NONFINANCIAL FIRMS AS LARGE SHAREHOLDERS USE DIVIDEND POLICY FOR MANAGEMENT MONITORING IN BRAZIL

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1 INTRODUCTION

Relevant works highlighted the importance of dividend policy under distinct theoretical frameworks and gave rise a prominent body of research (LINTNER, 1956; MILLER; MODIGLIANI, 1961; BLACK, 1976). Recent literature pointed out that it still remains an open topic of study with important questions that deserve attention about dividend policy determinants (RENNEBOOG; TROJANOWSKI, 2007; GOPALAN; NANDA; SERU, 2014; JAVAKHADZE; FERRIS; SEN, 2014; HARRIS; HARTZMARK; SOLOMON, 2015; MORI; IKEDA, 2015).

Financial decisions are crucial for any company given the importance they have on firm value, and on firm performance. Among the main firm financial decisions are the ones related to investment and capital structure policies, as well as dividend policy. Every company looks for the perfect combination of these policies in order to adequately maximize firm growth opportunities and increase firm value in the mid and long run. A large amount of research has been undertaken focusing on the relation between this set of firm policies and market imperfections that are able to moderate them (HARRIS; RAVIV, 1991; STEIN, 2003; BARCLAY; SMITH, 2005). This body of research has found that indeed financial decisions matter for firms, contrary to the irrelevance of investment funding and dividend policy over firm value predicted by the perfect market framework proposal of Modigliani and Miller (MODIGLIANI; MILLER, 1958).

Dividend distribution is related to cash flow available for management use. The reduction in dividend payout favors the increase in cash flow directed to firm investment funding, thus reducing the need for external funds (MYERS, 1977; 1984; HARRIS; RAVIV, 1991; STEIN, 2003; PINDADO; DE LA TORRE, 2006).

The institutional and legal environment has been seen as a factor that matters for dividend policy given that the legal rules in each country may shape shareholder protection and behavior (LA PORTA *et al.*, 2000; JAVAKHADZE; FERRIS *et al.*, 2014). Under the Agency Theory framework, agency conflicts seem to have a role on dividend policy. For instance, a number of shareholders consider dividend policy relevant for different reasons. Dividend is an important investment return for shareholders although firm value creation is even more important. Dividend policy is also related to the availability of internal funds for investment funding which is an important source of financing according to the Pecking order theory. Dividend payout will also determine the free cash flow available for managers, something that is dangerous for firms without good investment opportunities. In this vein, corporate governance and ownership structure emerge as important factors that could influence firm dividend policy given the interests of different groups of shareholders (JENSEN, 1986; LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000; KHAN, 2006; LEE *et al.*, 2006; HARADA; NGUYEN, 2011; GOPALAN; NANDA *et al.*, 2014; FLORACKIS; KANAS; KOSTAKIS, 2015; MORI; IKEDA, 2015).

In the context of the agency conflicts between shareholders and managers there is a set of good corporate governance practices that are suggested as able to control management activity and prevent managers from incurring in moral hazard problems and the emergence of excessive management power as predicted by the Managerial Power Hypothesis (SHLEIFER; VISHNY, 1997; GUTHRIE; SOKOLOWSKY; WAN, 2012). In fact, some agency models that take into account corporate governance practices and the role of shareholders have been proposed for the explanation of the relationship between ownership structure and dividend

policy (KHAN, 2006; HARADA; NGUYEN, 2011; GOPALAN; NANDA *et al.*, 2014; FLORACKIS; KANAS *et al.*, 2015; MORI; IKEDA, 2015).

The relevance of research about dividend policy in emerging markets has increased with the growing importance of such economies and also for the fact that the institutional and legal environments have specific nuances that may interfere in shaping dividend policy (LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000; JAVAKHADZE; FERRIS *et al.*, 2014). In this context, Brazilian market has a set specific characteritics that makes it an important economy that requires attention: the greatest economy in Latin America, high ownership concentration, low protection of minority shareholders, minimum mandatory dividend policy of 25% of net income in Brazil (Law no. 11.638/2007), high private benefits of control that favor large controlling shareholders (DYCK; ZINGALES, 2004; PROCIANOY; VERDI, 2009; HOLANDA; COELHO, 2014; BRANDÃO; CRISÓSTOMO, 2015). Some macroeconomic events have also made dividend policy an interesting topic to be analyzed: the drop in inflation, from 1994, and the process of post-stabilization, the growth of stock market capitalization, and the importance given to the adoption by firms of good corporate governance practices (PROCIANOY; VERDI, 2009; MOREIRAS; TAMBOSI FILHO; GARCIA, 2012). Most of the studies about dividend policy in Brazil started after the economic stabilization in the 1990's. Studies focusing on agency conflicts and dividend policy are still scarce (MARTINS; FAMÁ, 2012).

