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CONCENTRAÇÃO DE PROPRIEDADE AFETA A POLÍTICA DE DIVIDENDOS DA EMPRESA BRASILEIRA

OWNERSHIP CONCENTRATION AFFECTS DIVIDEND POLICY OF THE BRAZILIAN FIRM

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CONCENTRAÇÃO DE PROPRIEDADE AFETA A POLÍTICA DE DIVIDENDOS DA EMPRESA BRASILEIRA

OBJETIVO
O objetivo do trabalho é analisar, sob o enfoque da Teoria da Agência, se a concentração de propriedade tem efeito na política de dividendos da empresa brasileira. Especificamente, analisa-se a possibilidade de haver expropriação de acionistas minoritários através da redução da distribuição de dividendos como previsto pela hipótese expropriação.

METODOLOGIA
Para um painel de dados não balanceado, composto por 2,274 observações anuais de 254 empresas cotadas na BM&FBovespa, no período 1996-2012, modelos de política de dividendos foram estimados pelo método generalizado de momentos (GMM).

RESULTADOS E CONCLUSÕES
Os resultados indicam que a concentração de propriedade, aproximada pela presença de um acionista majoritário, de fato, tem efeito negativo sobre na distribuição de dividendos. Este resultado esta de acordo com hipótese expropriação de acionistas minoritários por parte de acionistas controladores que podem dispor de outras formas de obtenção de retorno para seu investimento.

IMPLICAÇÕES PRÁTICAS
O trabalho apresenta uma contribuição adicional para a compreensão da política de dividendos da empresa brasileira ao prover evidência no contexto do enfoque de conflitos agência. Efetivamente, a concentração de propriedade parece ter um papel relevante na determinação da política de dividendos no Brasil, sendo este papel prejudicial para acionistas minoritários.

PALAVRAS-CHAVE
Dividend Policy, Ownership Structure, Expropriation Hypothesis, Brazil.

OWNERSHIP CONCENTRATION AFFECTS DIVIDEND POLICY OF THE BRAZILIAN FIRM

OBJECTIVE
The paper aims to analyze, under the Agency Theory framework, whether ownership concentration has effects on dividend policy of the Brazilian company. Specifically, the work analyzes the possibility of expropriation of minority shareholders by reducing the dividend distribution as predicted by the expropriation hypothesis.

METHODOLOGY
For an unbalanced data panel, composed of 2,274 firm-year observations of 254 companies listed on the BM&FBovespa, in the period 1996-2012, dividend models were estimated by the generalized method of moments (GMM).

RESULTS AND CONCLUSIONS
The results indicate that ownership concentration, proxied by the presence of a major shareholder, in fact, has a negative effect on the dividend distribution. This result is in agreement with the expropriation hypothesis of minority shareholders by controlling shareholders who may have other ways of obtaining return for their investment.

PRACTICAL IMPLICATIONS
The work presents an additional contribution to the understanding of the Brazilian company's dividend policy by providing evidence in the context of the agency conflicts. Indeed, the ownership concentration seems to have an important role in determining the dividend policy in Brazil, which is harmful for minority shareholders.

KEYWORDS
Dividend Policy; Ownership Structure; Expropriation Hypothesis; Brazil.

1 Introduction

Research on dividend policy and its determinants dates back to relevant works that highlighted its importance under distinct theoretical frameworks (LINTNER, 1956; MILLER; MODIGLIANI, 1961; BLACK, 1976), and, it remains a challenge as can be depicted from recent literature (RENNEBOOG; TROJANOWSKI, 2007; GOPALAN; NANDA; SERU, 2014; JAVAKHADZE; FERRIS; SEN, 2014; HARRIS; HARTZMARK; SOLOMON, 2015; MORI; IKEDA, 2015).

