To measure FT, we used the model proposed by Hilary (2006), based on two factors: TS and IT. We calculated TS by sector, using microdata from National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílios [PNAD]), available at Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística [IBGE]), because data on specific TS are not available.

PNAD is built from primary data to check unionized workers in Brazil (Campos, 2016). We used the questions related to union's association and interviewee's sector. Given that IBGE and Economatica® have distinct classifications for sectors, it was necessary to make a correlation between them, as described below:

- Agriculture, livestock, forest production, fishing, and aquaculture = agro and fishing;
- Trade, repair of motor vehicles and motorcycles = food and beverage trade;
- Construction = construction;
- General = others;
- General industry = electro-electronics, industrial machines, mining, non-metallic minerals, paper and pulp, oil and gas, chemicals, steel and metallurgy, software and data, textile, vehicles, and parts;
- Information, communication, and financial, real estate, professional and administrative activities = telecommunications; and
- Transportation, storage, and mail = transportation services.

The validity of FT metrics weakens as a company's specific union membership differs from the sector's TS (Hamm et al., 2018). In spite of this criticism, Hilary (2006) observes that unions' pressure is not limited to a specific company, but represents a potential threat to other firms in the same sector, so that the size of this general effect exceeds the specific effect.

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To calculate IT, we established a relationship between the number of employees and total assets. We collected the first through the Reference Form, and the second at Economatica®. As stated before, this relationship allows comparing the production factors "labor" and "capital".

In addition to this measure regarding the relationship between labor and capital (Hilary, 2006), we proposed a new way to identify it, based on the DVA. This statement, released by Brazilian companies, has a more direct measure to capture the "labor" production factor. It discloses the value added generated by the company, and how it distributes it among all who have striven to create it, including employees. Thus, without abandoning the logic used by the author, we calculated IT through the ratio between the value added dispensed to employees and total assets.

We used annual data on the number of employees, given the unavailability of quarterly data, used to calculate the variable of interest – FT.

In this paper, we assume that the higher the coefficient resulting from the interaction between TS and labor intensity, as described above, the larger the FT.

3.5 Control Variables

In addition to the dependent variable earnings management by accruals (*gerenciamento de resultados por accruals* [GRA]) and the independent variable FT, we included in the model the main control variables used in the empirical studies, with a potential effect on the dependent variable, namely: size (Tam), indebtedness (Alav), growth (Cresc), profitability (Roa), governance (Gov), audit (Audit), earnings management by operational activities (GRO), capex (Capex), and taxes (Tributos).

According to Brunozi et al. (2018) and Sincerre et al. (2016), the results of the influence of the variable *Tam* on earnings management are controversial, so that company size can encourage or inhibit this practice. Operational complexity and higher political costs expected in large companies are incentives. On the other hand, these firms are more subject to monitoring by market analysts, which tends to induce the correct disclosure of results. Although Barros et al. (2014, p. 43) recognized the controversy on this topic in the literature, they showed large evidence of this relationship being negative.

Regarding the Alav, the debt hypothesis, proposed by Watts and Zimmerman (1986), predicts that companies with a higher degree of indebtedness tend to use techniques to increase earnings, in order to avoid violating contract clauses. However, Brunozi et al. (2018) observe that, in addition to using techniques to increase earnings, companies can manage to reduce them, in order to achieve better conditions when renegotiating debt contracts, by showing a difficult financial situation.

The Cresc variable, in turn, captures the difference in behavior resulting from the company's growth level, since literature shows that companies with higher growth are more likely to practice earnings management (Gunny, 2005).

The Roa variable seeks to control the bias that may exist between earnings management and company performance (Sincerre et al., 2016). The inclusion of this control variable increases model reliability (Joia & Nakao, 2014; Kothari et al., 2005). Brunozi et al. (2018) highlight that there are two trends in the literature regarding this control variable: one that shows that more profitable firms are more prone to earnings management, and another that shows a negative association between profitability and earnings management, since less profitable companies have a bigger liquidity problem, thus tending to manage earnings.

The Audit variable identifies if the company is audited by the Big Four (Deloitte Touche Tohmatsu, Ernst & Young, KPMG, and PricewaterhouseCoopers), as there is evidence that these firms have more expertise compared to other audit companies (Almeida & Almeida, 2009).

According to Piccoli et al. (2014), the high level of corporate governance, despite not totally preventing earnings management, results in a lower frequency of this practice.

The variable GRO seeks to control the trade-off between management by accruals and by operational decisions, previously explained. According to Zang (2012), there is a significant and negative relationship between the level of GRA and operational activities.

Literature suggests the *Capex* variable is a control for companies that manage earnings through accruals, with a direct effect on the level of investment. In this perspective, companies that manage earnings upward by accruals invest excessively during the period of upward management, and later underinvest (Cohen & Zarowin, 2008; Hamm et al., 2018).

Finally, we added the *Tributos* in the model, which identifies effective tax rate (ETR) as a proxy to measure tax management. Low ETR values suggest higher efficiency in tax management, with a potential effect on earnings management (Hamza & Kortas, 2019; Li et al., 2016).