This work aims to assess whether dividend policy of Brazilian firm is shaped by one relevant aspect of ownership structure, the presence of nonfinancial firms as the dominant controlling stockholder. The possible positive effect of high ownership concentration in hands of nonfinancial firms on dividend payout is studied. Such positive effect could signal that these controlling shareholders may be using dividend policy as a management control mechanism.

For a representative panel data composed of 1.890 firm-year observations relative to 234 companies, in the period 1996-2012, the results indicate that indeed there is a positive effect of nonfinancial firms as large controlling shareholders on dividend payout of the Brazilian firm, which is in line with the management monitoring hypothesis.

This document has the following structure. In the next section, theoretical framework addressing the issues involving dividend policy, ownership structure, and the agency conflicts that drive the monitoring hypothesis are concatenated. Then, data source, the procedures for the data collection, and the methods used for data analysis are presented. At continuation, results are exhibited and commented. Finally, concluding remarks are offered.

2 DIVIDEND POLICY AND NONFINANCIAL FIRM AS A CONTROLLING SHAREHOLDER

2.1 Dividend policy determinants

By showing that dividend policy is not irrelevant for firms Lintner (1956) has provided an important contribution to dividend policy research. According to Lintner (1956) firm managers avoid reducing dividend distribution and adjust it periodically in a way to avoid dividend volatility higher than firm earnings per share. Since Lintner's contribution, a body of research on dividend policy has been built. This initial research on dividend policy has led to the important proposal that firm income seems to be a central factor on dividend payout which has almost become a consensus with evidence documented (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968; SHORT; ZHANG; KEASEY, 2002). Besides the reality that profitability seems to be an important determinant of dividend payout, the question of which firm attributes moderate firm dividend policy has been the focus of important

research and remains an open avenue for investigation (LINTNER, 1956; GORDON, 1959; MILLER; MODIGLIANI, 1961; BLACK, 1976; DEANGELO; DEANGELO; SKINNER, 2008; BØHREN; JOSEFSEN; STEEN, 2012; GUTIÉRREZ URTIAGA; SÁEZ LACAVE, 2014).

Among the possible determinants for dividend policy, dividend tax treatment has emerged as an important one in different markets according to distinct shareholders' interests (GRAHAM; KUMAR, 2006; DENIS; OSOBOV, 2008; HAESNER; SCHANZ, 2013). For example, in UK pension funds have a great tax incentive to demand for dividends, being tax-exempt institutions, which makes the tax system very favorable to dividends in comparison to the tax treatment of capital gains (BOND; CHENNELLS; DEVEREUX, 1995). Firm size has also been proposed as important determinant of dividend payout under the argument that larger firms are more stable and less inclined to depend available cash flow for investment (DEANGELO; DEANGELO; SKINNER, 2004).

Under the agency conflicts theoretical framework, the use of dividend policy has also been pointed out as an additional mechanism for management monitoring given that high dividend payout reduces the free cash flow submitted to discretionary managerial control, this way functioning as an important instrument for management monitoring (JENSEN, 1986; LÓPEZ-ITURRIAGA; CRISÓSTOMO, 2010; HARADA; NGUYEN, 2011).

2.3 Dividend policy and agency conflicts

The excess power of controlling shareholders has been the focus of attention of important body of literature on corporate governance given that relevant firm blockholders have incentives and ability to maintain internal control systems that fit their interests and ease the use of private benefits of control as predicted by the expropriation effect argument (SHLEIFER; VISHNY, 1997; JOHNSON *et al.*, 2000; BRANDÃO; CRISÓSTOMO, 2015; CRISÓSTOMO; BRANDÃO, 2016). This excess power of controlling blockholders may also hold for the management monitoring hypothesis which is closely related to dividend policy.

