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ORIGINAL ARTICLE

Shareholder coalitions and dividends: evidence from the Brazilian capital market

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ABSTRACT

This article examines the effect of the heterogeneity of shareholder coalitions on the distribution of dividends in companies listed in Brazil. To analyze the relationship between large shareholders and dividends, it is essential to consider the way the control is ensured. Large shareholders can share control by forming coalitions, and differences in the composition of coalitions can alter the incentives the cooperating parties have for the activity of monitoring. Based on shareholder agreements, we explore the heterogeneity among shareholder coalitions by presenting elements that can characterize the role of shared control in the corporate governance of companies in a market environment described by the concentration of control in a single large shareholder. This study presents potential economic and social impacts, as it is of particular interest to outsider shareholders, and even potential investors, to know how insiders can use dividend policy, since the distribution of profits tends to mitigate agency problems. To identify the shareholder coalitions we resorted to shareholder agreements. The analysis model was estimated using the two-stage system generalized method of moments (GMM-Sys) with unbalanced panel data for the period from 2008 to 2019. We discovered that the number of shareholders in the coalition and the leveraging of the voting rights of the biggest shareholder in the coalition are negatively related to the dividends distributed, and that the voting rights of the coalition are positively related to the dividends distributed. These results contribute to the principal-principal approach of agency theory and highlight that the incentives and capacity of shareholder coalitions to pursue private benefits of control depend on their own characteristics.

Keywords: corporate governance, large shareholders, shareholder coalition, dividends, distribution of control.

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1. INTRODUCTION

Agency theory is one of the many starting points for explaining the payment of dividends by companies (Booth & Zhou, 2017). From this theoretical perspective, dividends are considered as a mechanism for protecting shareholder interests (La Porta et al., 2000; Rozeff, 1982), because they reduce the incentives for insiders to use free cash flow for their own benefit (Easterbrook, 1984; Jensen, 1986).

The ownership structure is, therefore, a determining factor for the payment of dividends, despite the interpretation of the direction of influence not being trivial. Some studies state that the concentration of ownership in one large shareholder makes the distribution of dividends a redundant control device of the administration (Farinha, 2003; Goergen et al., 2005; Renneboog & Trojanowski, 2007), while others propose that given the high risk of expropriation of outsiders by insiders, substantial dividends are needed to convey that this does not occur (Amoako-Adu et al., 2014; La Porta et al., 2000; Truong & Heaney, 2007).

The distribution of ownership between various large shareholders can promote multilateral monitoring activity (Bloch & Hege, 2001; Pagano & Röell, 1998) and affect the dividend distribution decision. Faccio et al. (2001) observed that the sum of the participations of the large shareholders is associated with a lower proportion of dividends distributed by companies in East Asia in the period from 1992 to 1996 compared to companies in Western Europe. Gugler and Yurtoglu (2003), Gonzalez et al. (2017), and Jiang et al. (2019) showed that the ownership of other large shareholders shapes the effect of the ownership of the largest shareholder on the distribution of dividends, limiting expropriation in Germany, in Latin America, and in China, respectively.

However, for an analysis of the effect of large shareholder ownership on the distribution of dividends, it is essential to consider the way the control is ensured, as the functions performed by large shareholders as controllers or monitors will not be clearly separated if they choose to form coalitions (Russino et al., 2019; Wang, 2017). Shareholder coalitions concentrate controlling power and act in aligning interests between the owner and the administration (Bennedsen & Wolfenzon, 2000). On the other hand, shareholder coalitions can create conditions for the cooperating parties to engage in the extraction of private benefits of control (Bennedsen & Wolfenzon, 2000; Zwiebel, 1995).

Based on a sample of companies from the United Kingdom in the 1990s, Renneboog and Trojanowski (2007) documented that profitability increases the likelihood of dividend distributions, and that the voting power of theoretical coalitions negatively interferes in this relationship, suggesting the substitute effect of monitoring by which dividends would not need to constitute an additional control device of management. López-Iturriaga and Santana-Martín (2015) verified that, in Spain, the negative relationship between shareholder coalitions and dividend policy can be explained by the extraction of private benefits of control. Jiang et al. (2019) observed that, after tunneling activity was prohibited in China, the relationship between large shareholders and dividends has been positive. This relationship remains, even with the need for cooperation between the largest shareholder and the smaller counterparts for exercising corporate control.

In this study, we reopen the debate about the role of the cooperative interaction between large shareholders in corporate governance, by examining the effect of the heterogeneity of shareholder coalitions on the distribution of dividends in companies listed in Brazil. We argue that differences in the composition of the coalitions can alter the incentives the cooperating parties have for the activity of monitoring, and that this is more relevant for analyzing potential expropriation than merely considering the presence of shareholder coalitions.

We advance on this point by exploring the size of the coalitions according to the number of cooperating shareholders and voting rights they accumulate, because these are aspects that shape the allocation of the controlling power in the coalition and, consequently, the incentives for expropriating corporate resources. For Bennedsen and Wolfenzon (2000), a coalition with expressive voting rights, providing it does not include all the large shareholders of the ownership structure, is more susceptible to the shared benefits of control. Thus, the propensity to extract private benefits of control by coalitions increases when the cooperating parties concentrate the controlling power, maintaining a reduced individual share in cash flow.

In addition, we analyze the relationship between the leveraging of the controlling power of the biggest shareholder in the coalition and the distribution of dividends (López-Iturriaga & Santana-Martín, 2015), and if that relationship is moderated by the identity of the two biggest cooperating shareholders (Basu et al., 2017; Maury & Pajuste, 2005) and by prior meeting clauses in shareholder agreements (Gelman et al., 2015). Baglioni (2011) presents evidence of shareholder coalitions increasing the controlling power of the largest cooperating shareholder. Due to the negative interdependence between large shareholders,

Zwiebel (1995) argues that coalitions are formed because there are divisible private benefits of control.

To identify the shareholder coalitions, we resorted to shareholder agreements using a similar approach to the one adopted by López-Iturriaga and Santana-Martín (2015). Thus, the results presented are not interpreted based on measures of the probability of the formation of coalitions or theoretical coalitions [e.g., Basu et al. (2017), Crespi and Renneboog (2010), Jiang et al. (2019), and Renneboog and Trojanowski (2007)].