Table 2 describes the research variables with their abbreviations, as well as the calculation method.

Table 2

Calculation method of the variables and data sources

Variables	Abbreviation		Expected signal		
Calculation method			**Data source**	**Authors**	
Accrual earnings management	*GRA*		Residues of the model specified in item 3.2, estimated by sector year by year.	Economatica®	Black and Nakao (2017), Boina and Macedo (2018), Novaes et al. (2018), Sincerre et al. (2016), Sprenger et al. (2017), Rodrigues Sobrinho et al. (2014)
Workforce	*FT*	(+)/(-)	Percentage of unionization × (number of employees/total assets)	Reference Form, IBGE, and Economatica®	Hilary (2006)
Workforce (DVA)	*FT (DVA)*	(+)/(-)	Percentage of unionization × [distribution to employees (DVA)/total assets]	DVA, IBGE, and Economatica®	-
Size	*Tam*	(+)/(-)	Natural logarithm of total assets	Economatica®	Barros et al. (2014), Consoni et al. (2017), Cunha and Piccoli (2017), Joia and Nakao (2014), Mazzioni et al. (2015), Reis et al. (2015), Rodrigues Sobrinho et al. (2014), Sincerre et al. (2016)
Indebtedness	*Alav*	(+)/(-)	Total payable/total assets	Economatica®	Brunozi et al. (2018), Joia and Nakao (2014), Sincerre et al. (2016)
Growth	*Cresc*	(+)	Net operating revenue/net operating revenue *t-1*	Economatica®	Brunozi et al. (2018), Silvestre et al. (2018), Sprenger et al. (2017)
Profitability	*Roa*	(+)	Ratio between firm's net profit and total assets	Economatica®	Barros et al. (2014), Brunozi et al. (2018), Joia and Nakao (2014), Mazzioni et al. (2015), Reis et al. (2015), Sincerre et al. (2016)
Governance	*Gov*	(-)	Hierarchical categorical variable, measured with values in the set {0,1,2,3}	B3	Cunha and Piccoli (2017)
Auditing	*Audit*	(-)	Auditing is the dummy variable that takes value 1 when audited by the Big Four, and 0 otherwise	Reference Form	Silva and Fonseca (2015), Sincerre et al. (2016)
Earnings management by operational activities	*GRO*	(-)	$(FCO_{i,t} + DVGA_{i,t} + ((PROD_{i,t}) * (-1))$	Economatica®	Gunny (2005), Reis et al. (2015)
Investment expenses	*Capex*	(+)	Investment expenses staggered by lagged total assets (*t-1*)	Economatica®	Hamm et al. (2018)
Taxes	*Tributos*	(-)	Expenses with IR/CSLL divided by LAIR	Economatica®	Dyreng et al. (2012), Hamza and Kortas (2018), Teixeira (2018)

B3 = Brasil, Bolsa, Balcão (Brazilian stock exchange); Big Four = Deloitte Touche Tohmatsu, Ernst & Young, KPMG, and PricewaterhouseCoopers; CSLL = Contribuição Social sobre o Lucro Líquido; IBGE = Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics); IR = Imposto de Renda; LAIR = Lucro Antes do Imposto de Renda.
Source: *Prepared by the authors.*

3.6 Regression Model

The estimation developed for the study analyzed longitudinal data, which allowed, through monitoring over the period 2012-2018, considering the individual heterogeneity of companies, as well as incorporating aspects that change over time. In addition, panel data analysis allowed expanding the number of observations used in econometric analysis, which improves the accuracy of the estimates of the regression coefficients.

After doing the specification tests, the fixed effects' model proved to be more adjusted and appropriate for the data.

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To test the hypotheses, we used the regression model represented by equation 3, where the dependent variable is accrual earnings management ($GRA_{i,t}$) of company i in period t, measured by the model presented in equation 2.

The variable of interest is FT, calculated by the interaction between TS and IT, as described in Table 2. In addition, we included the main control variables, which can influence earnings management.

$$GRA_{i,t} = \beta_0 + \beta_1 FT_{i,t} + \beta_2 Tam_{i,t} + \beta_3 Alav_{i,t} + \beta_4 Cresc_{i,t} + \beta_5 Roa_{i,t} + \beta_6 Audit_{i,t} + \beta_7 Gov_{i,t}$$
$$+ \beta_8 GRO_{i,t} + \beta_9 Capex_{i,t} + \beta_{10} Tributos_{i,t} + \varepsilon_{i,t}$$

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where $GRA_{i,t}$ is accrual earnings management of company i in period t, $FT_{i,t}$ is the FT intensity of company i in period t, $Tam_{i,t}$ is the size of company i in period t, $Alav_{i,t}$ is the indebtedness of company i in period t, $Cresc_{i,t}$ is the growth of company i in period t, $Roa_{i,t}$ is the profitability of company i in period t, $Gov_{i,t}$ is the

governance level of company i in period t, $Audit_{i,t}$ is the size of the audit firm of company i in period t, $GRO_{i,t}$ is the management by operational activities of company i in period t, $Capex_{i,t}$ is the investment expense of company i in period t, and $Tributos_{i,t}$ is the ETR or cashETR$_{it}$ of company i in period t.

