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Political and financial background in board interlocking and earnings management in Brazil

Cristian Baú Dal Magro
Programa de Pós Graduação em Contabilidade e Administração (PPGCA), Universidade Comunitaria da Regiao de Chapecó, Chapecó, Brazil, and

Roberto Carlos Klann
Programa de Pós Graduação em Contabilidade e Administração (PPGCA), Contabilidade, Universidade Regional de Blumenau, Blumenau, Brazil

Abstract

Purpose – Although board interlocking underlying forces are largely hidden, the purpose of this paper is to provide managers, auditors, analysts, regulators and other stakeholders with sociological board interlocking information considering the different backgrounds of their members.

Design/methodology/approach – The research sample gathered 1,606 observations from 2010 to 2017. For data analysis, the direct and indirect board interlocking linkages, considering the different backgrounds of board members, established the centrality indicators. Subsequently, the authors used these indicators according to each measured background in the regression models.

Findings – The results indicate that the political background of board interlocking members is positively related to real earnings management practices, while the financial background has a mitigating effect on such practices.

Research limitations/implications – The findings suggest that individual skills and interests conveyed across the corporate social network have shaped corporate governance, with distinct impacts on the quality of accounting information.

Practical implications – The authors conclude that both backgrounds could have implications on agency conflicts, increasing (policy) or reducing (financial) information asymmetry between the company and its various stakeholders, which indicates that the authors must consider sociological and not just economic aspects within corporate governance.

Social implications – The sociological background of individuals is necessary for the congruence of monitoring mechanisms, and consequently, the quality of accounting information.

Originality/value – This study examines the influence of the political and financial background of board interlocking members on real earnings management practices in Brazilian publicly traded companies in the International Financial Reporting Standards post-adoption period.

Keywords Corporate governance, Accounting information quality, Board interlocking, Political background, Financial background

Paper type Research paper

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1. Introduction

Literature points out that board interlocking (BI) can influence management practices by transferring knowledge among companies with members connected through the board of directors (BD) (Elouaer-Mrizak & Chastand, 2013; Chiu, Teoh, & Tian, 2013; Ribeiro & Colauto, 2016; Cunha & Piccoli, 2017). In general, one might consider that the socialization environment of the BD can affect the *modus operandi* of organizational operations and processes.

Organizations engage in social exchanges with actors who have identities and socially constituted interests (Aguilera & Jackson, 2010), leading BD members to develop a background that shapes corporate decisions. Generally, interconnected companies have their actions imitated for opinion leaders (Haunschild & Beckman, 1998). For example, companies that share directors with other organizations that practice income smoothing tend to manipulate their accounting earnings (Ribeiro & Colauto, 2016). Learning how to manipulate earnings through BI prevails in companies with debt covenants, which need to provide satisfactory profits to meet stakeholders' interests (Haunschild, 1993; Connelly & Slyke, 2012).

Companies are inclined to adopt similar organizational practices as they share their board members (Haunschild & Beckman, 1998). This can impact the mutual interest of disclosing manipulated accounting earnings (Connelly & Slyke, 2012). BI can disseminate managerial and corporate governance practices, promoting strategic, operational and market learning, which can be beneficial or harmful to stakeholders (Shi, Dharwadkar, & Harris, 2013; Ribeiro & Colauto, 2016).

Communication channels provoke mimetic behaviors reflected in the quality of accounting information (Elouaer-Mrizak & Chastand, 2013; Chiu, Teoh & Tian, 2013). For example, Chiu, Theo and Tian (2013) approach earnings management (EM) practices transmitted between companies that share board members. It is suggested that social ties among audit committee members reduce the quality of accounting information. Hoitash (2011) and Hashim and Rahman (2011) demonstrated that the quality of financial reporting is improved by the social ties between board members and executive officers. Mindzak (2013) indicates that the director's interlocking reduces voluntary disclosure and increases accounting information quality. Shu, Yeh, Chiu and Yang (2015) concluded that BI negatively affects EM practices, especially in companies that operate in the same industry.

In Brazil, Ribeiro and Colauto (2016) point out that BI increases practices for earnings smoothing. Cunha and Piccoli (2017) disclosed that BI influences EM practices by accounting choices, with a focus on earnings disclosure. Barros and Colauto (2019) postulate that multiple social connections weaken the BD's monitoring power. They point out that EM, conservatism and timeliness of accounting information are indifferent to BI's incidence but suggest greater relevance of accounting information considering the lower incidence of BI. However, Ribeiro, Consoni and Colauto (2018) add that BI favors the dissemination of voluntary disclosure practices.

The studies mentioned above have shown different results for BI's influence on earnings quality, some positive and others negative. The contradictions about BI's effects on the attributes of the quality of accounting information are derived from the indistinct treatment of board members with different backgrounds, knowledge, skills and past individual experiences. For example, Hoitash (2011), Hashim and Rahman (2011), Mindzak (2013), Chiu, Theo and Tian (2013), Shu et al. (2015), Ribeiro and Colauto (2016), Cunha and Piccoli (2017) and Ribeiro, Consoni and Colauto (2018) measured BI by offering equal treatment to all board members. For this reason, Shi, Dharwadkar, and Harris (2013) reinforce the difficulty of evaluating the impact of BI's formation on corporate decisions, strategies and attitudes.

Individuals feel comfortable sharing information with those who have professional and behavioral similarities. In this sense, the measurement of BI from similar management directors can become a differential, for example, experience in management areas, professional ties, hobbies (Hoitash, 2011; Barroso-Castro, Villegas-Periñan, & Casillas-Bueno, 2016), religion, gender (Nguyen, 2012), academic background (Cohen, Frazzini, & Malloy, 2010; Kang, Liu, Low, & Zhang, 2018) and family relationships (Chahine & Goergen, 2014).

The proposition of a joint view of the different backgrounds of BI members can contribute to Jensen and Meckling's (1978) premise, who defend the analysis of the agent behavior under the economic, sociological and political approach to offer better explanations for different corporate behaviors that affect the quality of accounting information. As previously mentioned, although there are several backgrounds in the formation of BI, there is strong evidence that political connections enhance opportunistic practices, impairing the quality of accounting information (Braam, Nandy, Witzel, & Lodh, 2015). Likewise, Khwaja and Mian (2005) and Chen, Ding, and Kim (2010) report that companies politically connected through BDs present information asymmetry in the omission of information and protection of public scrutiny.