Shareholder agreements are predominantly structured to organize and preserve the control of a group of shareholders (Baglioni, 2011; Gorga, 2009; Villalonga & Amit, 2009), guaranteeing stability of the shared control (Gomes & Novaes, 2005). For that reason, we believe that shareholder agreements enable the shareholders in which the locus of power is found to be recognized, a desirable attribute for the proposed analysis.

Variations in the application of the law between countries and in the ownership structure between companies are aspects that are sensitive to an analysis of the effect of large shareholders on dividends (Adjaoud & Ben-Amar, 2010; Faccio et al., 2001; Fidrmuc & Jacob, 2010; La Porta et al., 2000). In this sense, three main aspects characterize the empirical backdrop.

First, the signing of shareholder agreements is accentuated in companies listed in Brazil (Carvalhal, 2012; Gorga, 2009; Silva et al., 2018). Despite that, the analyses of the ownership structure as one of the determinants of the distribution of profits in this context have ignored the formation of coalitions and obtained mixed results [e.g., Colombo and Terra (2022), Crisóstomo and Brandão (2016), Dalmácio and Corrar (2007), Forti et al. (2015), Hahn et al. (2010), and Vancin and Kirch (2020)].

Second, the Brazilian capital market, compared to developed markets, is perceived as an environment with imprecise rules subject to controversies (Black et al., 2009). In Brazil, highly concentrated ownership structures and low contestability of control prevail (Black et al., 2009; Crisóstomo et al., 2020), while shareholders without sufficient ownership to permanently achieve individual control tend to sign shareholder agreements (Gorga, 2009; Silva et al., 2015).

Finally, companies listed in Brazil are obliged by law to pay out dividends (Martins & Novaes, 2012). Although the obligation may dissuade the opportunistic behavior of insider shareholders in relation to outsider shareholders, the ideal dividend policy goes beyond the scope of the regulation (Adjaoud & Ben-Amar, 2010; Atanassov & Mandell, 2018; Fidrmuc & Jacob, 2010; La Porta et al., 2000).

The analysis model was estimated using the two-stage system generalized method of moments (GMM-Sys) with unbalanced panel data for the period covering 2008 to 2019. We discovered that the number of shareholders in the coalition and the leveraging of direct voting rights of the largest shareholder in the coalition are inversely related to the dividends paid, and that the voting rights of the coalition are positively related to the dividends paid. Despite that positive relationship suggesting the alignment of interests effect due to the probable alignment effect (Bennedsen & Wolfenzon, 2000), we discover that the negative relationship prevails and is consistent with the idea that coalitions prefer to maintain more corporate resources for discretionary use for their own benefit (Bennedsen & Wolfenzon, 2000; Zwiebel, 1995).

These results contribute to the literature that evaluates the role of large shareholders in corporate governance, since by incorporating the heterogeneity of shareholder coalitions into the analyses, we highlight what may be symptomatic in relation to the extraction of private benefits of control by coalitions (Bennedsen & Wolfenzon, 2000; Zwiebel, 1995), even if there is a legal obligation for companies listed in Brazil to distribute profits.

Our findings complement the study of López-Iturriaga and Santana-Martín (2015), as well as the investigations that in the Brazilian context have maintained their focus on the relationship between the ownership concentration of the largest shareholder and dividends [e.g., Crisóstomo and Brandão (2016), Dalmácio and Corrar (2007), and Hahn et al. (2010)] or that have documented a positive effect of shareholder agreements on corporate value (Carvalhal, 2012; Silva et al., 2018). We established a counterpoint to the investigations of Gonzalez et al. (2017), Gugler and Yurtoglu (2003), Jiang et al. (2019), and Renneboog and Trojanowski (2007), showing that the interaction between multiple large shareholders does not always increase the effectiveness of monitoring activity.

2. HYPOTHESIS DEVELOPMENT

Despite the non-cooperative interaction between large shareholders promoting multilateral monitoring independently (Bloch & Hege; 2001; Pagano & Röell, 1998) and positively affecting the distribution of dividends (Gugler & Yurtoglu, 2003; Jiang et al., 2019), there is the possibility of large shareholders forming coalitions

(Russino et al., 2019). Shareholder coalitions can be associated with the shared benefits of control (Bennedsen & Wolfenzon, 2000; Carvalhal, 2012; Gomes & Novaes, 2005) and with the private benefits of control (Bennedsen & Wolfenzon, 2000; Russino et al., 2019; Zwiebel, 1995).

Bennedsen and Wolfenzon (2000) and Zwiebel (1995) mention that shareholder coalitions are formed when the shareholding participations of the cooperating parties are below the threshold of control or when the difference in the participations held by the shareholders is relatively small. Along these lines, Silva et al. (2015) show that in companies listed in Brazil the probability of shareholder agreements increases when the voting rights of the largest shareholder are not enough to unilaterally exercise corporate control.

In particular, Zwiebel (1995) states that by engaging the smaller counterpart in a coalition, the largest shareholder seeks to obtain divisible private benefits of control. López-Iturriaga and Santana-Martín (2015) report that the presence of shareholder coalitions in companies listed in Spain is negatively related to dividend policy. In this sense, shareholder coalitions may prefer a smaller proportion of dividends to keep more corporate resources under their discretionary power. Based on that, we present the following hypothesis:

> H_1: shareholder coalitions exert a negative effect on the distribution of dividends.

However, the presence of shareholder coalitions in itself may not be enough to characterize what effects they exert over the distribution of profits. As coalitions are heterogeneous, an important aspect concerns the allocation of the controlling power in the coalition (Basu et al., 2017; Bennedsen & Wolfenzon, 2000; Gomes & Novaes, 2005; Zwiebel, 1995).

Bennedsen and Wolfenzon (2000) understand that the sharing of control between large shareholders increases the incentive of the cooperating parties to engage in the activity of monitoring management, after all, forming a coalition means concentrating the controlling power to reinforce joint strategic decisions. Thus, we conjecture that the voting rights of the coalition are a measure for evaluating the potential principal-agent agency conflict:

> H_2: the voting rights of the coalition exercise a positive effect on the distribution of dividends.