4. RESULTS AND ANALYSIS

4.1 Descriptive Statistics

Table 3 presents the descriptive statistics of the variables used in the models (except for the dummy variables), and they allow to observe that, regarding the metrics of accrual earnings management, the mean and the median indicate a number close to 0, suggesting that there is no earnings management. However, the analysis of the standard deviation (SD) and of the minimum and maximum numbers suggests that there is earnings

management in our sample, both to improve and to worsen the results, which leads to positive and negative numbers, bringing the mean and the median to a number close to 0. Novaes et al. (2018), using a sample of 80 companies with accounting data from 2008 to 2013, calculated accrual earnings management using the models Dechow et al. (2012), modified Jones' models (Dechow et al., 1995), and Kothari et al. (2005), achieving results with attributes similar to ours.

Table 3
Descriptive statistics of variables

Variable	Obs.	Mean	Median	SD	Min	Max
GRA	826	-0.00030	0.00000	0.07160	-0.42222	0.73945
FT	826	0.00037	0.00024	0.00045	0.00000	0.00432
FT_DVA	826	0.11372	0.01467	1.02599	0.00048	11.91915
Tam	826	14.85584	14.79835	1.84243	10.27308	20.61806
Alav	826	0.65340	0.59735	0.41182	0.08966	5.99715
Cresc	826	1.20011	1.06145	3.82623	0.00000	110.77110
Roa	826	-0.01699	0.03436	4.34702	-79.13014	22.32344
GRO	826	-0.00014	-0.01418	0.19182	-0.69167	0.94953
Capex	826	0.05312	0.03712	0.06389	0.00000	0.88121
Tributos	826	0.39023	0.24981	0.78611	0.00000	10.60938

Note: *Variables are described in the text.*
SD = standard deviation.
Source: *Prepared by the authors.*

The variable FT has a mean of 0.00037, median of 0.00024, and SD of 0.0005. For a similar variable, called

labor strength (LSTR), Hilary (2006) found a mean of 0.011, a median of 0.006, and a SD of 0.017. Hamm et al.

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(2018), for a similar variable called union, got an average of 0.112, median of 0.045, and SD of 0.174. In the three studies, the SD is higher than the mean, which, in turn, is higher than the median.

Regarding the results of the metrics proposed in this research for calculating the FT based on the DVA (FT-DVA), the mean was 0.1129213, median of 0.014728891, and SD of 1.022, which shows sample heterogeneity.

As for the control variables, the average size of the companies is 14.85 million in assets, net revenue grows at an average rate of 20% per year, and the returns are, on average, negative. The capital structure is formed mainly by third party funds, on average of 65.34%. The average investment budget is 5% of the total assets, and the effective tax burden is 39% (therefore, higher than nominal tax rates on profits, which in Brazil amount to 34%).

4.2 Discussion of the Model and Hypotheses Tests

We considered three approaches to deal with the estimation of the model described in equation 3: pooled model, fixed effect model, and random effect model. To choose among them, we used the F test for individual effects and the Hausman test. The F test had a p-value of 0.0002, which suggests the use of a fixed effects model compared to the stacked data model. In addition, we ran the Hausman test to identify the most appropriate model – the fixed effects or the random effects. Test result rejected the null hypothesis that random effects

are consistent, and showed that the best selection would be the fixed effects modeling, considering a p-value of 0.0003. Thus, we continued with the fixed effect model.

Following the model's diagnostic procedure, the heteroscedasticity test (Koenker) did not reject the null hypothesis of residues' homoscedasticity, with a p-value of 0.9163. We tested the assumption of no serial correlation, through the Breusch-Godfrey/Wooldridge test, which showed problems of serial correlation, with a p-value of 2.35e-15. Thus, we decided to use the fixed effects model with correction by first difference as a way to minimize this problem. Finally, we tested the assumption of normality, using the Jarque Bera test, which rejected the null hypothesis of residues' normality, with a p-value of 2.2e-16. In order to circumvent this problem, we did the inference procedures by using clustered bootstrap.

At first, we estimated two models. Model 1 refers to the estimation of equation 5. Model 2 is a refinement of model 1, and is better fit, using as a criterion the adjusted R². Table 4 shows the results of models 1 and 2.

Additionally, we estimated a third model, based on models 1 and 2, where we used the variable FT_DVA instead of FT as a variable of interest. The results of the estimation of model 3 are also in Table 4. To attain results that are more accurate by the inference procedure, we used five thousand replicates for each estimated model; aiming at a higher transparency, we randomly chose a fixed seed for replications, namely 7,219.