Individuals with a financial background (FB), through the BD, can help reduce EM practices and improve the accounting information's quality (Dhaliwal, Naiker & Navissi, 2010). Elouaer-Mrizak and Chastand (2013) pointed out that financial connections promote the monitoring of opportunistic management, reducing information asymmetry. Therefore, this study aims to verify the influence of political and FBs of BI members on managing the earnings through real activities (REM) practices of Brazilian companies. We believe that Brazil can offer a unique scenario for this analysis for several reasons.

First, we mention politicians' presence in BD of several Brazilian companies. Second, recent corruption cases involving Brazilian companies from many industries indicate that these companies have bonds with the government (directly) or state companies (indirectly). Thus, we believe that the Brazilian environment is conducive to BI's discussion from a political background (PB) perspective due to the turbulence of political scandals such as the Car Wash (*Lava Jato*) operation, which began in the middle of 2014.

Third, Brazilian companies seek capital mainly through loans rather than stock markets, which justifies the analysis of FB. Fourth, after the International Financial Reporting Standards (IFRS) adoption (2010), many companies had to adapt to a new reality, from rule-based accounting standards to principle-based standards. Also, the choice of REM occurred due to BD's responsibility for the strategic decisions that involve the offer of discounts, credit granting, cost/expense cutting and stocking policies (Mizruchi, 1996; Chen, Dyball, & Wright, 2009).

2. Theoretical background and hypothesis development

Corporate governance assigns to the BD the responsibility for monitoring organizational activities and decisions; its main purpose is to discuss business strategies (Fama & Jensen, 1983; Shleifer & Vishny, 1997). This complexity of social phenomena on corporate boards has been absorbed by Agency Theory (Eisenhardt, 1989).

Agency Theory can only be broadly useful in spelling out the actual agency conflicts of board members on corporate monitoring if it is not limited to the economic perspective. Thus, the sociological perspective must also be considered (Fama & Jensen, 1983).

Corporate social networks provide a dynamic flow of information (Fligstein & Brantley, 1992). The mimetic script has been widespread through interconnections between industries, even though they do not directly imitate strategic contents (Haniffa & Hudaib,

2006; Chiu et al., 2013). Previous researchers have found that BI is indicative of weak corporate governance and agency conflicts, as it undermines BD monitoring of agents' opportunistic behavior in accounting practices that impair the different attributes of the quality of accounting information (Bizjak, Lemmon, & Whitby, 2009; Dhaliwal, Naiker, & Navissi, 2010; Chiu et al., 2013; Ribeiro & Colauto, 2016; Cunha & Piccoli, 2017; Barros & Colauto, 2019).

However, Hoitash (2011) reports that BI improves the quality of accounting information and Haniffa and Hudaib (2006) point out that it helps directors be more transparent in their decisions. Burris (2005) adds that BI has become the subject of both criticism and praise; thus, to evaluate its effects, it is necessary to question the purposes for its creation.

To satisfy the contradictions of studies by Bizjak, Lemmon and Whitby (2009), Dhaliwal, Naiker and Navissi (2010), Hoitash (2011), Chiu, Teoh and Tian (2013), Ribeiro and Colauto (2016) and Cunha and Piccoli (2017), our study sought to add the view that BI does not transmit homogeneous information and that the background of BD members can explain this difference.

To define BI background, we observed the research by Dhaliwal, Naiker, and Navissi (2010), who studied the financial connection on the BD of private companies; and the studies by Chaney, Faccio, and Parsley (2011), Batta, Sucre-Heredia and Weidenmier (2014) and Bona-Sánchez, Pérez-Alemán and Santana-Martín (2014), who approached the political connection. It is noteworthy that the previous studies measured the political and financial connection through the proportion of board members with such characteristics. However, they did not assess the BI with such characteristics.

If a company allows a government representative as a board member, it may be beneficial for the company, but it may also incur some costs related to the government having access to sensitive company information and influencing strategic decisions (Boubakri et al., 2012). Sometimes, many companies build political connections for strategic reasons (Faccio, 2006).

Therefore, politicians channel resources to connected businesses, distort incentives, generate more investment and potentially increase the level of corruption (Shleifer & Vishny, 1997). Fan et al. (2014) explain that companies connected with politicians will mostly acquire more incentives to manage their incomes while hiding true earnings, whose disclosure could attract stricter regulation.

This evidence suggests that the political connection of BD enables controlling shareholders to expropriate minority capital (Qian, Pan, & Yeung, 2011). The politicians that take part in BD defend the use of opportunistic accounting practices to hide the inadequate management of private companies' resources, which causes information asymmetry and lower quality of accounting information (Bona-Sánchez, Pérez-Alemán, & Santana-Martín, 2014; Chaney et al., 2011).

Further evidence is provided by Chen et al. (2010), which have shown that analysts' predictions are less accurate in politically connected firms, implying informational asymmetry. According to Khwaja and Mian (2005), political connections affect transparency and enable increased corruption levels, especially in less developed economies. Politicians can interfere with the information that companies disclose to the market (Boubakri et al., 2012; Chaney et al., 2011; Riahi-Belkaoui, 2004).

According to Braam et al. (2015), companies with political connections prefer the REM due to its potential to disguise political favors. Although previous studies have examined the relationship between political connections and the quality of accounting information, nothing has been reported on the director's interconnection with the political sphere. Therefore, we created the following hypothesis:

H1. The PB in BI is positively related to REM practices.

BI can also be analyzed by the insertion of individuals who belong to the BD and have a FB, which can be measured through the segregation of financially-oriented board members who are connected at the same time to other firms (Byrd & Mizruchi, 2005; Güner, Malmendier & Tate, 2008; Davis & Mizruchi, 1999; Elouaer-Mrizak & Chastand, 2013).

Davis and Mizruchi (1999) state that banks, insurance companies and mutual and pension funds are increasingly embedded in large industrial enterprises. Such fact facilitates the work of banks in monitoring the organization's operations to reduce default risks (Tomka, 2001). The presence of bankers on boards and committees of non-financial companies include a few benefits such as expansion plans, financial advice, consultancy, knowledge on financial markets and intuition to identify warning signs on operational and financial fraud (Byrd & Mizruchi, 2005; Dittmann, Maug, & Schneider, 2010). The banker's financial expertise helps to assist strategic decisions and verify information disclosed by non-financial companies (Fligstein & Brantley, 1992). Stearns and Mizruchi (1993) point out that bankers use their prestigious position to investigate information hidden in the financial statements disclosed.