Dividend, investment and capital structure policies have special relevance because of the effects they may have on firm value and even on its continuity. The remarkable work of Modigliani and Miller (1958; 1963) has motivated a large amount of research examining the relation between market imperfections and such firm policies (HARRIS; RAVIV, 1991; STEIN, 2003; BARCLAY; SMITH, 2005). Under the investment and capital structure framework, dividend policy has been central, since it is related to investment funding as predicted theoretically and as the evidence has shown (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 since it is related to shareholder protection (LA PORTA *et al.*, 2000; JAVAKHADZE; FERRIS *et al.*, 2014). At the firm level perspective, 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, and dividend policy is also related to the free cash flow available for managers. In this vein, ownership structure emerges as an important factor that could influence firm dividend behavior (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).

Some Agency models have been proposed for the explanation of the relationship between ownership structure and dividend policy (KHAN, 2006; HARADA; NGUYEN, 2011). Regarding shareholder protection and legal environment, the expropriation hypothesis predicts that controlling shareholders may decrease dividend payout at the expanse of minority

shareholders (SHLEIFER; VISHNY, 1997; LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000; FACCIO; LANG; YOUNG, 2001).

Research about dividend policy in emerging markets appears as relevant since their 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). This is the case of Brazil, a market characterized by high ownership concentration, low protection of minority shareholders, and high private benefits of control that favor large controlling shareholders (DYCK; ZINGALES, 2004; HOLANDA; COELHO, 2014). There is also the mandatory dividend policy of 25% of net income in Brazil (Law no. 11.638/2007). Some macroeconomic event also make dividend policy an interesting topic to investigate in this market: the drop in inflation, from 1994, and the process of post-stabilization, the growth of stock market capitalization, and the highlighting 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, and research on dividend policy and agency conflicts is still scarce (MARTINS; FAMÁ, 2012).

This work aims to assess whether dividend policy of Brazilian firm is shaped by its ownership structure. Specifically, the work analyzes the effect of ownership concentration on firm dividend behavior. The possible adverse of ownership concentration on dividend payout is studied, which could mean that controlling shareholders are expropriating minority ones.

For a representative panel data composed of 2,274 firm-year observations relative to 254 companies, in the period 1996-2012, the results indicate that indeed there is a negative effect of ownership concentration on dividend payout of the Brazilian firm, which is in line with the expropriation hypothesis of minority shareholders.

The paper is structured as follows. Theoretical framework, addressing the issues involving the dividend policy and agency conflicts that motivate the hypothesis proposed is presented in the next section. Then, the methodological framework and procedures for the collection and analysis of data is shown. In the following section, results are analyzed. Finally, concluding remarks are offered with perspectives of future research.

2 Dividend policy and ownership concentration in Brazil

2.1 Dividend policy determinants

There is a body of research on dividend policy determinants since the contribution of Lintner (1956) who showed that dividend policy matters for firms. Firm managers avoid dividend payout reduction and adjust it periodically in a way to avoid dividend volatility higher than firm earnings per share.

Firm income has been proposed as a central factor on dividend payout (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968; SHORT; ZHANG; KEASEY, 2002). Besides the profitability factor, the question of why companies pay dividends has been the focus of research since long and remains open (LINTNER, 1956; GORDON, 1959; MILLER; MODIGLIANI, 1961; BLACK, 1976; DEANGELO; DEANGELO; SKINNER, 2008; BØHREN; JOSEFSEN; STEEN, 2012; GUTIÉRREZ URTIAGA; SÁEZ LACAVE, 2014).

Tax treatment of dividends has also been found to influence dividend policy in different markets according to distinct shareholders' interests (GRAHAM; KUMAR, 2006; DENIS; OSOBOV, 2008). For example, in UK, dividends are favored by the tax system in comparison to capital gains, particularly for tax-exempt institutions as is the case of pension funds that have an incentive to demand dividends (BOND; CHENNELLS; DEVEREUX, 1995). Firm size and profitability have also been proposed as important determinants of dividend payout (DEANGELO; DEANGELO; SKINNER, 2004).