Table 4

Results of the regression model for panel data

Variable	Model 1 GRA	Model 2 GRA	Model 3 GRA
FT	-32.6866	-50.8240	-
	(0.3928)	(0.0962)	
FT_DVA	-	-	-0.0033
			(0.7016)
Tam	0.0284	-	0.0343
	(0.4382)		(0.3172)
Alav	0.0019	-	-0.0031
	(0.9472)		(0.9114)
Cresc	0.0002	-	0.0002
	(0.3906)		(0.4010)
Roa	0.0000	-	0.0000
	(0.9442)		(0.9302)
Gov	-0.0222	-	0.0210
	(0.2152)		(0.2428)
Audit	0.0166	-	0.0162
	(0.2282)		(0.2304)

Table 4
Cont.

Variable	Model 1 GRA	Model 2 GRA	Model 3 GRA
GRO	-0.2256	-0.2221	-0.2245
	(0.0000)	(0.0000)	(0.0000)
Capex	0.0078	-	0.0060
	(0.8754)		(0.9014)
Tributos	0.0020	-	0.0020
	(0.5280)		(0.5304)
Observations	826	826	826
Adjusted R^2	0.0801	0.0833	0.0787

Notes: *GRA are discretionary accruals estimated by Jones' modified model (1991) with lagged accruals, following Pae (2005). Below the value of each estimate is, between parentheses, the respective p-value associated to the t test derived from bootstrap. Variables are described in the text.*
Source: *Prepared by the authors.*

Considering the results of the three estimated models, the *GRO* variable draws attention. It is the only variable to show statistical significance, even for a strict level of significance. In all models, we can see that the effect of GRO variation on GRA variation is negative, and nearly equal to -0.22. This is explained by managers' use of operational decisions management to replace accrual management, confirming preliminary findings of the literature (Cupertino, 2013; Zang, 2012).

Another characteristic of the estimates that draws attention is that no variables in models 1 and 3, except for GRO, were significant for explaining GRA behavior. A plausible explanation would be the very nature of the GRA variable, achieved from the residue of a regression.

Turning our attention to the best fitted model (model 2), hence the most suitable for the analysis, if we consider a significance level of 10%, we observe that variations in FT can cause, in a negative and significant way, variations in GRA. This is because managers make opportunistic accounting choices, influenced by FT pressure, so that the result reported in the financial statements is consistent with the proportional participation of unionized labor. Under this perspective, results suggest that managers can increase/reduce discretionary accumulations in periods of high/low proportional participation of unionized labor (with effect on the pressure exerted on managers).

This finding contradicts previous studies (Agrawal & Matsa, 2013; Bova, 2013; Bowen et al., 1995; Bronars & Deere, 1991; Chemmanur et al., 2013; DeAngelo & DeAngelo, 1991; D'Souza et al., 2001; Hamm et al., 2018; Mora & Sabater, 2008; Topel, 1984). The latter found a positive association between FT and GRA and operating activities. However, unlike them, our study controls the joint performance of accrual management and operational management, showing that such manipulations occur as substitutes over the periods.

This finding corroborates a recent study by Beladi et al. (2020) in China, with companies listed on the local stock exchange. The authors found evidence that the increase in labor costs – calculated by workers' average salary – makes the company more susceptible to a negative earnings management.

4.3 Robustness Analysis

The literature on earnings management has suggested alternative models to estimate discretionary accruals, indicating different levels of accuracy according to the sample examined (Lee & Vetter, 2015). Among the models disseminated in empirical research on GRA are: Jones' modified (Dechow et al., 1995), Kothari et al. (2005), and Pae (2005). In order to test the robustness of the results found from the modified Jones with lagged accruals model, we estimate the aforementioned models. The results are reported in Table 5. Both modified Jones' models (Dechow et al., 1995), Kothari et al. (2005), and Pae (2005) were estimated using the same econometric methodology used to estimate discretionary accruals in equation 2.