Stakeholders of industrial companies recognize that bankers offer financial expertise. The presence of bankers in the BD of industrial companies improves transparency in disclosing financial statements (Dittmann, Maug, & Schneider, 2010). Bankers exercise their fiduciary duties with shareholders by reinforcing the process of monitoring the non-financial operations of corporations (Ahn & Choi, 2009; Dhaliwal, Naiker, & Navissi, 2010).

Directors with financial expertise would be able to examine financial and non-financial information while monitoring corporate governance mechanisms (Dhaliwal, Naiker, & Navissi, 2010). From a corporate governance perspective, BD's financial connection offers advantages in exchanging information with access to financial data. A financial institution on the BD of a nonfinancial firm can reduce opportunism (Stearns & Mizruchi, 1993).

Dhaliwal, Naiker and Navissi (2010) inferred that bankers' presence on the BD of industrial companies is negatively associated with the practice of EM, suggesting the monitoring role of bankers. Additionally, a financial institution present in an industrial organization can reduce managerial opportunism through representatives of the BD (Stearns & Mizruchi, 1993), which leads us to the following hypothesis:

H2. The FB in BI is negatively related to REM practices.

Studies have shown that BI provides an information channel that influences corporate strategies. As such, BD is responsible for strategies that involve operational actions in offering discounts, credit concessions, cost-cutting and stocking policies (Mizruchi, 1996; Chen et al., 2009); counselors must also extrapolate their traditional control and monitoring functions toward a more strategic involvement (Forbes & Milliken, 1999; Ingley & Van Der Walt, 2001).

Thus, members of the BD can affect the incentives for the practice of REM, as it is a practice that needs to be discussed throughout the fiscal year and requires changes in the organization's strategic positioning (Roychowdhury, 2006) related to stocking policies, production, investments, costs, among other factors.

3. Research design

The period of analysis comprised eight years (2010 to 2017), initially justified by the year of full IFRS adoption by the Brazilian accounting system. The research population refers to

Brazilian publicly traded companies listed on the BM&FBovespa (Brazilian Stock Exchange) in December 2017, to segregate retrospectively those listed in each year, taking into account data for the network analysis of board members. Table 1 shows the sample composition.

We excluded financial and other companies from the analysis. According to Roychowdhury (2006), we must eliminate banks and financial institutions from EM analysis due to the particularities found in each industry. Furthermore, most companies with no sales revenue refer to holding companies, which do not commercialize goods, products and/or services. The other companies that did not present sales revenue were starting their activities in a given year.

We excluded companies in their first year of activities for harming their operational cash flow. Some variables used the previous year's total assets. Thus, we excluded the sample companies that started their activities in 2010 due to the lack of information. The same happened with sales growth for the first year (2010).

Then, we excluded firms with no data and those considered outliers with five standard deviations from the mean, in addition to companies with discrepant residuals in the regressions with five standard deviations from the mean. Finally, the sample used for the empirical models totaled 1,606 observations.

Table 2 shows the research construct. We calculated the dependent variable (REM) based on four metrics, as suggested and used by Roychowdhury (2006), Zang (2011) and Cohen and Zarowin (2010), in which: S_{it} = revenue from sales of year t; A_{it-1} = Total assets at the end of the year t−1; ΔS_{it} = change in sales revenue in year *t* to the year t − 1; ΔS_{it-1} = change in sales revenue in year t−1 compared to year t-2; CFO_{it} = Operating cash flow at the end of period t; $PROD_{it}$ = Cost of Goods $Sold_t$ + $\Delta Inventory_t$; $DISEXP_{it}$ = Discretionary expenditure at the end of the year t.

Companies	2010	2011	2012	2013	2014	2015	2016	2017
(+) Listed on BM&FBovespa	434	434	434	434	434	434	434	434
(−) no documentary and financial data	(72)	(81)	(77)	(67)	(70)	(69)	(68)	(62)
(=) Sample used in network analysis	362	353	357	367	364	365	366	372
(−) financial industry and other ones:	(29)	(61)	(61)	(61)	(59)	(59)	(59)	(59)
(−) Companies with no data for:								
(−) sales revenue	(93)	(37)	(36)	(36)	(39)	(38)	(38)	(39)
(−) operating cash flow	(08)	(05)	(04)	(04)	(03)	(04)	(04)	(04)
(−) total asset	(04)	–	–	(01)	–	–	–	–
(−) discretionary expenses	(06)	(04)	(04)	(05)	(05)	(05)	(05)	(06)
(−) production costs	(06)	(11)	(14)	(18)	(17)	(17)	(16)	(16)
(−) administrative council	(02)	(02)	(03)	(03)	(01)	(03)	(02)	(02)
(−) growth variable	(03)	(11)	(07)	(09)	(04)	(03)	(03)	(04)
(−) equity with negative values	(15)	(14)	(13)	(12)	(11)	(11)	(11)	(11)
(−) Outliers:								
(−) with indebtedness in 5 D.P	(01)	–	–	–	–	–	–	–
(−) with production costs in 5 D.P	(02)	(04)	(04)	(05)	(04)	(04)	(04)	(03)
(−) with total assets in 5 D.P	(01)	(01)	(01)	(01)	(01)	(01)	(01)	(01)
(−) with operating cash flow in 5 D.P	(03)	(03)	(03)	(03)	(03)	(03)	(03)	(03)
(−) with divergent residues in 5 D.P	(08)	(08)	(09)	(10)	(11)	(10)	(10)	(11)
(=) Sample used in empirical models	181	192	198	199	206	207	210	213