Gomes and Novaes (2005) explain that the decisions taken by the coalition are the result of the consensus between the cooperating parties, for which reason coalitions should unite the greatest possible number of shareholders. This reasoning says that the negotiation process in the coalition is what characterizes the activity of multilateral monitoring and prevents unilateral decisions. In addition, the informational advantage the cooperating parties have from sharing control potentially reduces the incentives of management to engage in negative net value investments, especially in contexts of weak legal protection.

On the other hand, Bennedsen and Wolfenzon (2000) evaluate the conditions that lead to the formation of coalitions and demonstrate that the shared benefits of control are likely when shareholder coalitions have the minimum number of shareholders needed to exercise controlling power. As the number of shareholders increases in coalitions, the individual participation of the cooperating parties in the cash flow tends to decrease, and that would make expropriation highly viable. Thus, we assume that:

> H_3: the number of shareholders in the coalition exerts a negative effect on the distribution of dividends.

In ownership structures with multiple large shareholders, the second biggest shareholder may discipline the biggest shareholder (Bloch & Hege, 2001; Pagano & Röell, 1998). Gugler and Yurtoglu (2003) determine that the second biggest shareholder exerts pressure for the distribution of dividends in companies in Germany. Gonzalez et al. (2017) showed that there is a negative relationship between the second biggest shareholder and dividends in countries in Latin America, which they interpreted based on the substitute effect of the monitoring by the smaller counterpart on the use of free cash flow by the biggest shareholder.

However, the conception of independent monitoring by large shareholders is one of the intriguing points for the evaluation of the role of coalitions, since these alliances may be only one of the many loopholes for leveraging the controlling power of the largest shareholder (Baglioni, 2011; Villalonga & Amit, 2009; Wang, 2017; Zwiebel, 1995). In this case, contestability of control (Bloch & Hege, 2001) appears not to be viable if the largest shareholder has the ability to impose its own interests on the decision-making processes of the coalition.

Baglioni's (2011) analysis shows that shareholder coalitions increase the voting power of the largest cooperating shareholder if it alone holds relatively lows levels of ownership (control). López-Iturriaga and Santana-Martín (2015) found that the leveraging of the controlling power of the largest shareholder in the coalition is negatively related to the dividend policy of Spanish companies. In this sense, we believe that:

H_4: by leveraging the voting rights of the largest shareholder, the shareholder coalition exerts a negative effect on the distribution of dividends.

The cooperating parties may decide to include in the shareholder agreements a prior meeting clause through which they agree in advance to express a common vision in the decisions to be taken at the general assembly or by the board of directors (Gelman et al., 2015; Gorga, 2009). The prior meeting clause may or may not specify *ex ante* the content to be decided by the coalition. An alteration in the dividend policy is sometimes included as content of the prior meeting (Gorga, 2009). The joint action of a prior meeting can compromise the decision making by the board of directors (Gelman et al., 2015), while the joint action of a prior meeting with content specified *ex ante* may promote the efficient allocation of corporate resources, because it reduces *ex post* renegotiations for the private benefit of any one of the cooperating parties (Chemla et al., 2007; Gomes & Novaes, 2005). Following these insights, we believe that:

H_5: the effect of the leveraging of voting rights by the largest shareholder of the coalition on the distribution of dividends is moderated by the joint action clause.

The preference for dividends may also vary due to the identity of each one of the multiple large shareholders (Gugler & Yurtoglu, 2003; Pindado et al., 2012; Renneboog & Trojanowski, 2007). In addition, differences in strategic orientation are generally invoked to justify the incentives and abilities of each type of shareholder in the monitoring activity (Connelly et al., 2010). Thus, the monitoring activity is more effective when the two biggest shareholders have different identities (Bloch & Hege, 2001).

Although there is no theoretical guidance regarding which types of shareholders are more likely to form coalitions, Hadlock and Schwartz-Ziv (2019) and Sauerwald and Peng (2013) suggest that coalitions tend to be formed by the same type of shareholders, after all, homogeneity among shareholder types can facilitate consensual strategic decisions. Jiang et al. (2019) show that biggest and second biggest shareholders with equal identities (state or private) make companies in China more likely to distribute dividends. On the other hand, the analyses of Laeven and Levine (2008) and Maury and Pajuste (2005) suggest that the formation of a coalition prone to extracting private benefits of control is greater when the two biggest shareholders are of the same type. To evaluate this aspect, we propose that:

H_6: the effect of the leveraging of voting rights by the largest shareholder in the coalition on the distribution of dividends is moderated by the identity of the two largest shareholders.

3. METHODOLOGICAL PROCEDURES

3.1 Model and Estimation Strategy

The analysis model was estimated using two-stage GMM-Sys with unbalanced panel data. GMM-Sys provides efficient estimates based on less restrictive assumptions than necessary to ensure consistency of the estimators in relation to the likely endogeneity problems (Blundell & Bond, 1998; Dang et al., 2015; Flannery & Hankins, 2013). In addition, the two-stage estimation is more efficient in relation to the one-stage estimation for finite samples (Windmeijer, 2005). The general empirical model is presented in equation 1.

$$Div_{it} = \alpha_1 + \beta . Div_{it-1} + \Sigma\beta . \text{Exploratory Variables}_{it} + \Sigma\beta . \text{Control Variables}_{it} + Year_t + \varepsilon_{it} \quad (1)$$

The dependent variable (DIV_{it}) represents the measures used to specify the proportion of dividends distributed. This variable was included lagged between the regressors of the model, because companies are reluctant to drastically alter their dividend policy from one year to another (Javakhadze et al., 2014; Lintner, 1956). The lagged variable, however, violates the assumption of strict endogeneity, a necessary conditions for appropriate inferences (Baltagi, 2001). The GMM estimator in a dynamic panel is particularly useful when the coefficients estimated in a static panel (fixed effects or random effects) are inconsistent due to the condition of strict exogeneity not having been fulfilled (Blundell & Bond, 1998; Dang et al., 2015; Roodman, 2009a). In the model estimation we used the Stata® program, version 16.0, the *xtabond2* routine, and *two-step*, *robust*, and *small* commands, resulting in the *t* statistic instead of the *z* statistic for the coefficients. The *laglimits* and *collapse* commands

were used to control the proliferation of instruments (Roodman, 2009b).