Ownership concentration has been found as able to benefit management monitoring given that shareholders with greater power will be willing to bear the control costs, thus overcoming the free-rider problem, which is a strong characteristic of companies with low concentrated ownership in which shareholders with a low proportion of ownership have little interest in assuming monitoring costs for the benefit of all (SHLEIFER; VISHNY, 1986). This proposed effective action of high ownership concentration in monitoring management activity has been a topic of attention in the literature since long (DEMSETZ; LEHN, 1985; CLAESSENS; DJANKOV, 1999).

The rationale on the management monitoring action and dividend policy is related to firm investment opportunities and the free cash flow available for managers. Under the Pecking Order proposal, a firm with good investment opportunities will try to maximize internal funds so that such a firm will tend to retain profit and restrict dividend payout and direct cash flow to finance investment (MYERS, 1977; MYERS; MAJLUF, 1984). On the other hand, if the company does not have good growth opportunities, there would be no need, or justification, to retain profit and constrain the payment of dividends. In fact, in such a situation, the dividend distribution may be positive given that it reduces the free cash flow available to managers without good investment opportunities, restricting his discretionary power over free cash flow, thus limiting the eventual misuse of funds available by managers, this way reducing the possibility that the manager incurs in moral risk (JENSEN, 1986; LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000).

There is an argument that suggests that the nature of relevant blockholders is able to affect firm investment and financing policies. The rationale is that better and well timely informed blockholders positively influence communication with external creditors. In this

vein, certain blockholders may also be more effective in monitoring firm management, reducing the possibility of managerial misuse of internal funds (GOERGEN; RENNEBOOG, 2001).

A number of works found evidence on the influence of controlling shareholders on firm investment and financial policies which may be related to dividend policy as abovementioned. Other firms in ownership structure appear as important players in this context signaling that such blockholders seem to be well and timely informed about firm investment opportunities and funding sources. In fact, there is evidence that the membership to corporate groups in Japan and India improves access to external credit market (HOSHI; KASHYAP; SCHARFSTEIN, 1991; MANOS; MURINDE; GREEN, 2007; LENSINK; VAN DER MOLEN, 2010). Also in the context of investment policy, the presence of a nonfinancial firm as a relevant blockholder favors investment policy and reduces the intensity of financial constraints in USA (ALLEN; PHILLIPS, 2000). By being well and timely informed about firm growth opportunities and firm financial status, a non financial firm as the controlling blockholder will be able to adequately decide on the best source of funds, internal or external, to maximize growth opportunities. This way, they will shape dividend policy that best fit their interests.

In the case of Brazil, the scenario shows a huge presence of a nonfinancial financial firm as the controlling stockholder which signals a great interest on diversification and return maximization. In summary, the rationale is that a nonfinancial firm as the company's controlling shareholder will decide to use dividend policy for management monitoring by increasing dividend payout in the presence of free cash flow.

Hypothesis: Nonfinancial firm as the dominant controlling shareholder increases dividend payout given that dividend policy is used as a management control mechanism to reduce free cash flow available for managers.

3 MODELS AND ECONOMETRIC METHOD

Four dividend models are estimated to test the hypothesis proposed that a non financial firm as controlling shareholder leads to a positive effect of dividend payment: the Full Adjustment Model (LINTNER, 1956), the Partial Adjustment Model (LINTNER, 1956), the Waud Model (WAUD, 1966), and the Earnings Trend Model (FAMA; BABIAK, 1968). In accordance with the proposals of (SHORT; ZHANG *et al.*, 2002) these models are modified by the inclusion of an interactive dummy variable to account for the potential positive effect of a nonfinancial firm as the controlling shareholder, proxied by the presence of such a shareholder as the major one, on dividend policy as proposed under the monitoring hypothesis rationale.