Table 5

Robustness analysis with alternative models

	Modified Jones			Kothari			Pae	
	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Variable	GRA	GRA	GRA	GRA	GRA	GRA	GRA	GRA
FT	-53.1710	-84.5671	-	-35.0505	-50.1724	-	-26.2026	-
	(0.3246)	(0.0786)		(0.3812)	(0.1152)		(0.5624)	
FT_DVA	-	-	0.0004	-	-	0.0016	-	-0.0285
			(0.9754)			(0.8156)		(0.3646)
Tam	0.2392	-	0.0543	0.0281	-	0.0345	0.0355	0.0398
	(0.2146)		(0.1748)	(0.4374)		(0.3034)	(0.2146)	(0.1996)
Alav	0.0062	-	-0.0018	0.0076	-	0.0024	0.0100	0.0059
	(0.8316)		(0.9476)	(0.7700)		(0.9308)	(0.6438)	(0.7800)
Cresc	-0.0004	-	-0.0004	0.0002	-	0.0002	0.0001	0.0001
	(0.3684)		(0.3798)	(0.3952)		(0.4006)	(0.4998)	(0.6026)
Roa	0.0000	-	0.0000	-0.0011	-0.0011	-0.0011	-0.0003	-0.0003
	(0.9828)		(1.000)	(0.0542)	(0.0478)	(0.0564)	(0.5174)	(0.5036)
Gov	0.0037	-	0.0056	-0.0077	-	-0.0064	0.0077	0.0086
	(0.7228)		(0.6048)	(0.3236)		(0.4170)	(0.4296)	(0.3732)
Audit	0.0115	-	0.0109	0.0081	-	0.0077	0.0083	0.0080
	(0.3834)		(0.3938)	(0.4792)		(0.4936)	(0.5142)	(0.5166)
GRO	-0.3541	-0.3505	-0.3524	-0.2237	-0.2222	-0.2225	-0.0905	-0.0898
	(0.0002)	(0.0002)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0084)	(0.0056)
Capex	-0.0027	-	-0.0057	-0.0130	-	-0.0149	-0.0126	-0.0139
	(0.9546)		(0.9008)	(0.7904)		(0.7610)	(0.6698)	(0.6304)
Tributos	0.0016	-	0.0016	0.0007	-	0.0007	0.0017	0.0017
	(0.6290)		(0.6310)	(0.7428)		(0.7394)	(0.4448)	(0.4544)
Observations	826	826	826	826	826	826	826	826
Adjusted R²	0.1504	0.1527	0.1471	0.0797	0.0851	0.0778	0.0193	0.0183

Note: *Variables are described in the text.*
Source: *Prepared by the authors.*

As observed in models 4 and 5, the results of the modified Jones' model suggest that the FT has a statistically significant influence (considering a significance level of 10%) over accruals-based earnings management, controlling the other variables proposed in the study. Thus, modified Jones ratify the results found in the main analysis when we apply modified Jones with lagged accruals (Pae, 2005).

The second and third estimated models, Kothari et al. (2005) and Pae (2005), did not indicate the existence of a FT effect of the on accruals-based earnings management, and did not present similar results to the first model (modified Jones) estimated in this robustness analysis or to the main model.

5. CONCLUSION, RECOMMENDATIONS, AND FUTURE RESEARCH

The results showed a negative and significant relationship between the variables FT and GRA. These results show that FT influences the practice of earnings management downwards, contrasting what was initially expected and the accounting literature on the topic

(Agrawal & Matsa, 2013; Bova, 2013; Bowen et al., 1995; Bronars & Deere, 1991; Chemmanur et al., 2013; DeAngelo & DeAngelo, 1991; D'Souza et al., 2001; Hamm et al., 2018; Mora & Sabater, 2008; Topel, 1984).

Based on the results for our sample, we can state, in line with the research hypothesis, that companies will manage earnings by accruals, on average, when FT intensity is higher. Results suggest that a positive variation in the FT leads to earnings management for reducing profits, indicating that firms that operate in sectors with a higher participation of human capital in the FT tend to manage their earnings downward. However, we cannot make this inference through the FT metrics based on DVA, but only on the metrics developed by Hilary (2006).

The results expand evidence on the influence of FT on earnings management, given the configuration of the Brazilian union model and its particularities, which differ from the United States of America, where most of the studies were done. It also contributes to Brazilian accounting literature on earnings management by identifying FT intensity as a relevant incentive for managers in their decision-making.

The study also makes available to the regulatory bodies, as well as to the users of the financial statements, yet another factor of influence in the practice of earnings management, so that they can act to inhibit or control this practice.

As a limitation, we mention the impossibility of controlling the companies that established participation in profits and results to employees, since we could not collect such information. In addition, considering the absence of more direct TS at the company's level, we used this variable at the sector level, which can jeopardize the measure used for the FT. Furthermore, we used annual instead of quarterly data, disregarding evidence that the magnitude of discretionary accruals tends to be greater in the last quarter of the year (Rodrigues et al., 2019).

For future research, we suggest checking the companies that have units concentrated in only one city and, therefore, with a single base date, in order to measure the occurrence of earnings management in the period before salary negotiations. Another interesting approach for future research would be to expand it to other countries, including in the sample countries whose union model is a close-shop system and countries with an open-shop rule model, comparing the results between the groups.

REFERENCES

Abowd, J. M., & Ashenfelter, O. C. (1981). Anticipated unemployment, temporary layoffs, and compensating wage differentials. In S. Rosen (Ed.), *Studies in labor markets* (pp.141-170). University of Chicago. http://www.nber.org/books/rose81-1

Agrawal, A. K., & Matsa, D. A. (2013). Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics*, 108(2), 449-470. https://doi.org/10.1016/j.jfineco.2012.11.006

Almeida, J. E. F. D., & Almeida, J. C. G. D. (2009). Auditoria e earnings management: estudo empírico nas empresas abertas auditadas pelas big four e demais firmas de auditoria. *Revista Contabilidade & Finanças*, 20, 62-74.