3.2 Definition of the Variables

Table 1 presents the variables of the analysis model. There are different alternatives for investigating the proportion of dividends distributed, such as the payout ratio or dividend yield. We used two variables based on the first alternative. The primary measure is obtained by the sum of dividends and interest on equity divided by total assets (DIV_TA) and represents the relative size of the cash flow distributed to the shareholders (Forti et al., 2015; La Porta et al., 2000; López-Iturriaga & Santana-Martín, 2015). We included the secondary measure DIV_EBITDA for sensitivity tests, which represents the ratio between profit distributed in the form of dividends and interest on equity and the potential generation of operating cash flow.

Table 1
Definition of the variables

Variable	Notation	Sign	Definition
Distributed profits	DIV_AT	N. A.	Ratio between dividends plus interest on equity and total assets of company *i* at the end of each year
	DIV_EBITDA	N. A.	Ratio between dividends plus interest equity and EBITDA of company *i* at the end of each year
Presence of a coalition	COALITION	-	Takes the value of 1 if company *i* has a shareholder agreement in effect at the end of each year, and 0 otherwise
Size of the coalition	V_COALITION	+	Sum of the proportion of voting rights of the cooperating parties in company *i* based on the shareholder agreement in effect at the end of each year
	M_COALITION	-	Number of shareholders in the coalition, independently of the maintenance of direct or indirect participation in company *i* based on the shareholder agreement in effect at the end of each year
Leveraging of the voting power of the biggest shareholder in the coalition	DOMINANT	-	Sum of the proportion of direct voting rights of the coalition minus the proportion of direct voting rights of the biggest shareholder in the coalition divided by the proportion of direct voting rights of the biggest shareholder in the coalition of company *i* based on the shareholder agreement in effect at the end of each year
	VCO_CFDO	-	Sum of the proportion of direct voting rights of the coalition minus the proportion of direct cash flow rights of the biggest shareholder in the coalition in company *i* based on the shareholder agreement in effect at the end of each year
Identity	D_TYPE	-	Takes the value of 1 if the identity of the two biggest shareholders in the coalition is the same type (financial or non-financial), independently of the maintenance of direct or indirect participation in company *i* based on the shareholder agreement in effect at the end of each year, and 0 otherwise
Joint action	MEETING	-	Takes the value of 1 if there is a prior meeting clause in the shareholder agreement in effect in company *i* at the end of each year, and 0 otherwise
	MEETINGC	-	Takes the value of 1 if there is a prior meeting clause with defined content in the shareholder agreement in effect in company *i* at the end of each year, and 0 otherwise
Size	LN_ASSETS	+	Natural logarithm of the total assets of company *i* at the end of each year
Profitability	ROA	+	Ratio between the operating profit before interest and taxes and total assets of company *i* at the end of each year
Leverage	LEV	-	Ratio between onerous debt and total assets of company *i* at the end of each year
Capital spending	CAPEX_AT	-	Ratio between capital spending and total assets of company *i* at the end of each year
Revenue growth	GROWTH	+	Variation in net revenue of company *i* at the end of each year $(Revenue_t - Revenue_{t-1}) / Revenue_{t-1}$
Age of the company	AGE	+	Number of years since the constitution of company *i* at the end of each year
Classes of shares	DUAL	+	Takes the value of 1 if company *i* has different classes of shares at the end of each year, and 0 otherwise

Note: *We ascertained the validity and termination conditions of the shareholder agreements at the end of each year, since the termination of the contract may be conditioned by the occurrence of certain liquidity events or the maintenance of minimum percentages of shareholder participation in the company by the cooperating parties. In addition, we observed if additions to the shareholder agreement altered the number of cooperating shareholders and/or contractual conditions of interest, such as the prior meeting clause.*
N. A. = not applicable.
Source: *Elaborated by the authors.*

We used dividends plus interest over equity as a measure of the amount of distributed profit, because in Brazil profit can be distributed to investors through dividends, interest on equity, or a combination of both. Since 1996, dividends have not been taxable, while interest on equity is taxable at the shareholder level and deductible, under certain conditions, from income tax at the company level (Zagonel et al., 2018). However, the amount of profit distributed is not affected by the transfer or not of interest on equity, because companies only tend to analyze what is most appropriate for their shareholders (Boulton et al., 2012).

To analyze the influence of shareholder coalitions on dividend distributions (H_1), we used the variable indicating the presence of a coalition (COALITION) if the company from the sample is a consenting actor in a shareholder agreement in effect at the end of each year. To analyze the influence of the size of the coalition on the dividend distribution, we used the sum of the direct voting rights of the coalition (V_COALITION) and the number of shareholders in the coalition (M_COALITION), respectively H_2 and H_3. To analyze the influence of the biggest shareholder in the coalition on the dividend distribution (H_4), we used the variables DOMINANT and VCO_CFDO (López-Iturriaga & Santana-Martín, 2015). In addition, we considered that the relationship expected by H_4 may be moderated by the presence of joint action clauses in the shareholder agreements (MEETING and MEETING_C) (Gelman et al. 2015) and by the identity of the two biggest shareholders in the coalition (D_TYPE). We followed Hadlock and Schwartz-Ziv (2019) and identified the two biggest cooperating shareholders as financial shareholders (financial institutions in general, investment funds in general, pension funds) or non-financial shareholders (individuals, families, governments, holding companies).

The analysis is controlled by company size (Fama & French, 2001), operating profit and financial leverage (Jensen, 1986; Truong & Heaney, 2007), capital spending and revenue growth (La Porta et al., 2000), company age (DeAngelo et al., 2006), and issuance of different classes of shares. Brazilian companies with different classes of shares are obliged to grant additional rights to shareholders with non-voting shares, such as a minimum priority dividend of 3% of net equity per share or dividends 10% higher than those attributed to shares with voting rights, among other rights (Law n. 6,404, of December 15th of 1976, arts. 17 and 111).