The use of dividend policy has also been considered as an additional mechanism for management monitoring since high dividend payout reduces funds under discretionary managerial control and also forces the use of external funding for investment which is also important for management monitoring (JENSEN, 1986; LÓPEZ-ITURRIAGA; CRISÓSTOMO, 2010). Also under the Agency Theory theoretical framework, ownership composition has been considered an additional factor that plays a role on dividend policy, as is the case of institutional ownership, insider ownership, or ownership concentration (DEANGELO; DEANGELO *et al.*, 2008). In this context, the exploitation of minority shareholders by controlling or influential shareholders has emerged as an important topic to be visited (JOHNSON; BOONE *et al.*, 2000; JOHNSON; LA PORTA *et al.*, 2000; LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000; DEANGELO; DEANGELO *et al.*, 2008; GUTIÉRREZ URTIAGA; SÁEZ LACAVE, 2014).

The proposition that the institutional and legal environment where the firm operates may shape its dividend policy has motivated important research with evidence already documented. Such proposal is closely related to shareholder protection and motivates studies in specific markets (LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000).

2.3 Agency conflicts and dividend policy

Literature on corporate governance has taken into account the excess power of controlling shareholders and found results in the direction that such stockholders have incentives to maintain internal control systems weak as a way to facilitate the increase gain of private benefits of control which is associated to the expropriation effect argument (SHLEIFER; VISHNY, 1997; JOHNSON; LA PORTA *et al.*, 2000; BRANDÃO; CRISÓSTOMO, 2015). This reality may have effects on dividend policy.

Under the Agency Theory framework dividend policy may be influenced by distinct forms of ownership structure. The conflict between control and cash flow rights may be reflected on dividend policy. In fact, some aspects of the ownership structure may matter for dividend policy as the literature has proposed and evidence has been found (SHORT; ZHANG *et al.*, 2002; KHAN, 2006; DEANGELO; DEANGELO *et al.*, 2008; LEE, 2010; HARADA; NGUYEN, 2011; BØHREN; JOSEFSEN *et al.*, 2012): insider ownership, institutional ownership, ownership concentration that is related to the excess power of controlling shareholders.

The excess power of the dominant stockholder gives rise to information asymmetry between controlling and minority shareholders raising the possibility of a dominant shareholder using private benefits of control. This situation is associated to the principal-principal agency problem (DHARWADKAR; GEORGE; BRANDES, 2000; YOUNG *et al.*, 2008; CHEN; YOUNG, 2010; JIANG; PENG, 2011). Shareholders with excess control rights on the company, notably one dominant shareholder with more than 50% of voting rights, may not be so interested in high dividend payments since he/she may have other ways to obtain return for his/her investment. In this scenario, controlling shareholders are actually powerful and management is often highly subordinated to them. Such powerful controlling shareholders have the possibility to extract private benefits of control by "tunneling", as the literature has suggested, in different forms (JOHNSON; LA PORTA *et al.*, 2000; NENOVA, 2003; RIYANTO; TOOLSEMA, 2008): transfer of firm resources, asset sales and contracts, excessive executive compensation, loan guarantees, expropriation of investment opportunities, insider trading, unprofitable mer-

gers and acquisitions. In fact, for a 33 country sample with different degrees of protection for minority shareholders (LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000) found evidence for the presence of resource tunneling and that the legal system plays a role on it since firms from countries with stronger legal protection for minority stockholders present higher dividend distribution. Evidence of resource tunneling has also been found in affiliated group firms in India, West Europe and East Asia. In West Europe and East Asia, Faccio; Lang *et al.* (2001) found evidence that a firm that is member of a corporate group had higher payout when the controlling stockholder had a greater ratio of cash flow to voting rights in the controlled firm. Bertrand; Mehta; Mullainathan (2002) developed an empirical methodology for appraising tunneling in business groups. Applying such a method for a sample of Indian firms they found relevant amounts of tunneling, mostly involving non-operating components of profits among firms that belong to business groups. Their results show that firms with controlling blockholder with relatively low proportion of cash flow rights tend to send resources to firms in which that same controlling blockholder holds a great proportion of cash flow rights.