Banning, K., & Chiles, T. (2007). Trade-offs in the labor union-CEO compensation relationship. *Journal of Labor Research*, 28(2), 347-357. https://link.springer.com/article/10.1007%2FBF03380050#Bib1

Barros, M. E., Menezes, J. T., Colauto, R. D., & Teodoro, J. D. (2014). Gerenciamento de resultados e alavancagem financeira em empresas brasileiras de capital aberto. *Contabilidade, Gestão e Governança*, 17(1), 35-55. https://www.journalamg.org/contabil/issue/view/51

Beladi, H., Cheng, C., Hu, M., & Yuan, Y. (2020). Unemployment governance, labor cost and earnings management: Evidence from China. *The World Economy*. https://doi.org/10.1111/twec.12923

Black, R., & Nakao, S. H. (2017). Heterogeneidade na qualidade do lucro contábil entre diferentes classes de empresas com a adoção de IFRS: evidências do Brasil. *Revista Contabilidade & Finanças*, 28, 113-131.

Boina, T. M., & Macedo, M. A. D. S. (2018). Capacidade preditiva de accruals antes e após as IFRS no mercado acionário brasileiro. *Revista Contabilidade & Finanças*, 29, 375-389.

Bova, F. (2013). Labor unions and management's incentive to signal a negative outlook. *Contemporary Accounting Research*, 30(1), 14-41. https://doi.org/10.1111/j.1911-3846.2012.01160.x

Bowen, R. M., DuCharme, L., & Shores, D. (1995). Stakeholders' implicit claims and accounting method choice. *Journal of Accounting and Economics*, 20(3), 255-295. https://doi.org/10.1016/0165-4101(95)00404-1

Bronars, S. G., & Deere, D. R. (1991). The threat of unionization, the use of debt, and the preservation of shareholder wealth. *The Quarterly Journal of Economics*, 106(1), 231-254. https://doi.org/10.2307/2937914

Brunozi, A. C., Jr., Kronbauer, C. A., Martinez, A. L., & Alves, T. W. (2018). BTD anormais, accruals discricionários e qualidade dos accruals em empresas de capital aberto listadas no Brasil. *Revista Contemporânea de Contabilidade*, 15(35), 108-141.

Bruns, W., & Merchant, K. (1990). The dangerous morality of managing earnings. *Management Accounting*, 72(2), 22-25. https://www.hbs.edu/faculty/Pages/item.aspx?num=2605

Campos, A. G. (2016). *Sindicatos no Brasil: o que esperar no futuro próximo?* http://repositorio.ipea.gov.br/handle/11058/7313

Cardoso, R. L., Souza, F. S. R. N., & Dantas, M. M. (2015). Impactos da adoção do IFRS na acumulação discricionária e na pesquisa em gerenciamento de resultados no Brasil. *Revista Universo Contábil*, *11*(2), 65-84. https://doi.org/10.4270/RUC.2015212

Chemmanur, T. J., Cheng, Y., & Zhang, T. (2013). Human capital, capital structure, and employee pay: An empirical analysis. *Journal of Financial Economics*, *110*(2), 478-502. https://doi.org/10.1016/j.jfineco.2013.07.003

Clark, J. (1984). Industrial relations, new technology and divisions within the workforce. *Industrial Relations Journal*, *15*(3), 36-44. https://doi.org/10.1111/j.1468-2338.1984.tb00491.x

Cohen, A. R. (1958). Upward communication in experimentally created hierarchies. *Human Relations*, *11*(1), 41-53. https://doi.org/10.1177/001872675801100103

Cohen, D., & Zarowin, P. (2008). *Economic consequences of real and accrual-based earnings management activities* [Working Paper]. Leonard Ster School of Business & New York University.

Consoni, S., Colauto, R. D., & Lima, G. A. S. F. D. (2017). A divulgação voluntária e o gerenciamento de resultados contábeis: Evidências no mercado de capitais brasileiro. *Revista Contabilidade & Finanças*, *28*, 249-263.

Cullinan, C. P., & Knoblett, J. A. (1994). Unionization and accounting policy choices: An empirical examination. *Journal of Accounting and Public Policy*, *13*(1), 49-78. https://doi.org/10.1016/0278-4254(94)90012-4

Cunha, E. P., & Campos, G. M. (2018). Análise do comportamento de graus de gerenciamento de resultados mediante decisões operacionais no contexto do índice de sustentabilidade empresarial-ISE. *Enfoque: Reflexão Contábil*, *37*(4), 49-66. https://doi.org/10.4025/enfoque.v37i4.36458

Cunha, P. R., & Piccoli, M. R. (2017). Influência do board interlocking no gerenciamento de resultados. *Revista Contabilidade & Finanças*, *28*(74), 179-196. https://doi.org/10.1590/1808-057x201701980

Cupertino, C. M. (2013). *Gerenciamento de resultados por decisões operacionais no mercado brasileiro de capitais* (PhD dissertation). Universidade Federal de Santa Catarina. https://repositorio.ufsc.br/xmlui/handle/123456789/122592