3.3 Sample and Data

To test the formulated hypotheses, we used data from companies listed on the *Brasil, Bolsa, Balcão* (B3) stock exchange, only excluding financial services and insurance companies and those with fewer than four consecutive years of data (Pindado et al., 2012). The 261 companies chosen cover two thirds of all the companies listed in Brazil in 2020, forming an unbalanced panel for the period from 2008 to 2019, with 2,952 observations. Approximately 38% of the observations are of companies with a coalition, and in 48% of these observations (6% of the sample) the shareholder agreements remained in effect for at least 12 years.

We collected the shareholder agreements and data on ownership structure from the website of the Brazilian Securities and Exchange Commission (CVM), accessing the files on Annual Information and the Reference Form. The financial data were extracted from the Refinitiv Eikon database, except the amount of profit distributed to the shareholders, which we collected from the Value Added Statement, which it has been obligatory to publish in Brazil since 2008. Refinitiv Eikon presents the amount in dividends, but does not present the amount in interest on equity recognized by the companies in the calculation of financial expenses.

4. RESULTS AND DISCUSSION

4.1 Description of the Variables

Table 2 presents the descriptive statistics and the difference of means test for companies with and without a coalition. Except for revenue growth (GROWTH), the dependent and control variables differ significantly between the groups. In the group with a coalition, the proportion of dividends paid is significantly higher in relation to the group with no coalition. In general, distributed dividends represent, on average, around 1.4% of total assets (DIV_AT) and 11.4% of EBITDA (DIV_EBITDA). We noted that in 61.1% of the observations there is the distribution of dividends for the period from 2008 to 2019, with 70% of the observations being in companies with a coalition and 56% of the observations being in companies with no coalition.

Table 2
Description of the Variables

Variables						With a coalition		Without a coalition		Difference
	Obs.	Mean	SD	Min.	Max.	Obs.	Mean	Obs.	Mean	*t* statistic
DIV_AT	2,952	0.01	0.02	0.00	0.07	1,113	0.02	1,839	0.01	-5.251***
DIV_EBITDA	2,952	0.11	0.14	0.00	0.49	1,113	0.13	1,839	0.10	-4.614***
COALITION	2,952	0.38	0.48	0.00	1.00					
V_COALITION	1,113	0.68	0.22	0.25	1.00	1,113	0.68			
M_COALITION	1,113	6.92	6.52	2.00	28.00	1,113	6.92			
DOMINANT	1,113	1.07	1.14	0.00	4.14	1,113	1.07			
VCO_CFDO	1,113	0.33	0.19	0.01	0.65	1,113	0.33			
MEETING	1,113	0.73	0.44	0.00	1.00	1,113	0.73			
MEETINGC	1,113	0.49	0.50	0.00	1.00	1,113	0.49			
D_TYPE	1,113	0.48	0.50	0.00	1.00	1,113	0.48			
CAPEX_AT	2,952	0.04	0.04	0.00	0.13	1,113	0.04	1,839	0.03	-4.821***
LN_ASSETS	2,952	21.43	1.75	18.11	24.46	1,113	21.96	1,839	21.11	-13.652***
ASSETS (bi)	2,952	6.92	10.90	0.07	41.80	1,113	8.81	1,839	5.78	-7.219***
ROA	2,944	0.05	0.08	-0.13	0.19	1,113	0.07	1,839	0.04	-8.342***
GROWTH	2,852	0.11	0.27	6.00	96.00	1,091	0.13	1,771	0.10	-3.462----
LEV	2,952	0.30	0.20	0.00	0.70	1,113	0.32	1,839	0.28	-6.038***
AGE	2,952	41.66	27.00	6.00	96.00	1,113	37.91	1,839	43.93	5.844***
DUAL	2,952	0.48	0.50	0.00	1.00	1,113	0.41	1,839	0.52	6.025***

Note: *The definition of the variables is in Table 1. To process outliers, the variables were winsorized at 2.5% in the lower part and 2.5% in the upper part.*
ASSETS = total assets in billions of Brazilian currency; SD = standard deviation.
**** = statistically significant parameter (p-value < 1%) for the difference of means test.*
Source: *Elaborated by the authors.*

In Brazil, companies are obliged by law to pay out dividends every financial year (Law n. 6,404, of December 15th of 1976, art. 202) and they have the option of complementing the minimum percentage defined in the statute (Vancin & Kirch, 2020). Although companies can define any profit distribution percentage, they ultimately follow the market practice. The recurrent standard is 25% of adjusted net income as a minimum percentage to be distributed. We observed that in the period from 2008 to 2019 the number of companies with profit distribution percentages defined in a statute above and below 25% grew, but the growth is not expressive.

On average, the coalitions are formed of 6.92 members (M_COALITIONS) who hold 68% of direct voting rights (V_COALITION). The coalitions formed for sharing control represent 84.2% of the observations with a coalition. The other coalitions are formed to protect minority participations or to exclusively restrict the transfer of ownership out of the coalition. In approximately 65.5% of the controlling coalitions, the biggest cooperating shareholder holds less than 50% of the direct voting rights. These coalitions concentrate, on average, 61% of direct voting rights. In the other controlling coalitions, the biggest cooperating shareholder holds 50% or more of the direct voting rights and, on average, they are coalitions that combine five shareholders to concentrate 79% of direct voting rights. In a smaller number, the coalitions for protecting minority participations unite, on average, three members and make up 77% of direct voting rights, for example.

The excess direct voting rights of the coalition (DOMINANT) corresponds, on average, to 1.07 times the direct voting rights of the biggest shareholder in the coalition and shows the relative participation of the other cooperating parties in the leveraging of the direct voting rights of the biggest cooperating shareholder. The divergence between the direct voting rights of the coalition and the direct cash flow rights of the biggest shareholder in the coalition (VCO_CFDO) is, on average, 32.6%. These percentages are above those presented by López-Iturriaga and Santana-Martín (2015) for Spanish companies.