The private benefits of control may lead powerful controlling shareholders to be not interested in high dividend payout. In fact, more restrictive dividend policy is harmful to minority shareholders that have dividend as their main source of return for their investment. This is associated to the expropriation hypothesis which proposes that controlling shareholders could be prone to use their power to obtain private benefits of control in order to obtain return for their investment, even against the interest of minority shareholders (LA PORTA; LÓPEZ-DE-SILANES *et al.*, 2000; FACCIO; LANG *et al.*, 2001). In fact, the adoption of a more restrictive dividend policy, in detriment of minority shareholders, has been documented Germany and Finland, for example (MAURY; PAJUSTE, 2002; GUGLER; YURTOGLU, 2003).

In an economic environment with highly concentrated ownership and excess private benefits of control, as is the case of the Brazilian market, the expropriation hypothesis is feasible and motivates the following hypothesis:

Hypothesis: Ownership concentration favors expropriation of minority shareholders through dividend policy, resulting in a negative effect of ownership concentration on dividend payout.

This work investigates specifically ownership concentration proxied by the presence a dominant shareholder who holds more than 50% of voting shares. That is a common picture in the Brazilian market.

3 Models and variables

Four dividend models are estimated to test the hypothesis proposed that ownership concentration is detrimental to dividend policy: 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 negative effect of ownership concentration, proxied by the presence of a major shareholder, on dividend policy as proposed by the expropriation hypothesis.

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 ownership concentration may bias the payout ratio motivates the inclusion of a proxy for ownership concentration in the model, as done by (SHORT; ZHANG *et al.*, 2002). The hypothesis that firms with highly concentrated ownership may follow a lower 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 (MajorD) that is set to 1 if the firm-year observation has a major stockholder. This is the model in equation (1) that also controls for firm size (FSIZE).

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

Coefficient β_1 is expected to be positive signaling that dividends changes follows earnings changes, while β_2 is hypothesized to be negative indicating that the presence of a controlling stockholder is detrimental do dividend payout.

In model of equation (1) and the three next ones, Dividend (**D**) is the annual firm dividend distributed to stockholders. Ownership concentration is proxied by the dummy variable **MajorD**

that accounts for the presence of a major shareholder, i.e., a blockholder that holds more that 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 ownership concentration may induce lower dividend payout may be tested with the inclusion of a proxy for ownership concentration in the model. This is done with the introduction of a cross variable that interacts earnings for firm ***i*** at time ***t*** ($E_{i,t}$) and a dummy variable (MajorD) that indicates the presence of a blockholder 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.

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

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 ownership concentration leads to lower dividend payment may be tested by the inclusion of a cross variable that interacts earnings (E) and the dummy variable that accounts for the presence of a major shareholder (MajorD) so that the coefficient β_2 of the cross variable ($E_{i,t} \cdot$MajorD) is expected to be negative according the expropriation hypothesis.

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

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 major shareholder (MajorD) and previous earnings ($E_{i,t-1}$). Under the expropriation hypothesis rationale the coefficient of $[E_{i,t-1} \cdot \text{MajorD}]$ is expected to be negative. As the others, this model also controls for firm size.

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

4 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 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 into account. This way, variables have been log transformed to natural logarithm following the methodology of Elnathan, Gavious and 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.

4.1 Sample

The sample used is an unbalanced panel data of 2,274 firm-year observations of 254 companies in the period 1996-2012. This period allows the assessment of firm dividend policy in Brazil in a long extent 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 of firms in the sample by industry

	Firm-year observations		Firms	
Industry	N	%	N	%
Business sector servisse	415	18.25	50	19.69
Building and transportation	317	13.94	36	14.17
Electric energy, gas supply, and water supply and sanitary servisse	343	15.08	32	12.60
Financial Services	262	11.52	32	12.60
Mining, steel and chemical products	312	13.72	31	12.20
Communication and media	205	9.01	24	9.45
Textile, clothing, leather and footwear	123	5.41	13	5.12
Trade and retailing	96	4.22	12	4.72
Food, drink e tobaco	84	3.69	10	3.94
Machinery and equipment	69	3.03	9	3.54
Wood, paper and paper products	26	1.14	3	1.18
Petroleum, gas and fuel roducts	22	0.97	2	0.79
Total	2,274	100.00	254	100.00