Cupertino, C. M., Martinez, A. L., & Costa, N. C. A., Jr. (2016). Consequências para a rentabilidade futura com o gerenciamento de resultados por meio de atividades operacionais reais. *Revista Contabilidade & Finanças*, *27*(71), 232-242. https://www.redalyc.org/articulo.oa?id=257146803005

DeAngelo, H., & DeAngelo, L. (1991). Union negotiations and corporate policy: A study of labor concessions in the domestic steel industry during the 1980s. *Journal of Financial Economics*, *30*(1), 3-43. https://doi.org/10.1016/0304-405X(91)90021-B

Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R. G. (2012). Detecting earnings management: A new approach. *Journal of Accounting Research*, *50*(2), 275-334. https://doi.org/10.1111/j.1475-679X.2012.00449.x

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, *70*(2), 193-225. https://www.jstor.org/stable/248303

D'Souza, J., Jacob, J., & Ramesh, K. (2001). The use of accounting flexibility to reduce labor renegotiation costs and manage earnings. *Journal of Accounting and Economics*, *30*(2), 187-208. https://doi.org/10.1016/S0165-4101(01)00004-0

Frost, A. C. (2000). Explaining variation in workplace restructuring: The role of local union capabilities. *ILR Review*, *53*(4), 559-578. https://doi.org/10.1177/001979390005300401

Gunny, K. A. (2005). *What are the consequences of real earnings management?* https://www.semanticscholar.org/paper/What-are-the-consequences-of-real-earnings-Gunny/3c3a4afc9d1ed fef9714983775ae378f9825153c

Hamm, S. J. W, Jung, B., & Lee, W. J. (2018). Labor unions and income smoothing. *Contemporary Accounting Research*, *35*(3), 1201-1228. https://doi.org/10.1111/1911-3846.1232

Hamza, S. E., & Kortas, N. (2019). The interaction between accounting and real earnings management using simultaneous equation model with panel data. *Review of Quantitative Finance and Accounting*, *53*(4), 1195-1227.

Healy, P. M. (1985). The effect of bonus schemes on accounting decisions, *Journal of Accounting and Economics*, *7*(1-3), 85-107. https://doi.org/10.1016/0165-4101(85)90029-1

Hilary, G. (2006). Organized labor and information asymmetry in the financial markets. *Review of Accounting Studies*, *11*(4), 525-548. https://doi.org/10.1007/s11142-006-9015-y

Hirsch, B. T. (2008). Sluggish institutions in a dynamic world: Can unions and industrial competition coexist? *Journal of Economic Perspectives*, *22*(1), 153-176. https://doi.org/10.1257/jep.22.1.153

Joia, R. M., & Nakao, S. H. (2014). IFRS adoption and earnings management in Brazilian public traded companies. *Journal of Education and Research in Accounting*, *8*(1), 22-38.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, *29*(2), 193-228. https://doi.org/10.2307/2491047

Kang, S. H., & 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

Kleiner, M. M., & Bouillon, M. L. (1988). Providing business information to production workers: Correlates of compensation and profitability. *ILR Review*, *41*(4), 605-617. https://doi.org/10.1177/001979398804100409

Kothari, S., Leone, A., & Wasley, C. (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

Lee, B. B., & Vetter, W. (2015). Critical evaluation of accrual models in earnings management studies. *Journal of accounting and Finance*, *15*(1), 62. http://www.m.www.na-businesspress.com/JAF/LeeBB_Web15_1_.pdf

Lewis, H. G. (1987). Union relative wage effects: A survey. In O. C. Ashenfelter & R. Layard (Eds.), *Handbook of Labour Economics* (Vol. 2, pp. 1139-1181). North Holland.

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Li, C., Wang, Y., Wu, L., & Xiao, J. Z. (2016). Political connections and tax-induced earnings management: evidence from China. *The European Journal of Finance*, *22*(4-6), 413-431.

Liberty, S. E., & Zimmerman, J. L. (1986). Labor union contract negotiations and accounting choices. *The Accounting Review*, *61*(4), 692-712. https://www.jstor.org/stable/247364

Mazzioni, S., Prigol, V., de Moura, G. D., & Klann, R. C. (2015). Influência da governança corporativa e da estrutura de capital no gerenciamento de resultados. *Revista Contemporânea de Contabilidade*, *12*(27), 61-86.