We identified that in 48.3% of the coalitions in the sample the two biggest shareholders are of the same type (D_TYPE), often non-financial. The shareholder coalitions occur in younger companies (AGE) and ones that do not

issue different classes of shares (DUAL). In companies with a coalition, capital spending (CAPEX_AT), company size (LN_ASSETS), return on assets (ROA), and financial leverage (LEV) are, on average, greater compared to those without a coalition. We observed that the prior meeting clause (MEETING) appears in shareholder agreements signed for sharing control, encompassing 73% of the observations of those coalitions, of which 49% specify content (MEETINGC), with approximately 44% of these clauses requiring the advance consent of the coalition for alterations in dividend policy to be voted on by the board of directors.

4.2 Main Results

Table 3 presents the results for the analysis of H_1 to H_4. First, the measure of the dividends distributed in the previous year (DIV_AT_{t-1}) exerts a positive influence on the dividends distributed in *t*, configuring the expected inertial effect (Javakhadze et al., 2014; Lintner, 1956) for the models presented. The presence of a coalition (COALITION) does not influence the distributed dividends (model 1), but the ratio between the direct voting rights of the coalition (V_COALITION) and distributed dividends is positive (model 2).

The positive relationship between direct voting rights of the coalition and dividends is consistent with the idea of coalitions acting to promote the shared benefits of control (Bennedsen & Wolfenzon, 2000) and, to some extent, with the results model (La Porta et al., 2000). According to Atanassov and Mandell (2018), however, the positive relationship between ownership concentration and dividends may also be consistent with the expropriation of corporate resources if the intragroup operations favor tunneling activity.

For the promotion of the shared benefits of control, Bennedsen and Wolfenzon (2000) show that it is fundamental for coalitions to accumulate greater shareholder participation with the smallest possible number of shareholders. Under this rationale, the higher the number of cooperating shareholders is, the greater the probability of the coalition expropriating corporate resources. The results obtained for models 3 and 4 are analyzed from this perspective, since the higher the number of cooperating shareholders (M_COALITION) is, the lower the proportion of distributed dividends.

Table 3
Estimation of hypotheses 1 to 4 in a dynamic panel [two-stage system generalized method of moments (GMM-Sys)]

	Hypothesis 1	Hypothesis 2	Hypothesis 3	Hypotheses 2 and 3	Hypothesis 4
	[1]	[2]	[3]	[4]	[5]
DIV_AT_{t-1}	0.7783***	0.4756***	0.4181***	0.4033***	0.3371***
	(8.65)	(4.90)	(4.27)	(3.76)	(2.70)
COALITION	-0.0007				
	(-0.13)				
V_COALITION		0.0200*		0.1052	
		(1.90)		(0.84)	
M_COALITION			-0.0012***	-0.0010**	
			(-2.81)	(-2.20)	
DOMINANT					-0.0044**
					(-2.08)
CAPEX_AT	0.0056	-0.0467	-0.0290	-0.0530	-0.0366
	(0.15)	(-1.10)	(1.13)	(-1.16)	(-0.82)
LN_ASSETS	0.0003	-0.0000	-0.0020*	-0.0021	-0.0011
	(0.62)	(-0.06)	(-1.85)	(-1.56)	(-1.24)
ROA	0.0359	0.01018***	0.1379***	0.1505***	0.1581***
	(1.51)	(2.79)	(3.57)	(3.44)	(2.94)
GROWTH	-0.0063	0.0112***	0.0061	0.0054	0.0084
	(-0.83)	(2.13)	(1.13)	(0.89)	(1.08)
LEV	-0.0061	-0.0165***	-0.0267***	-0.0234***	-0.0223***
	(-1.36)	(-2.99)	(-3.33)	(-2.79)	(-3.66)
AGE	-0.0000	0.0000	0.0001	0.0001*	0.0000
	(-1.01)	(1.11)	(1.61)	(1.75)	(0.82)

Table 3
Cont.

	Hypothesis 1	Hypothesis 2	Hypothesis 3	Hypotheses 2 and 3	Hypothesis 4
	[1]	[2]	[3]	[4]	[5]
DUAL	0.0007	-0.0031	0.0001	-0.0015	0.0015
	(0.57)	(0.55)	(0.06)	(-0.37)	(0.65)
Time/sector dummies	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Constant	-0.0016	-0.0056	0.0600**	0.05378	0.0367*
	(-0.18)	(-0.26)	(2.34)	(1.52)	(1.78)
Observations/Companies	836/222	558/109	558/109	558/109	656/116
Instruments/Lags	52/4 to 8	58/1 to 5	58/1 to 5	59/1 to 5	61/1 to 4
F	87.58	49.33	42.80	40.39	46.77
Prob > F	0.000	0.000	0.000	0.000	0.000
Specification tests Prob > chi²					
AR (2)	0.694	0.772	0.978	0.978	0.904
Hansen	0.331	0.634	0.663	0.630	0.737
Hansen_difference	0.363	0.547	0.541	0.200	0.427

Note: *The definition of the variables is in Table 1. Due to the first difference transformation, some degree of first-order serial correlation is expected for AR test (1), although that correlation does not invalidate the results. The moment conditions were correctly specified, as AR test (2) confirms the absence of a second-order serial correlation. The Hansen test (test of overidentifying restrictions) confirms the validity of the instruments, that is, the overidentifying restrictions are valid. The Hansen-difference test confirms the exogeneity of the instruments. The t statistic of the coefficients is presented in parentheses.*
, **, * = statistically significant parameters at the 10, 5, and 1% level, respectively.*
Source: *Elaborated by the authors.*

Although the model 3 result may suggest the substitute effect of monitoring (Renneboog & Trojanowski, 2007), the joint analysis of H_2 and H_3 does not characterize the bargain effect outlined by Gomes and Novaes (2005) and validates the arguments of Bennedsen and Wolfenzon (2000). The M_COALITION variable captures the number of shareholders that form the coalition, independently of forming part of the direct or indirect control structure. Curiously, the coalitions with a higher number of shareholders are those formed for sharing control. The shareholder coalitions that most accumulate direct voting rights include shareholders with 50% or more shares with direct voting rights. In ownership structures with a defined controller (a shareholder with 50% or more of the shares with direct voting rights), the coalitions include a smaller number of members and accumulate more voting rights if compared to those present in ownership structures without a defined controller. There are cases of coalitions with many shareholders reflecting the indirect control exercised by the family.