4 RESULTS

4.1 Descriptive analysis

Table 2 shows the numbers about the presence of a dominant shareholder in Brazil. In fact, there is a great proportion of firms on which there is a stockholder holding more than 50% of voting shares. This picture confirms results documented in previous works in the Brazilian market (LEAL; CARVALHAL-DA-SILVA; VALADARES, 2002; CRISÓSTOMO, 2011; HOLANDA; COELHO, 2014; BRANDÃO; CRISÓSTOMO, 2015). The test of proportion has shown that the proportion of firms with a major shareholder is higher than that of firms without such controlling shareholders along the period of study (Pearson chi2(16) = 45.438; p-value = 0.000) This situation indeed favors the high private benefits of control considered as a reality in the Brazilian market (DYCK; ZINGALES, 2004). As a whole 64.56% of firm-year observations present a blockholder that holds more than 50% of voting stocks. There seems to be a slight reduction in the proportion of firms with a major shareholder as can be seen by the high proportion of 76.19% in 1999 that drops to 51.61% in 2012.

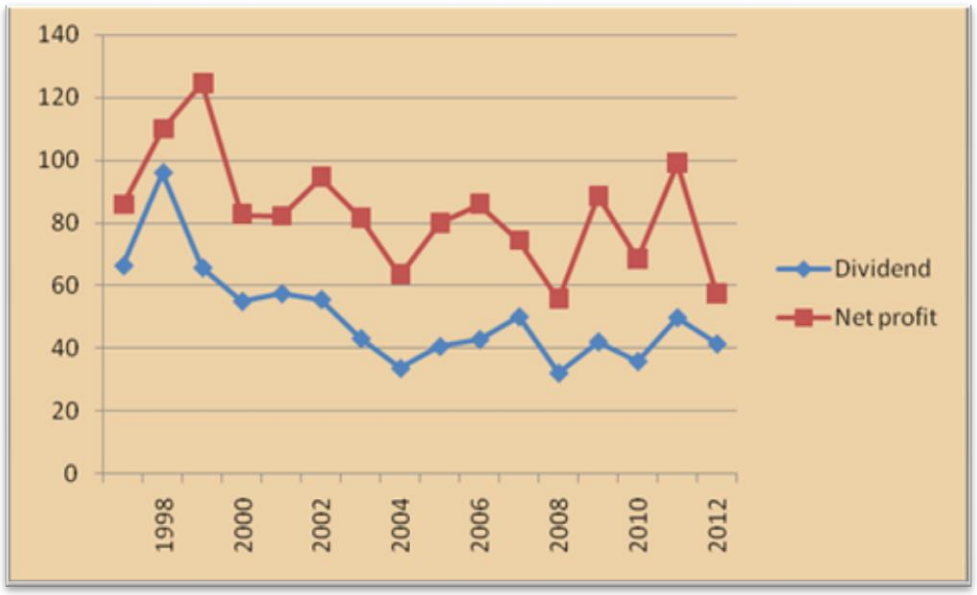
Table 2 - Presence of a dominant shareholder that holds more than 50% of voting shares along the period of study

	There is no major shareholder		There is a major shareholder		Total
Year	N	%	N	%	N
1996	1	10.00	9	90.00	10
1997	2	15.38	11	84.62	13
1998	17	31.48	37	68.52	54
1999	25	23.81	80	76.19	105
2000	36	28.80	89	71.20	125
2001	41	31.30	90	68.70	131
2002	47	32.87	96	67.13	143
2003	46	31.72	99	68.28	145
2004	48	31.17	106	68.83	154
2005	45	27.95	116	72.05	161
2006	57	34.13	110	65.87	167
2007	72	37.70	119	62.30	191
2008	72	36.92	123	63.08	195
2009	75	39.89	113	60.11	188
2010	73	42.20	100	57.80	173
2011	74	45.12	90	54.88	164
2012	75	48.39	80	51.61	155
Total	806	35.44	1,468	64.56	2,274