3.1 The Full Adjustment Model (FAM)

Model of Equation (1) stands for the Full Adjustment Model (FAM) that relates earnings (E) and dividends (D) for firm *i* at time *t*. Under the rationale of the Full Adjustment Model, if changes in income are permanent and a firm has a target payout ratio, then there is a positive link between changes in earnings ($E_{i,t} - E_{i,t-1}$) and changes in dividends ($D_{i,t} - D_{i,t-1}$) (LINTNER, 1956). The proposal that a nonfinancial firm as the controlling shareholder may bias the payout ratio justifies the inclusion of a proxy for such a presence in the model, as done by (SHORT; ZHANG *et al.*, 2002). The hypothesis that firms with a nonfinancial firm as the controlling shareholder may follow a higher payout ratio may be tested by the inclusion of a cross variable that interacts changes in earnings ($E_{i,t} - E_{i,t-1}$) and a dummy variable

(mdeind) that is set to 1 if the firm-year observation has a nonfinancial firm as the major stockholder. This is the model in equation (1) that also controls for firm size (FSIZE).

$$D_{i,t} - D_{i,t-1} = \beta_0 + \beta_1 (E_{i,t} - E_{i,t-1}) + \beta_2 [(E_{i,t} - E_{i,t-1}) \cdot \text{mdeind}] + \beta_3 \text{FSIZE} + \mu_{i,t} \quad (1)$$

Coefficient β_1 is expected to be positive signaling that dividends changes follows earnings changes, β_2 is hypothesized to be positive indicating that the presence of a nonfinancial firm as the controlling shareholder favors dividend payout.

In model of equation (1) and the three next ones, Dividend (**D**) is the annual firm dividend distributed to stockholders. The presence of a nonfinancial firm as the controlling shareholder is proxied by the dummy variable **mdeind** that accounts for the presence of a nonfinancial firm that holds more than 50% of voting shares. The variable Earnings (**E**) corresponds to the annual firm profit. Firm size (**FSIZE**) is proxied by Ln of Total Assets.

3.2 The Partial Adjustment Model (PAM)

Equation (2) corresponds to the Partial Adjustment Model (PAM) (LINTNER, 1956). The Partial Adjustment Model suggests that the target level of dividend distribution (D) for firm i at time t is related to firm earnings (E). This way, changes in dividend payout ($D_{i,t} - D_{i,t-1}$) will be directly affected by earnings and previous dividends.

The hypothesis that a nonfinancial firm as the controlling shareholder may induce higher dividend payout is tested with the use of a dummy variable that is set to 1 when there is such a blockholder. Then we construct a cross variable that interacts earnings for firm i at time t ($E_{i,t}$) and the dummy variable (mdeind) that indicates the presence of a non financial firm that holds more that 50% of voting shares. This is the model in equation (2) that also controls for firm size (FSIZE). The partial adjustment process of the dividend change is considered by accounting for the effect previous dividend payout ($D_{i,t-1}$ and $D_{i,t-2}$) on dividend change.

$$D_{i,t} - D_{i,t-1} = \beta_0 + \beta_1 E_{i,t} + \beta_2 [E_{i,t} \cdot \text{mdeind}] + \beta_3 D_{i,t-1} + \beta_4 \text{FSIZE} + \mu_{i,t} \quad (2)$$

3.3 The Waud Model (WM)

The Waud Model (WM) (Equation 3) uses aspects of both the full and partial adjustment models. The Waud Model proposes that the target dividend distribution, for firm i at time t, is directly related to the long-run expected earnings. The actual dividend change follows a partial adjustment process, and the formation of expectation about earnings follows as adaptive expectation model (WAUD, 1966; SHORT; ZHANG *et al.*, 2002).

The proposal that a nonfinancial firm as the major shareholder leads to higher dividend payment is be tested by the inclusion of a cross variable that interacts earnings (E) and the dummy variable that accounts for the presence of a nonfinancial firm as the dominant shareholder (mdeind) so that the coefficient β_2 of the cross variable ($E_{i,t} \cdot \text{mdeind}$) is expected to be positive according the monitoring hypothesis.

$$D_{i,t} - D_{i,t-1} = \beta_0 + \beta_1 E_{i,t} + \beta_2 [E_{i,t} \cdot \text{mdeind}] + \beta_3 D_{i,t-1} + \beta_4 D_{i,t-2} + \beta_5 \text{FSIZE} + \mu_{i,t} \quad (3)$$

3.4 The Earnings Trend Model (ETM)

The Earnings Trend Model (ETM) (Equation 4) is a modified version of the partial adjustment model. The ETM considers that there is a profit generating process for firm i at time t, in a way that previous earnings affects present earnings (FAMA; BABIAK, 1968; SHORT; ZHANG *et al.*, 2002). The model also assumes that dividend payout target is

dependent on expected earnings, following an adjustment process on which previous earnings and dividends are able to explain dividend change.