Source: Research data

Table 1.
Research sample composition

Table 2.
Research variables

Dimension	Variable	Metric	Reference
REM	CFO	$\left(\frac{CFO_{it}}{A_{it-1}} = k_1 \frac{1}{A_{it-1}} + k_2 \frac{S_{it}}{A_{it-1}} + K_3 \frac{\Delta S_{it}}{A_{it-1}} + \varepsilon_{it}\right) * (-1)$	Graham *et al.* (2005); Roychowdhury (2006), Cohen and Zarowin (2010); Zang (2012)
	PROD	$\frac{PROD_{it}}{A_{it-1}} = k_1 \frac{1}{A_{it-1}} + k_2 \frac{S_{it}}{A_{it-1}} + K_3 \frac{\Delta S_{it}}{A_{it-1}} + K_4 \frac{\Delta S_{it-1}}{A_{it-1}} + \varepsilon_{it}$	
	DISEXP	$\left(\frac{DISEXP_{it}}{A_{it-1}} = k_1 \frac{1}{A_{it-1}} + k_2 \frac{S_{it}}{A_{it-1}} + K_3 \frac{\Delta S_{it}}{A_{it-1}} + \varepsilon_{it}\right) * (-1)$	
	REM	$(FCOit^* - 1) + (DISEXPit^* - 1) + (PRODit))$	
PB	DTPC	Board members with political background and intra-firm sharing (direct), measured by the number of ties. Indicator generated by the UCINET software $C_D(v_i) = \frac{d(n_i)}{n-1}$	Boubakri *et al.* (2012), Chen *et al.* (2010); Chaney *et al.* (2011), Camilo *et al.* (2012); Chiu *et al.* (2013), Batta *et al.* (2014); Guedhami *et al.* (2014), Braam *et al.* (2015)
	ITPC	Board members with political backgrounds and sharing (indirect) interfirm in the form of the number of established ties. Indicator generated by the UCINET software $C_b(V_i) = \sum_{j<1} \frac{gjk(V_i)}{gjk}, i \neq, j \neq, k$	
FB	DTFC	Board members with a financial background and intra-firm sharing (direct), in the form of the number of established ties. Indicator generated by the UCINET software	Byrd and Mizruchi (2005); Güner *et al.* (2008); Dhaliwal, Naiker and Navissi (2010)
	ITFC	Board members with financial background and sharing (indirect) interfirm in the form of the number of established ties. Indicator generated by the UCINET software	

Notes: REM – earnings management through real activities; CFO – abnormal cash flow level; PROD – abnormal production level; DISEXP – abnormal level of discretionary expense; REM aggregate model; PB – political background; DTPC – direct tie for political connections; ITPC – indirect tie for political connections; FB – financial background; DTFC – direct tie for financial connections; ITFC – indirect tie for financial connections
Source: Research data

The independent variables listed in Table 2 correspond to BI by the direct and indirect ties of members with a PB and those with a FB. The data were obtained from reading the curriculum of the counselors available in the reference form (RF).

In the BI for political expertise, we used a dummy variable: one (1) for board directors with a political or elective office at the municipal, state and federal levels (Faccio, 2006; Faccio, 2010; Boubakri et al., 2012; Chaney et al., 2011). In the BI PB, we have not identified the position and the tenure of the public occupation, neither the political party. We suggest these characteristics for further studies. In the case of state-owned companies, we separated the sample for sensitivity testing to ascertain the effect of the BI formed by politicians on the EM practices of state-owned and non-state-owned companies.

We established the BI FB by reading each management advisor's CV, available on the RF and those with a share in the BD or directing financial institutions (Byrd & Mizruchi, 2005; Güner et al., 2008; Dhaliwal, Naiker, & Navissi, 2010). We used the dummy variable one (1) if the advisor works or has experience in public or private banks. In the case of corporate indebtedness, we separated the sample of companies with indebtedness above and below the median to verify BI's effect due to financial expertise in EM practices of higher indebtedness companies.

Based on the information above, an electronic spreadsheet was created with the board members' names and their respective companies and expertise. Then, the board members who simultaneously occupied seats on the board of other organizations (interconnections) were observed through the elaboration of matrixes. The matrix was used in the UCINET software to establish the degree (direct link) and betweenness (indirect link) centrality of members with political and financial expertise.

We used the UCINET matrices to establish the indicators of direct and indirect centrality that determine the level of connection of each company with its network. Subsequently, we used these indicators according to each measured background in the regression models, which sought to capture the relationship between BI, formed by members with different backgrounds and REM practices. We made a network analysis to establish BI direct and indirect centrality links, considering the different backgrounds of members.

In general, social network analysis can capture the level of relationship among social actors (Wasserman & Faust, 1994). The degree centrality is a metric that expresses the number of adjacent loops an actor has with other participants in the same network. We obtained the centrality vertex through the number of direct contacts (Wasserman & Faust, 1994). Considering the assumptions of centrality, the most central actor in a network is also the most active one, in other words, this actor will have more direct links with other actors in the network.

Therefore, a person in a position that allows direct contact with others is seen by others as a larger channel of information, which is why they are considered the most central one (Freeman, 1979). On the other hand, the interactions between two nonadjacent actors may depend on a set of other actors, which can exert control over the interactions between two nonadjacent actors (Freeman, 1979). The centrality of intermediation occurs due to the indirect link observed when two companies have representatives on the board of a third (Burris, 2005).

Table 3 demonstrates the research construct for the metrics that capture the incentives of REM practices.

We collected economic, financial and market data from the Economática® database (Brazilian database); the PB and FB variables in the RF on the BM&FBovespa website. Likewise, we have gotten the institutional investor and compensation variables, besides those related to corporate governance incentives, from the RF.

Table 3.
Incentives of REM practices

Variable	Metric	Reference
SP	Company share price i at the end of year t−1 divided by the total assets of firm i at the end of t−1	Cohen, Dey and Lys (2008); Dechow, Ge and Schrand (2010); Chen *et al.* (2009; 2010)
MTB	(Market value of year t−1)/(Book value in year t−1)	
ROA	(Net Operating Profit in year t−1)/(Total assets in year t−1)	Chen *et al.* (2009; 2010); Doukakis (2014)
GROWTH	$\frac{\text{Sales of the year (t} - 1) - \text{Sales of the year (t} - 2)}{\text{Sales of the year (t} - 2)}$	Roychowdhury (2006); Cohen, Dey and Lys (2008); Chen *et al.* (2009; 2010)
SIZEBD	Number of audit committee members in year t	Graham *et al.* (2005); Dechow, Ge and Schrand (2010); Ge and Kim (2014)
INDBDDM	The number of independent directors (those not linked to the company management) divided by the number of directors of a company i in year t	Ge and Kim (2014); Achleitner *et al.* (2014)
EXPBDDM	The number of board members with an academic background in accounting, auditing and finance divided by the number of a company *i* directors in year *t*	
DEV	$\frac{\text{GDP year (t)} - \text{GDP year (t} - 1)}{\text{GDP year (t} - 1)}$	Chen *et al.* (2009; 2010)
SIZE	Natural logarithm of total asset of a company *i* at the beginning of year *t*	Graham *et al.* (2005); Cohen, Dey and Lys (2008)
IND (Industry)	Industrial goods, construction and transportation, cyclic consumption, non-cyclic consumption, basic materials, oil, gas and biofuel, information technology, telecommunications and public utility	Graham *et al.* (2005); Roychowdhury (2006), Cohen and Zarowin (2010)
YEAR	2010, 2011, 2012, 2013, 2014 and 2015	