The leveraging of the direct voting rights of the biggest shareholder in the coalition (DOMINANT) exerts a negative influence on the proportion of dividends distributed (model 5, Table 1). This relationship was also documented by López-Iturriaga and Santana-Martín (2015) and reinforces Zwiebel's (1995) conjecture that the control will only be shared by the biggest shareholder if there are divisible private benefits of control. In this sense, the biggest shareholder seeks to engage their smaller counterpart in a coalition for both to act in the extraction of private benefits of control (Bennedsen & Wolfenzon, 2000; Zwiebel, 1995). As the formation of a coalition is necessary for the cooperating parties to obtain the controlling power they would not obtain on their own, coalitions are likely to reduce or eliminate the possibility of contestation of control (Bloch & Hege, 2001).

Table 4 presents the results of the interaction between the DOMINANT variable and the variables indicating joint action (MEETING and MEETINGC). Although the prior meeting may be a sensitive aspect for analyzing the actions of controlling coalitions and of advisers elected by the members of the coalition (Gelman et al., 2015; Gorga, 2009), the effect of the leveraging of the direct voting rights of the biggest shareholder in the coalition is not moderated by the prior meeting arrangement (models 6 to 9).

Table 4
Estimation of the interaction in a dynamic panel [two-stage system generalized method of moments (GMM-Sys)]

	Hypothesis 5				Hypothesis 6	
	[6]	**[7]**	**[8]**	**[9]**	**[10]**	**[11]**
DIV_AT_{t-1}	0.3286***	0.3193***	0.3182***	0.3241***	0.4494***	0.3901***
	(2.69)	(2.73)	(2.73)	(2.66)	(3.03)	(3.26)
DOMINANT	-0.0044*	-0.0015	-0.0047**	-0.0060	-0.0036*	-0.0055**
	(-1.79)	(-0.30)	(-2.27)	(-1.26)	(-1.78)	(-2.19)
MEETING	-0.0032	0.0020				
	(-0.64)	(0.25)				
DOMINANT x MEETING		-0.0019				
		(-0.39)				
MEETINGC			-0.0012	-0.0023		
			(-0.21)	(-0.28)		
DOMINANT x MEETINGC				0.0023		
				(0.41)		
D_TYPE					-0.0018	-0.0002
					(-0.41)	(-0.05)
DOMINANT x D_TYPE						0.0022
						(0.76)
CAPEX_AT	-0.0352	-0.0319	-0.0471	-0.050	-0.0500)	-0.0631
	(-0.71)	(-0.69)	(-0.89)	(-0.84)	(-0.97	(-1.34)
LN_ASSETS	-0.0013	-0.0006	-0.0011	-0.0013	-0.0010	-0.0086
	(-1.40)	(-0.57)	(-1.17)	(-1.26)	(-1.34)	(-1.25)
ROA	0.1705***	0.1662***	0.1698***	0.1693***	0.1270**	0.1495***
	(3.24)	(3.54)	(3.31)	(3.18)	(2.00)	(2.93)
GROWTH	0.0107	0.0078	0.0086	0.1092	0.0073	0.0058
	(1.54)	(1.18)	(1.18)	(1.64)	(1.00)	(0.80)
LEV	-0.023***	-0.027***	-0.023***	-0.023***	-0.014**	-0.018***
	(-3.69)	(-3.35)	(-3.65)	(3.18)	(-2.53)	(-2.98)
AGE	0.0000	< 0.0000	0.0000	0.0000	0.0000	0.0000
	(0.95)	(0.19)	(0.73)	(1.11)	(1.02)	(1.17)
DUAL	0.0012	0.0016	0.0016	0.0014	0.0014	0.0015
	(0.49)	(0.61)	(0.68)	(0.53)	(0.72)	(0.72)
Time/sector dummies	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Constant	0.0140**	0.0241	0.0381*	0.0128*	0.0309*	0.0297*
	(2.12)	(1.02)	(1.91)	(1.79)	(1.80)	(1.97)
Observations/Companies	656/116	656/116	656/116	656/116	760/124	760/124
Instruments/Lags	63/1 to 4	67/1 to 4	63/1 to 4	67/1 to 4	61/1 to 3	63/1 to 3
F	41.31	41.06	41.26	34.65	58.97	51.50
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000
Specification tests Prob > chi^2						
AR (2)	0.771	0.840	0.801	0.782	0.570	0.799
Hansen	0.720	0.652	0.779	0.768	0.575	0.621
Hansen_difference	0.427	0.338	0.559	0.551	0.488	0.614

Note: *The definition of the variables is in Table 1. Due to the first difference transformation, some degree of first-order serial correlation is expected for AR test (1), although that correlation does not invalidate the results. The moment conditions were correctly specified, as AR test (2) confirms the absence of a second-order serial correlation. The Hansen test (test of overidentifying restrictions) confirms the validity of the instruments, that is, the overidentifying restrictions are valid. The Hansen-difference test confirms the exogeneity of the instruments. The t statistic of the coefficients is presented in parentheses.*
, **, * = statistically significant parameters at the 10, 5, and 1% level, respectively.*
Source: *Elaborated by the authors.*

Table 5
Estimation in a dynamic panel [two-stage system generalized method of moments (GMM-Sys)] for analyzing sensitivity