Assuming the explanatory power of ownership concentration on dividend policy, the profit generating process integrates a cross variable that interacts the dummy variable that accounts for the presence of a nonfinancial firm as the major stockholder (mdeind) and previous earnings ($E_{i,t-1}$). Under the monitoring hypothesis rationale the coefficient of [$E_{i,t-1}$·mdeind] is expected to be positive. As the others, this model also controls for firm size.

$$D_{i,t} - D_{i,t-1} = \beta_0 + \beta_1\,E_{i,t} + \beta_2\,E_{i,t-1} + \beta_3\,[E_{i,t-1}\cdot\text{mdeind}] + \beta_4\,D_{i,t-1} + \beta_5\,\text{FSIZE} + \mu_{i,t} \quad (4)$$

4 METHOD AND SAMPLE

4.1 Econometric method

Models are estimated using panel data methodology. This method allows the treatment of unobservable heterogeneity associated with fixed firm effects that can be eliminated from the equation through variable transformation by first differences (ARELLANO; BOVER, 1990). Coefficients are estimated using (ARELLANO; BOND, 1998) Arellano and Bond's (1998) system estimator that is more adequate when the period of study is relatively short and provides better estimators (BLUNDELL; BOND, 1998). Models are estimated using the two-step system estimator (SE) with adjusted standard errors for potential heteroskedasticity (BLUNDELL; BOND, 1998). This method takes into account the unobserved effect by transforming the variables into first differences and using the generalized method of moments (GMM) to deal with endogeneity problems. Endogeneity may occur for three factors (WOOLDRIGDE, 2002): (i) variable omission, that is related to unobserved variable due to difficulties in obtaining data; (ii) variable measurement errors, that is related to problems in data collection or imperfect instruments; (iii) simultaneity, that occurs when there is a mutual relation between the dependent and the explanatory variable.

Validity of model estimations has been checked through Hansen test of over-identification of restrictions. This test examines the lack of correlation between the instruments and the error term. The use of first-difference transformations may lead to some degree of first-order serial correlation that does not invalidate the results. However, the presence of second-order serial correlation does signal omitted variables and this absence of second-order correlation in the residuals has been checked by the Arellano-Bond test of second order auto-correlation in the residuals.

Due to high variance, variables have been log transformed. The presence of negative values led to the application of a log transformation that takes that situation into account. This way, variables have been log transformed to natural logarithm following the methodology of Elnathan, Gavious and Hauser (2010)(ELNATHAN; GAVIOUS; HAUSER, 2010):

$$L(X) = \begin{cases} \ln(X+1), & X \geq 0 \\ -\ln(-X+1), & X < 0 \end{cases}$$

This log transformation is monotone and information-preserving. As can be seen, it ensures that L(X) is defined when X is zero (by the addtion of 1) and that negative values are not discarded.

4.2 Sample

The sample used is an unbalanced panel data of 1.890 firm-year observations related to 234 companies in the period 1996-2012. This period allows the assessment of firm dividend policy in Brazil in a long period of time which makes results more consistent. Annual financial and ownership data of Brazilian firms have been collected from the Economática database. Table 1 allows one to see that sample firms are distributed among a diversity of 12 sectors of the economy in Brazil. Only firm-year observations with complete data about dividends, earnings, and ownership concentration have been kept in the sample. The late availability of ownership data resulted in a reduced number of observations in the initial years of study.