Notes: SP-share price; MTB-market-to-book; ROA-return on assets; GROWTH-sales growth; SIZEBD-size of the audit committee; INDBDDM-independence of the board of directors; EXPBDDM-background of the board of directors; DEV-economic development; SIZE-company size; IND-economic industry; YEAR-period
Source: Created by the author

Equation (1) shows the specification of multiple linear regression (OLS) models, with industry (IND) and year (YEAR) fixed effects, with robust errors to correct possible heteroscedasticity problems. We ran the following equations according to each REM, i.e. the FCO, PROD, DISEXP and REM models.

$$\mathrm{REM}_{it} = \alpha_0 + \alpha_1 \mathrm{DTBI}_{it} + \alpha_2 \mathrm{ITBI}_{it} + \alpha n_3 \mathrm{IncentivesSig.}_{it} + \alpha_4 \mathrm{DENV}_{it} + \alpha_5 \mathrm{TAM}_{it} + \sum \textit{Fixed Effects\_UND} + \sum \textit{Fixed Effects\_YEAR} + \varepsilon_{it} \quad (1)$$

We developed the equation (2) considering H_1, which deals with the relationship between BI by PB and REM practices, as follows:

$$\mathrm{REM}_{it} = \alpha_0 + \alpha_1 \mathrm{DTPC}_{it} + \alpha_2 \mathrm{ITPC}_{it} + \alpha n_3 \mathrm{IncentivesSig.}_{it} + \alpha_4 \mathrm{DENV}_{it} + \alpha_5 \mathrm{TAM}_{it} + \sum \textit{Fixed Effects\_IND} + \sum \textit{Fixed Effects\_YEAR} + \varepsilon_{it} \quad (2)$$

Subsequently, taking into account H_2, equation (3) deals with the relationship between BI by FB and REM practices, as follows:

$$\mathrm{REM}_{it} = \alpha_0 + \alpha_1 \mathrm{DTFC}_{it} + \alpha_2 \mathrm{ITFC}_{it} + \alpha n_3 \mathrm{IncentivesSig.}_{it} + \alpha_4 \mathrm{DENV}_{it} + \alpha_5 \mathrm{TAM}_{it} + \sum \textit{Fixed Effects\_IND} + \sum \textit{Fixed Effects\_YEAR} + \varepsilon_{it} \quad (3)$$

In each model, we considered the assumptions such as multicollinearity, autocorrelation and normal distribution of residuals and homoscedasticity, to ensure the reliability of results. Thus, the outcomes indicate a lack of multicollinearity and the absence of residuals serial autocorrelation. The normality assumption is restricted to small samples (less than 100 observations) and we assumed the normality premise based on the central limit theorem (Gujarati, 2006). Finally, to deal with heteroscedasticity problems, we ran the models with robust standard errors.

4. Results

Table 4 presents the REM descriptive statistics according to BI in a different background.

We observed that companies with BI due to PB present a higher average of EM in abnormal production, discretionary expenses and aggregate model when compared to those without such connection. These results are proven by the mean test differences, which have been statistically significant at the level of 1% in all three models. In general, the findings indicate a probability of opportunistic behavior in the accounting information reported by companies that have BI by PB.

In addition, the average abnormal cash flow was 0.0037 in companies with some indirect link of BI through PB and −0.0005 in the other group. However, this result is not supported by the test of differences in means. This result only suggests that the BI with political antecedents increases the tendency toward opportunistic operational practices.

In BI with FB, the findings indicate a statistically significant difference between the average of abnormal discretionary expenses of companies with an indirect link to BI with

Table 4.
Descriptive statistics of earnings management (REM) according to the BI in different backgrounds

Different backgrounds		NAFCO (1)	NAFCO (0)	NAPROD (1)	NAPROD (0)	NADPDISC (1)	NADPDISC (0)	GRA (1)	GRA (0)
DTPC	Average	−0.0026	0.0020	0.0178	−0.0141	0.0242	−0.0192	0.0394	−0.0313
	D.P	0.0711	0.0717	0.0753	0.0942	0.0549	0.0821	0.1570	0.1928
	n	525	661	525	661	525	661	525	661
	Test t	0.895		0.000***		0.000***		0.000***	
DTFC	Average	−0.0085	0.0056	−0.0126	0.0083	−0.0007	0.0005	−0.0217	0.0143
	D.P	0.0730	0.0702	0.0897	0.0821	0.0707	0.0707	0.1813	0.1721
	n	471	715	471	715	471	715	471	715
	Test t	0.573		0.144		1.000		0.391	
ITPC	Average	0.0037	−0.0005	0.0318	−0.0043	0.0362	−0.0049	0.0716	−0.0097
	D.P	0.0582	0.0733	0.0804	0.0868	0.0602	0.0715	0.1586	0.1799
	n	141	1,045	141	1,045	141	1,045	141	1,045
	Test t	0.046**		0.407		0.107		0.180	
ITFC	Average	−0.0168	0.0025	−0.0457	0.0067	−0.0110	0.0016	−0.0735	0.0108
	D.P	0.0762	0.0704	0.0830	0.0851	0.0603	0.0721	0.1666	0.1768
	n	152	1,034	152	1,034	152	1,034	152	1,034
	Test t	0.427		0.790		0.084*		0.513	

Notes: (1) Companies with direct link; (0) companies without a direct link. *Significance at 10% level; **Significance at 5% level; ***Significance at 1% level
Source: Research data

FB (−0.0110) and companies without such link (0.0016). In general, this result indicates that companies with a BI FB are less prone to EM practices through real activities.

Table 5 shows the descriptive statistics of incentives according to BI for direct and indirect connections in the different backgrounds.