Mora, A., & Sabater, A. (2008). Evidence of income-decreasing earnings management before labor negotiations within the firms. *Investigaciones Económicas*, *32*(2), 201-230. https://www.redalyc.org/articulo.oa?id=17332203

Mota, R. H. G., Cunha, A. C., Oliveira, A. F., & Paulo, E. (2017). Previsão de lucro e gerenciamento de resultados: evidências empíricas no mercado acionário brasileiro. *Revista Universo Contábil*, *13*(1), 6-26. https://doi.org/10.4270/RUC.2017101

Moura, G. D., Almeida, I. X., Andreola, L., Vecchia, D., & Mazzione, S. (2017). Influence of board independence on earnings management. *Journal of Accounting, Management and Governance*, *20*(3), 370-391. http://dx.doi.org/10.21714/1984-3925_2017v20n3a4

Ng, J., Ranasinghe, T., Shi, G., & Yang, H. (2015). *Income smoothing due to unemployment concerns* [Working Paper]. Singapore Management University School of Accountancy. https://ink.library.smu.edu.sg/soa_research/1428

Novaes, P. V. G., Borges, P., Jr., Almeida, J. E. F., & Bortolon, P. M. (2018). Accruals discricionários e previsões otimistas dos analistas: incentivos e consequências. *Contabilidade Vista & Revista*, *29*(1), 28-47. https://doi.org/10.22561/cvr.v29i1.3627

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

Piccoli, P. G. R., Souza, A., & Silva, W. V. (2014). As práticas de governança corporativa diminuem o gerenciamento de resultados? Evidências a partir da aversão na divulgação de prejuízos e de queda nos lucros. *Revista Contemporânea de Contabilidade*, *11*(22), 141-162.

Read, W. H. (1962). Upward communication in industrial hierarchies. *Human Relations*, *15*(1), 3-15. https://doi.org/10.1177/001872676201500101

Reis, E. M., Lamounier, W. M., & Bressan, V. G. F. (2015). Evitar divulgar perdas: um estudo empírico do gerenciamento de resultados por meio de decisões operacionais. *Revista Contabilidade & Finanças*, *26*(69), 247-260. https://www.redalyc.org/articulo.oa?id=257143328003

Rodrigues Sobrinho, W. B., Rodrigues, H. S., & Sarlo Neto, A. (2014). Dividendos e accruals discricionários: um estudo sobre a relação entre a política de distribuição de dividendos e a qualidade dos lucros. *Revista Contemporânea de Contabilidade*, *11*(24), 3-24. http://dx.doi.org/10.5007/2175-8069.2014v11n24p3

Rodrigues, R. M. R. C., Melo, C. L. L., & Paulo, E. (2019). Earnings management and quarterly discretionary accruals level in the Brazilian stock market. *BBR-Brazilian Business Review*, *16*(3), 297-314. https://doi.org/10.15728/bbr.2019.16.3.6

Rodrigues, R. M. R. C., Paulo, E., & Melo, C. L. L. (2017). Gerenciamento de resultados por decisões operacionais para sustentar desempenho nas empresas não-financeiras do Ibovespa. *Contabilidade Vista & Revista*, *28*(3), 82-102. https://www.redalyc.org/articulo.oa?id=197054914005

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(3), 335-370. https://doi.org/10.1016/j.jacceco.2006.01.002

Santos, M. A. C., & Cavalcante, P. R. N. (2014). O efeito da adoção dos IFRS sobre a relevância informacional do lucro contábil no Brasil. *Revista Contabilidade & Finanças*, *25*(66), 228-241. https://doi.org/10.1590/1808-057x201410690

Scott, T. W. (1994). Incentives and disincentives for financial disclosure: Voluntary disclosure of defined benefit pension plan information by Canadian firms. *The Accounting Review*, *69*(1), 26-43. https://www.jstor.org/stable/248259

Shah, A. (1985). Wage/job security contracts and unionism. *Southern Economic Journal*, *51*(3), 849-859. https://www.jstor.org/stable/1057885

Silva, P. Y. C., & Fonseca, M. W. (2015). Gerenciamento de resultados: estudo empírico em empresas brasileiras e portuguesas antes e após a adoção das IFRS. *Revista Base (Administração e Contabilidade) da UNISINOS*, *12*(3), 193-209. https://www.redalyc.org/articulo.oa?id=337242231004

Silvestre, A. O., Costa, C. M., & Kronbauer, C. A. (2018). Rodízio de auditoria e a qualidade dos lucros: Uma análise a partir dos accruals discricionários. *BBR. Brazilian Business Review*, *15*, 410-426.

Sincerre, B. P., Sampaio, J. O., Famá, R., & Santos, J. O. D. (2016). Emissão de dívida e gerenciamento de resultados. *Revista Contabilidade & Finanças*, *27*, 291-305.

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.

Sundvik, D. (2019). The impact of principles-based vs rules-based accounting standards on reporting quality and earnings management. *Journal of Applied Accounting Research*, *20*(1), 78-93. https://doi.org/10.1108/JAAR-05-2018-0063

Topel, R. H. (1984). Equilibrium earnings, turnover, and unemployment: New evidence. *Journal of Labor Economics*, *2*(4), 500-522. https://www.jstor.org/stable/2534811

Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Prentice-Hall.

Wrubel, F., Morás, V. R., Brighenti, J., Leite, M., & Klann, R. C. (2016). Impactos de outros resultados abrangentes sobre o gerenciamento de resultados. *Revista de Contabilidade e Organizações*, *10*(27), 3-16. http://dx.doi.org/10.11606/rco.v10i27.107284

Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, *87*(2), 675-703. https://doi.org/10.2308/accr-10196

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