Note: The test for the difference of proportions among firms with and without the major shareholder has rejected the null hypothesis of equal proportions [Pearson chi2(16) = 45.438; p-value = 0.000]

Graph 1 presents the movement of net profit and dividend distribution throughout the period of study. Indeed, there seems to be a joint movement of dividends and earnings as predicted since the early proposals about the determinants of dividend policy (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968). Furthermore, it is also observed the increase in dividends occurring in periods of declined profit as in 1999 and 2002. This is indicative that indeed firms are hesitant to decrease dividends.

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 ownership concentration favors the use of private benefits of control at the expense of minority shareholders with effects over 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 ownership concentration as proxied by the presence of a major shareholder.

Results exhibited in Table 4 show that, in fact, changes in dividend policy are influenced by 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 the dividend policy, confirming the theory that the payment of dividends is associated with profit earned. This is consistent in the four models estimated (FAM, PAM, Waud, ETM). Present dividends ($E_{i,t}$) 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 major shareholder over dividend policy, it can be noticed that the presence of such controlling shareholder ($E_{i,t}$·MajorD) is detrimental to positive changes on dividend distribution (DIV – $DIV_{i,t-1}$). This result confirms that the presence of a

dominant blockholder with more than 50% of voting rights is a factor than contributes to the reduction of dividend distribution as hypothesized.

Tabela 4 – Model Estimates

Variável	FAM	PAM	Waud	ETM
$E_{i,t}$ -$E_{i,t-1}$	0.514***			
($E_{i,t}$-$E_{i,t-1}$)·MajorD	-0.655***			
$E_{i,\,t}$		2.074***	2.937***	1.621***
$E_{i,\,t-1}$				1.312***
$E_{i,\,t}$·MajorD		-1.487***	-2.365***	
$E_{i,\,t-1}$·MajorD				-1.173**
$D_{i,\,t-1}$		-2.142***	-3.460***	-2.061***
$D_{i,\,t-2}$			1.716	
FSIZE	0.019	-0.649	-0.291	0.568
N	2,265	2,265	2,265	2,265
F	2.45*	34.17***	18.41***	25.05***
R^2				
Wald				
Hansen (p-value)	0.834	0.678	0.835	0.775
AR2 (p-value)	0.360	0.540	0.444	0.472

Note: FAM = Full Adjustment Model, PAM = Partial Adjustment Model, Waud = Waud Model, ETM = Earnings Trend Model. Dependent variable ($DIV - DIV_{t-1}$). 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 4, 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 4, 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 ownership concentration is detrimental for 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 negative association between dividend payout policy and ownership concentration of the Brazilian firm. In

fact, such negative association is a strong signal that ownership concentration, as proxied by the presence of a major shareholder, favors the expropriation of minority shareholders.

5 CONCLUSIONS

Dividend policy remains a research topic despite the existent literature on 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 return for minority shareholders. Under this view, the prevalent interest of controlling shareholders may lead to lower payout as proposed by the expropriation hypothesis.

Using a panel data set for Brazilian firms, the link between ownership concentration, proxied by the presence of a 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 (LINTNER, 1956; WAUD, 1966; FAMA; BABIAK, 1968). In fact, the findings give additional support to the expropriation hypothesis, consistent with previous literature in other countries (FACCIO; LANG *et al.*, 2001; GUGLER; YURTOGLU, 2003). Results from the four dividend models are strong support the for the hypothesis that dominant shareholders of Brazilian firms have a preference for lower dividend payout. That may be an indication that such dominant shareholders extract benefits of control and thus are not interested in dividends. This finding highlights that the divergent interests of major and minority shareholders seems to be the prevailing source of agency conflicts.

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