The results indicate that companies with an intertwined political history have a lower share price than companies that have no connection with such prospects. In addition, this outcome emphasizes that the largest market-to-book is associated with companies with some direct link between BI and direct/indirect FB. This result may indicate that BI with FB contributes to companies gaining confidence in the stock market (Camilo, Marcon, & Bandeira-de-Mello, 2012).

The highest return on assets is present in companies indirectly linked to BI with FB. The opposite occurs in companies related to BI with PB. The slower growth in sales is a trend of companies with BI due to political training. These results confirm the evidence by Boubakri et al. (2012), who indicate that the political connection is detrimental to corporate accounting and market performance.

About corporate governance mechanisms, a lower number of members on the audit committee is suggested in companies with BI due to political training. On the other hand, the number of members of the audit committee is, on average, higher in companies with direct and indirect BI with financial expertise.

Companies with indirect BI with financial expertise have a higher statistically significant average in independent directors (INDBDDM). Finally, companies with direct BI with financial expertise have, on average, a higher proportion of board members with academic backgrounds in accounting, auditing and finance (EXPBDDM).

In general, the results indicate that companies with BI with FB present higher levels of corporate governance considering the individual aspects observed. These findings confirm the evidence that political connections worsen corporate monitoring, in accordance with Riahi-Belkaoui (2004), Khwaja and Mian (2005), Chaney, Faccio and Parsley (2011), Chen et al. (2010) and Boubakri et al. (2012).

Table 6 shows the relationship between BI, measured by the connections of individuals with PB and REM practices.

Table 6 shows that BI with PB in the direct tie is positively related to abnormal cash flow, production level, discretionary expenditure and aggregate model, which confirm that the presence of BD members with political connections influencing REM opportunistic practices.

Concerning BI with PB, we cannot reject H_1, as such BI is positively related to EM practices. Evidence has pointed out that BI, when measured by board members with PB in

	LDCP		LDCF		LICP		LICF	
Incentives	(1)	(0)	(1)	(0)	(1)	(0)	(1)	(0)
SP	18.9372**	23.1004	24.7666	18.946	22.1082	24.363	23.7242	24.723
MTB	1.3870	1.5242	1.7250*	1.2912	1.1232	1.6005	1.9086*	1.4657
ROA	0.0418	0.0339	0.0473	0.0309	0.0426*	0.0476	0.0598**	0.0431
GROWTH	0.1451***	0.2099	0.1658	0.1914	0.1799	0.1834	0.1689	0.1727
SIZEBD	0.3124***	0.3767	0.5796*	0.1958	0.3333	0.3211	0.5329*	0.2897
INDBDDM	0.1743	0.1541	0.2126*	0.1304	0.1972	0.1891	0.1992*	0.1863
EXPBDDM	0.5056	0.4810	0.5859***	0.4300	0.5647	0.4723	0.6258	0.4658

Notes: *Significance at 10% level; **Significance at 5% level; ***Significance at 1% level
Source: Research data

Table 5. Descriptive statistics of incentives according to BI in different backgrounds

	Equation (18)							
	FCO		PROD		DISEXP		REM	
Explanatory variables	Coeffic.	Stat. T	Coeffic.	Stat. T	Coeffic.	Stat. T	Coeffic.	Stat. T
Constant	0.08037**	1.97	0.13293**	2.19	0.03526	1.01	0.25604***	2.64
DTPC	0.002612*	1.90	0.00333**	2.27	0.00468***	3.54	0.01134***	3.54
ITPC	5.65e−06	0.29	0.00003	0.92	−8.52e−06	−0.35	0.00002	0.53
SP	0.00018***	2.92			−0.00038***	−5.55	−0.00025	−1.30
MTB	−0.01532***	−4.97	−0.02494***	−8.16	−0.01241***	−5.33	−0.05270***	−8.54
ROA	−0.36615***	−6.30	−0.31559***	−5.34	0.08001*	1.77	−0.61381***	−5.36
GROWTH	0.01234***	6.03	0.01295***	6.62			0.03056***	6.82
SIZEBD	−0.00413*	−1.86	−0.00518**	−2.24	−0.0531***	−2.58	−0.01409***	−3.07
INDBDDM			0.06182***	3.18	0.06094***	4.00	0.12194***	3.19
EXPBDDM	0.02797**	2.55						
DEV	0.18321	1.64	0.03002	0.23	−0.12005	−1.21	0.09854	0.38
SIZE	−0.00208	−1.10	−0.00539**	−2.31	−0.00205	−1.08	−0.00901**	−2.01
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	
Stat. Sig. F	0.000		0.000		0.000		0.000	
R^2	0.1976		0.2889		0.2822		0.3036	
VIF	From 1.00 to 1.9		From 1.00 to 1.9		From 1.00 to 1.9		From 1.00 to 1.9	
DW	2.020		1.853		1.939		1.869	
Breusch-Pagan	0.9342		0.4656		0.0000		0.6936	
Test. White	0.9989		3.8e−11		0.2791		1.7e−06	
n	1,606		1,606		1,606		1,606	

Notes: Significance at the level of 10% *, 5% **; 1% ***
Source: Research data

Table 6.
Relationship between board interlocking, measured by direct connections of individuals with a political background and earnings management

the direct link, is positively related to abnormal cash flow, production level, discretionary expenditure and the aggregate model, factors that represent less conservative operational decisions in earnings manipulation.

In this sense, we consider that the presence of politicians connected through the BD could be a reg flag for the corporate governance of companies, minority shareholders and potential investors, in line with Morck and Yeung (2004), Qian et al. (2011) and Boubakri et al. (2012). For corporate governance mechanisms to be efficient in corporate monitoring, it is necessary to control directors with PB, which may have interests that diverge from those of shareholders and investors, maximizing agency conflicts, monitoring costs and informational asymmetry.

From such a perspective, politicians channel resources to connected firms, distort incentives, generate investments and increase accounting information manipulation (Shleifer & Vishny, 1997). The inference that companies with political connections report information with lower quality conforms to Riahi-Belkaoui (2004), Chen et al. (2010), Chaney et al. (2011), Boubakri et al. (2012) and Guedhami et al. (2014).

Table 7 shows the relationship between BI, measured by members' connections with FB and REM practices.

Table 7 demonstrates that BI with FB, considering indirect ties, shows a negative correlation with abnormal production, discretionary expenditure and aggregate model. Overall, the results indicate less aggressive operational decision-making in companies with BI with FB, restricting opportunistic EM practices.