	Hypothesis 4	Hypothesis 4	Hypothesis 1	Hypothesis 2	Hypothesis 3	Hypothesis 4
	[12]	[13]	[14]	[15]	[16]	[17]
DIV_ATt-1	0.4250***					
	(0.001)					
DIV_EBITDA		0.5083***	00.4231***	0.0401***	0.3996***	0.4157***
		(2.73)	(5.08)	(3.30)	(4.34)	(4.61)
COALITION			0.0163			
			(0.54)			
V_COALITION				0.01346*		
				(1.94)		
M_COALITION					-0.0074**	
					(-2.03)	
DOMINANT						-0.0360**
						(-1.93)
VCO_CFDO	-0.0269*	-0.2103*				
	(-1.97)	(-1.77)				
CAPEX_AT	0.0068	-0.0522	-0.0682	-0.5600	-0.2502	-0.3244
	(0.15)	(-0.13)	(-0.19)	(-1.51)	(-0.64)	(-0.73)
LN_ASSETS	-0.0003	-0.0036	0.0041	0.0043	-0.0154	-0.0089
	(-0.58)	(-0.69)	(0.91)	(0.73)	(-1.55)	(-1.14)
ROA	0.1210**	0.5777	0.4268*	0.7840**	0.8068***	0.8706***
	(2.55)	(1.49)	(2.59)	(2.35)	(3.16)	(3.43)
GROWTH	0.0076	0.0796	-0.0209	0.0076	0.0551	0.0768
	(0.65)	(1.53)	(-0.46)	(0.11)	(1.10)	(1.40)
LEV	-0.0222***	-0.2042***	-0.1104***	-0.1524**	-0.2424***	-0.1949***
	(-3.37)	(-2.81)	(-3.37)	(-2.37)	(-3.39)	(-2.92)
AGE	-0.0000	-0.0003	-0.0002	0.0003	0.0003	0.0003
	(-1.03)	(-0.96)	(-0.71)	(1.06)	(0.66)	(0.71)
DUAL	0.0069*	0.0516	0.0084	-0.0175	0.0138	0.0030
	(1.70)	(1.35)	(0.50)	(-0.71)	(0.56)	(0.13)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Sector dummies	No	No	No	No	No	No
Constant	0.0229	0.2283*	-0.0191	-0.0942	0.5037**	0.3298*
	(1.62)	(1.86)	(-0.20)	(-0.65)	(2.18)	(1.92)
Observations/Companies	656/116	463/104	831/221	760/124	463/104	463/104
Instruments	48	55	65	51	61	58
Lags	2 to 4	2 to 6	2 to 8	1 to 3	1 to 6	1 to 6
F	34.02	22.00	31.06	44.08	32.17	27.07
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000
Specification tests Prob > chi^2						
AR (2)	0.812	0.410	0.255	0.134	0.549	0.594
Hansen	0.477	0.667	0.305	0.403	0.678	0.771
Hansen_difference	0.242	0.626	0.303	0.604	0.615	0.741

Note: *The definition of the variables is in Table 1. Due to the first difference transformation, some degree of first-order serial correlation is expected for AR test (1), although that correlation does not invalidate the results. The moment conditions were correctly specified, as AR test (2) confirms the absence of a second-order serial correlation. The Hansen test (test of overidentifying restrictions) confirms the validity of the instruments, that is, the overidentifying restrictions are valid. The Hansen-difference test confirms the exogeneity of the instruments. The t statistic of the coefficients is presented in parentheses. *, **, *** = statistically significant parameters at the 10, 5, and 1% level, respectively.*
Source: *Elaborated by the authors.*

We observed that the decisions taken in a prior meeting follow simple majority, absolute majority, or qualified majority voting criteria; however, we did not incorporate any voting criteria into the joint action attribute. The voting rules interfere in the balance of power between large shareholders (Wang, 2017) and only a unanimous voting rule would enable the other members of the coalition to challenge the power of the biggest shareholder in the coalition (Baglioni, 2011).

As they are of the same type, financial or non-financial (D_TYPE), the two biggest shareholders also do not moderate the relationship between the leveraging of the direct voting power of the biggest shareholder in the coalition and the dividends distributed (models 10 and 11, Table 4). Although the coalitions may include different types of shareholders, their members tend to see themselves as similar for creating a group identity (Hogg & Terry, 2000).

4.3 Sensitivity Analysis

We verified the consistency of the results for alternative variables (models 12 to 17, Table 5). In model 12, we substituted the DOMINANT variable with VCO-CFDO, which measures the difference between the direct voting rights of the coalition and the direct cash flow rights of the biggest shareholder in the coalition. In model 13, we kept the VCO-CFDO variable and substituted the DIV_AT variable with l DIV_EBITDA, which represents the ratio between the amount of distributed profit and the potential operating cash flow generation. The results obtained for models 12 and 13 confirm the relationship foreseen in H_4.

Finally, models 1, 2, 3, and 5 of Table 3 were re-estimated for the alternative variable of the proportion of distributed dividends (DIV_EBITDA). The previous results for H_1, H_2, and H_3 remained the same (models 14 to 17, Table 5), although the statistical significance for the M_COALITION variable decreased from 1 to 5%. In general, the main results are not affected by the use of the alternative variables.

5. CONCLUSIONS

We examined the effect of the heterogeneity of shareholder coalitions on the distribution of dividends in companies listed in Brazil. We discovered that coalitions affect the distribution of dividends in different ways. Despite the relationship found between the sum of direct voting rights of the coalition and dividends being consistent with the idea of shared benefits of control, we obtained strong indications that the shareholder coalitions prefer to pay out a smaller proportion in dividends, and that may be related with the obtainment of private benefits of control at the cost of non-member shareholders. We conducted sensitivity tests with alternative measures and the results remained the same.

Although these findings refer to a single country, the implications are more general. As such, the question about the effects of cooperative interaction between large shareholders is not resolved and remains controversial. Doubts remain about the effectiveness of shared control in promoting corporate governance, especially in emerging markets. In this sense, we extend the literature that considers ownership structure to be one of the determinants of the payment of dividends and we contribute to the principal-principal approach of agency theory, as well as the economic and social relevance of the results found being connected to the particular interest of outsiders in knowing how insiders can use the dividend policy in companies.

This study has limitations that suggest promising paths for future research. Despite the dimension investigated jointly considering dividends and interest on equity, we did not consider share repurchases and bonuses, one of the ways companies spend free cash flow and about which we are unaware of research that has characterized its importance in solving the principal-principal conflict in the Brazilian context. We also did not separately evaluate the incremental dividend paid out by companies and the dividend yield. We also recognize that there are risks associated with the use of data on the direct ownership structure, such as having attributed to the shareholder coalitions or to one of the cooperating parties a higher or lower level of ownership (control) than there is in reality.

Due to the likely connection between shareholder coalitions and economic groups, data on indirect ownership structure may be useful in investigating possible strategic dependences in companies governed by coalitions that impact, for example, decisions on financing, investment, dividend policy, voluntary disclosure, director and advisor remuneration, and even the corporate governance quality of companies.

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