Table 1 – Panel data of firms by industry

	Firm-year observations		Firms	
Industry	N	%	N	%
Mining, steel and chemical products	401	21.22	46	19.66
Electric energy, gas supply, and water	268	14.18	32	13.68
Building e transpotation	258	13.65	33	14.10
Business sector service	248	13.12	37	15.81
Food, drink e tobaco	150	7.94	21	8.97
Textile, clothing, leather and footwear	143	7.57	18	7.69
Trade and retailing	107	5.66	10	4.27
Machinery and equipment	96	5.08	11	4.70
Communication and midia	73	3.86	10	4.27
Petroleum, gas and fuel roducts	73	3.86	8	3.42
Wood, paper and paper products	65	3.44	6	2.56
Other miscellaneous industries	8	0.42	2	0.85
	1.890	100.00	234	100.00

5 RESULTS

Graph 1 presents the movement of net profit and dividend payout throughout the period of study. There seems to be a joint movement of dividends and earnings as predicted in dividend studies since the early proposals about the determinants of dividend payout under the rationale that dividend payout requires benefit (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968). Theoretical proposals on dividend policy suggest that there is information content on dividend changes about future earnings. The proposition is that dividend increase transmits good news while dividend decrease is interpreted as bad news, and that the market is sensible to such changes (BHATTACHARYA, 1979; JOHN; WILLIAMS, 1985; MILLER; ROCK, 1985). Furthermore, it is also observed that firms indeed try to keep dividend payout avoiding decrease as predicted in the literature (LINTNER, 1956; BLACK, 1976). Even in periods of declined profit as in 1999 and 2002 dividend distribution was not reduced.

Graph 1 - Evolution of net profit and dividends along the period of study
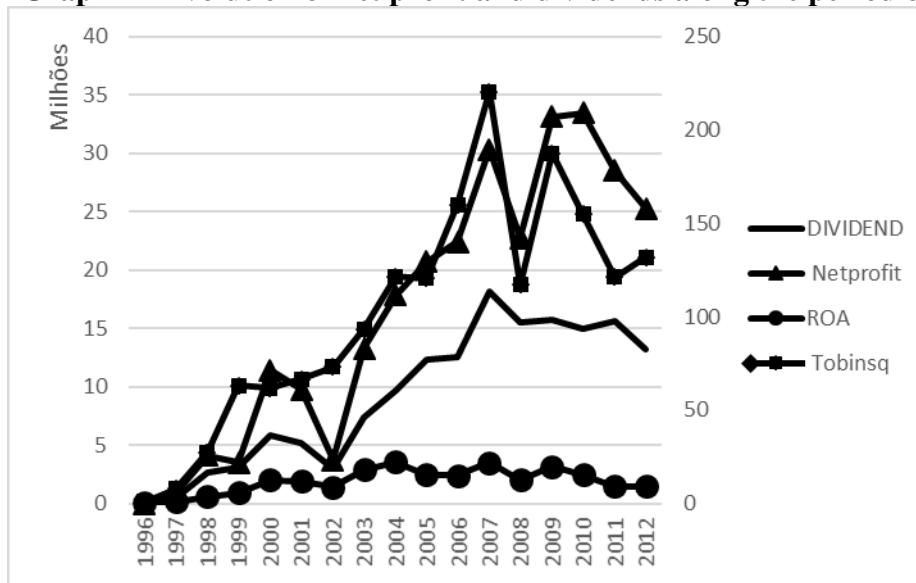
Note: Values of net profit and dividends (divided by 1 million).

The proposal that the presence of a non financial firm as the controlling shareholder influences dividend policy is contrasted by estimating the models presented in section 3: Full Adjustment Model (FAM), Partial Adjustment Model (PAM), Waud Model (Waud) and Earnings Trend Model (ETM). Such traditional dividend models have been adjusted to include the presence of a non financial firm as the controlling shareholder.

Results exhibited in Table 2 show that, in fact, changes in dividend policy are influenced by firm earnings (E) and changes in earnings ($E_{i,t} - E_{i,\,t-1}$) in accordance with the initial proposals about dividend payout (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968). Firm profit coefficient is positive and statistically significant related with dividend policy, confirming the theory that the payment of dividends is associated with firm profit. This is consistent in the four models estimated (FAM, PAM, Waud, ETM). Present earnings ($E_{i,t}$) have a positive effect on dividend distribution as can be observed in models PAM, Waud and ETM. Previous dividends have also shown to affect possibility dividends changes as can be noticed in Earnings Trend Model (ETM).