Regarding BI with FB, we cannot reject *H2*, which establishes a negative relationship with EM practices. We conform to Dhaliwal, Naiker and Navissi's (2010) statement that the

Explanatory variables	Equation (19) FCO Coeffic.	Stat. T	PROD Coeffic.	Stat. T	DISEXP Coeffic.	Stat. T	REM Coefic.	Stat. T
Constant	0.06125	1.50	0.09659	1.62	0.00548	0.16	0.16461	1.71
DTFC	0.00136	1.17	−0.00032	−0.25	0.00137	1.37	0.00351	1.29
ITFC	−9.95e−06	−1.16	−0.00004***	−4.45	−0.00003***	2.98	−0.00008***	−4.06
SP	0.00017***	2.83			−0.00039***	−5.76	−0.00029	−1.52
MTB	−0.01546***	−4.97	−0.02442***	−7.95	−0.01229***	−5.19	−0.05231***	−8.32
ROA	−0.36389***	−6.27	−0.30197***	−5.25	0.08834*	1.92	−0.59279***	−5.21
GROWTH	0.01227***	6.01	0.01240***	6.39			0.02977***	6.66
SIZEBD	−0.00456**	−2.00	−0.00534**	−2.34	−0.00572***	−2.73	−0.01528***	−3.27
INDBDDM			0.06470***	3.34	0.06087***	3.91	0.12268***	3.22
EXPBDDM	0.02906***	2.59						
DEV	0.21095*	1.95	0.07442	0.59	−0.09342	−0.96	0.21130	0.84
SIZE	−0.00118	−0.63	−0.00292	−1.25	−0.00029	−0.15	−0.00373	−0.84
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	
Stat. Sig. F	0.000		0.000		0.000		0.000	
R^2	0.1962		0.2908		0.2780		0.2993	
VIF	From 1.0 to 1.9		From 1.0 to 1.9		From 1.0 to 1.9		From 1.0 to 1.9	
DW	2.017		1.859		1.937		1.874	
Breusch-Pagan	0.8942		0.2354		0.0000		0.2471	
Test. White	0.9507		6.1e −10		0.6525		1.8e−06	
n	1,606		1,606		1,606		1,606	

Notes: Significance at the level of 10% *, 5% **; 1% ***
Source: Research data

Table 7. Relationship between board interlocking, measured by indirect connections of members with a financial background and earnings management

presence of bankers in the BD of industrial companies is negatively associated with EM through real activities.

Evidence indicates that the presence of bankers connected by the BD can be a complementary factor to corporate governance mechanisms, reinforcing the monitoring of operations that do not deviate from the economic reality of business, which has been an indication of soundness in corporate governance (Ahn & Choi, 2009; Dhaliwal, Naiker, & Navissi, 2010). BI formed by bankers offers financial longevity to businesses by restricting opportunistic practices that harm long-term results to the detriment of immediate results, as occurs in EM through real activities. In this sense, we may infer that board members linked to financial institutions can favor investors, minority shareholders and other interested parties by implementing corporate monitoring practices that inhibit the REM. Thus, the performance of these professionals reduces informational asymmetry and monitoring costs, thus minimizing possible agency conflicts.

Also, the findings suggest that such background entails a sophistication in corporate monitoring, reducing opportunistic practices of accounting information manipulation, corroborating Tomka (2001) and Ahn and Choi (2009). The assertions that bankers provide capital market background and act as financial specialists in non-financial corporations is consistent with Güner et al. (2008) and Dhaliwal et al. (2010).

Finally, Bazerman and Schoorman (1983) have criticized BI's generalist treatment, which would be limited to offering a view of corporate interference, showing the need for differentiation in the background of individuals. In this sense, the segregation of BI by members with different backgrounds offers additional perspectives on the quality of

accounting information. We also find that companies with higher market-to-book and share prices reduce EM practices, which is the opposite of the evidence that REM practices are being used to maintain favorable capital market conditions to raise capital from existing shareholders. On the other hand, companies with higher share prices use overproduction to exercise EM, corroborating Mizik and Jacobson (2007).

Our findings suggest that companies with a higher return on assets negatively influence EM practices, confirming that poor organizational performance is an incentive for companies' opportunistic behavior (Doukakis, 2014). For example, Chen et al. (2010) mention that companies tend to engage in REM practices to demonstrate satisfactory market performance.

Also, the larger number of members on the audit committee negatively influences EM practices in companies. It is confirmed that the audit committee monitors and ensures the integrity of the information contained in the financial reports (Bedard et al., 2004).

Additionally, smaller companies positively influence EM practices, which is in accordance with, for example, Roychowdhory (2006) and Gunny (2010), who claim that company size is an incentive that needs to be controlled by studies that address REM practices. Furthermore, sales growth positively influences EM practices, which is in line with Roychowdhory (2006), Gunny (2010) and Doukakis (2014), who affirm that growing companies may be exposed to REM practices by the need to increase stock value to attract investors while meeting the potential need for capital.

We show herein that corporate governance variables related to the independence of the BD and the directors with expertise in accounting, finance and auditing positively influence EM practices through actual activities. In this sense, corporate governance could be inefficient in protecting shareholders and stakeholders. This finding may be related to the possibility of change in EM alternatives. The monitoring exerted by these mechanisms makes managers stop using EM through accounting choices for fear of being discovered.

In addition to the above-presented tests, we performed a few additional sensitivity tests in Table 8. In the first one, we test the political BÍs influence on the sample of state-owned companies. The second sensitivity test approaches financial BÍs influence on the sample of lower indebtedness companies. It is noteworthy that companies with indebtedness below the median were characterized as having low indebtedness.

The models in Table 8 were subject to the control of the firm fixed effect to replace the sector and results were similar. Concerning political BI and REM, the sensitivity analysis results indicate that in non-state companies, the effect is even more evident by political BI in the direct loop. This proves that politicians share information through the corporate social network, which interferes with private companies' EM practices. Regarding state-owned companies, there is a positive relationship in only one indirect tie. Thus, the outcomes of Table 6 are adequate only for private companies.

Although financial BI is negatively related to EM, this result is only valid for companies with less indebtedness, according to Table 7. For those companies that depend on banks to finance themselves, advisers with a FB do not seem to mitigate EM practices.

6. Conclusions

Our main conclusion is that BI must be separated into different backgrounds when observing its association with REM practices. Considering BI with PB, we demonstrate the occurrence of agency problems that deserve attention from stakeholders due to its positive association with REM. On the other hand, BI with FB improves the quality of accounting information, which can be useful to investors, creditors, managers and all contracting parties of the company. Companies with such BI present a reduction in the informational

Explanatory variables	Sample of state-owned companies REM Coeffic.	Stat. T	Sample of non-state-owned companies REM Coeffic.	Stat. T	Companies with low indebtedness REM Coeffic.	Stat. T	Companies with height indebtedness REM Coefic.	Stat. T
Constant	0.0371	0.667	−0.035525	−0.96	0.0918	0.94	0.0658	0.60
DTPC	0.0005	0.25	0.0061***	3.17				
ITPC	0.00011***	2.00	−0.0003	−1.37				
DTFC					0.0014	0.34	0.0097***	2.62
ITFC					−0.0015***	−2.10	−0.0028***	−3.32
SP	−0.0006***	−2.48	−0.00012***	−3.22	0.0003***	2.48	−0.0009***	−4.26
MTB	0.0079	1.46	−0.0040	−0.97	−0.0686***	−6.93	−0.0526***	−5.92
ROA	0.2468***	2.03	0.00391	0.06	−0.7846***	−3.37	−0.2983***	−2.31
GROWTH	0.00608***	2.04	−0.00780	−0.96	−0.0016	−0.18	0.0219***	8.14
SIZEBD	0.00563	1.25	−0.00375	−1.35	−0.0226***	−2.77	−0.0098***	−1.95
INDBDDM	0.0442	1.30	−0.00505	−0.38	0.0715	1.20	0.1449***	2.83
DEV	−0.4689	−1.42	0.06041	0.45	0.4924	1.29	−0.0078	−0.02
SIZE	−0.0032	−0.67	0.00217	0.95	−0.0031	−0.50	0.0028	0.44
Year FE	Yes		Yes		Yes		Yes	
Industry FE	Yes		Yes		Yes		Yes	
Sig. Stat. F	0.000		0.000		0.000		0.000	
R^2	0.1559		0.0454		0.2887		0.1660	
n	176		1.010		593		593	

Notes: Significance at the level of 10% *, 5% **; 1% ***
Source: Research data

Table 8.
Sensitivity analysis

asymmetry between principal and agent (Elouaer-Mrizak & Chastand, 2013) due to the reduction of REM practices.

The findings suggest that the divergences in previous studies (Chiu et al., 2013; Ribeiro & Colauto, 2016; Cunha & Piccoli, 2017) about BI's benefits and harms regarding the quality of accounting information stem from the lack of background specification among BD members. We can minimize the difficulties in evaluating the diffusion of good or bad organizational practices transmitted by BI through the outcomes from the present research, consistent with the concerns shown by Shi et al. (2013). The results are in line with Jensen and Meckling's (1978) premise that agent behavior should be studied under the economic, sociological and political approach, enhancing explanations about certain corporate decisions.

While politicians cannot at times acquire private companies' property rights, BI has control over such properties, which gives them benefits over others, offering them retributions for votes, donations, companies offer and even capital. The main divergence was observed in the BI with PB in the direct tie, which has a positive relationship with REM practices. In contrast, BI with FB presents the opposite effect in the indirect loop.

The main explanation for such is that in the direct tie, the advisers responsible for spreading opportunistic information in the corporate network are active subjects in decision-making and take responsibility with the other members for BD's decision-making actions. This does not occur in the indirect loop, whose members may be intimidated and afraid to take full responsibility for actions involving earnings manipulation.

The results indicate that BI's indirect linkage with the PB has not been used as an inducer of information that influences opportunistic practices. This result is justified by individuals' fear of using information from third parties (politicians), which are not directly interconnected with

the BD of their company. In this sense, board members who influence organizational strategies with information captured by indirect linkages of BI would not transfer the responsibility for using EM if the company is interpreted as opportunistic by stakeholders.

Our findings present some contributions/implications. The first is a theoretical contribution, showing the limitation of the discussion on BD's corporate monitoring performance under the Agency Theory approach. Observing only the economic aspects of Agency Theory may result in a distorted interpretation of corporate governance. The sociological approach, as the political and FB of BI members, is necessary for the coherence of monitoring mechanisms consequently, quality of accounting information.

Finally, we showed that political connections could indicate lower quality in accounting information, mainly for companies operating in weaker legal systems, presenting higher levels of corruption, less transparency and judicial independence, which are a few features found in the Brazilian entrepreneurial environment. However, the BI's financial connections can have the opposite effect, lowering the EM probability. Finally, this paper corroborates Elouaer-Mrizak and Chastand's (2013) findings, which indicate that different organizational connections offer attributes in disseminating strategies aimed at opportunistic decisions in the manipulation of accounting information.

The main limitations of the study refer to BI independent variables. First, politicians' BI was created with a binary variable and does not distinguish politicians with different political views and party ties. Second, bankers' BI did not capture the position occupied and experience in the financial institution. We could not identify if BD members were indicted by the controlling shareholder or by others. We consider that, in the first case, the behavior of BD members could be affected. Although we have used the size of BD and the number of independent members as corporate governance control, other governance characteristics may affect the relationship between BD members with PBs and FBs and EM practices. Thus, further studies may consider other corporate governance variables and their interactions with BI variables.

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Authors contribution are as follows

Dal Magro, Cristian Baú – Conceptualization (Lead), Data curation (Lead), Formal analysis (Lead), Funding acquisition (Supporting), Investigation (Lead), Methodology (Lead), Project administration (Lead), Resources (Supporting), Software (Lead), Supervision (Supporting), Validation (Lead), Visualization (Lead), Writing-review & editing (Lead). Klann, Roberto Carlos – Conceptualization (Supporting), Data curation (Supporting), Formal analysis (Supporting), Funding acquisition (Lead), Investigation (Supporting), Methodology (Supporting), Project administration (Supporting), Resources (Lead), Software (Supporting), Supervision (Lead), Validation (Supporting), Visualization (Supporting), Writing-original draft (Supporting), Writing-review & editing (Supporting).

Corresponding author

Cristian Baú Dal Magro can be contacted at: cristianbaumagro@gmail.com

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