Looking at the effect of the presence of a nonfinancial firm as the major shareholder over dividend policy, it can be noticed that the presence of such controlling shareholder ($E_{i,t}$·mdeind) is favors positive changes on dividend distribution ($DIV - DIV_{i,t-1}$). This result confirms that the presence of a nonfinancial firm as the major shareholder, i.e, with more than 50% of voting rights, is a factor than contributes to the increase of dividend distribution as hypothesized under the rationale of the monitoring hypothesis.

Table 2 – Model estimates for the effect of the presence of industry firm as the major voting shareholder over dividend distribution

Variáveis explicativas	FAM	PAM	WM	ETM
$E_{ti} - E_{(t-1)i}$	0,195***			
$(E_{ti} - E_{(t-1)i})$·Mdind Dummy	0,637***			
E_{ti}		1,738***	0,163***	0,918***
$E_{(t-1)i}$				-0,368*
E_{ti}·MJDummy		1,177**	0,555***	
$E_{(t-1)i}$·MJDummy				0,805***
$D_{(t-1)i}$		-4,664***	-0,909***	-1,462***

D$_{(t-2)i}$			0,190***	
lnAtivo	0,203**	4,931**	0,660***	0,792*
N	1890	1890	1890	1890
F	56,39***	32,80***	29,44***	7,22***
J de Hansen	0,154	0,436	0,296	0,278
AR (2)	0,106	0,928	0,112	0,114

Note: FAM = Full Adjustment Model, PAM = Partial Adjustment Model, Waud = Waud Model, ETM = Earnings Trend Model. Dependent variable (DIV – DIVt-1). E = firm earnings in year t. D = firm dividend distribution in year t. MajorD = dummy variables that is set to 1 when the firm i has a major shareholder (a shareholder with more 50% of voting shares) in year t. Hansen is the test of overidentifying restrictions. AR2 is the test of absence of second-order correlation in the residuals. ***,**,*Statistical significance of the coefficients at 1, 5, and 10 percent levels, respectively

As previously mentioned, validity of models have been checked through the Hansen test of over-identification of restrictions. The Hansen test examines the lack of correlation between the instruments and the error term. The use of first-difference transformations may lead to some degree of first-order serial correlation, although this correlation does not invalidate the results. As shown in Table 2, the Hansen test does not reject the null hypothesis of valid instruments. Additionally, the presence of second-order serial correlation, which does signal omitted variables, has been test through the Arellano-Bond test of second order serial correlation (AR2). As can be seen in Table 2, the AR2 test has not rejected the null hypothesis that predicts the absence of second order auto-correlation in the residuals.

Overall, the findings that the presence of a nonfinancial firm as the dominant controlling shareholder increases dividend payout in the Brazilian market are robust for a set of distinct relevant dividend models. Model estimates have produced consistent results that give support for the hypothesis that there exists a positive relation between dividend payout and the presence of a nonfinancial firm as the dominant controlling shareholder of the Brazilian firm. In fact, such positive association is a strong signal that a nonfinancial firm as the dominant controlling shareholder, as proxied by the presence of a industry as the major shareholder, favors the use of dividend policy as an instrument for management monitoring.

6 CONCLUSIONS

Dividend policy remains a research topic despite the amount of literature directed to it. Initial results showed the trend in persistence of dividend policy, as well as its dependence on the level of profitability. More recently research has advanced on the link between agency conflicts and dividend policy.

Under the Agency Theory theoretical framework it has been hypothesized that agency conflicts may shape dividend policy. One proposal is the possibility that controlling shareholders may prefer to obtain returns for their investment by extracting private benefits of control rather than receiving dividends that are the main source of investment return for minority shareholders. Under this view, the prevalent interest of controlling shareholders may lead to upper payout as proposed by the monitoring hypothesis.

Using a panel data set for Brazilian firms, the link between ownership concentration, proxied by the presence of a nonfinancial firm as the major shareholder, and dividend policy is analyzed with the context of well-established dividend payout models: Full Adjustment Model, Partial Adjustment Model, Waud Model, Earnings Trend Model. In fact, the findings give additional support to the monitoring hypothesis, consistent with previous literature in other countries. Results from the four dividend models are strong support for the proposal that nonfinancial firms as dominant shareholders of the Brazilian firm have a preference for upper dividend payout in accordance with the monitoring hypothesis. In fact, nonfinancial firm as

the dominant controlling shareholder may be increasing dividend payout to reduce free cash flow available for managers.

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