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# An analysis of the influence of controlling shareholder identity over earnings informativeness on brazilian capital market

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## ABSTRACT

This paper aimed to investigate the influence of controlling shareholder identity over earnings informativeness and to contribute empirically on the advance on the understanding of the agency conflict between controlling shareholders and minority investors through the lens of value relevance. The research sample considered 104 shares of non-financial firms negotiated on BM&FBovespa from 2011 to 2016. The methodology was conducted through panel data regression analysis. As results, this paper concludes with the following findings: i) the higher the control/vote power of controlling shareholder (ownership concentration) and the lower the stock liquidity, the less informative are the earnings and the greater is the probability of entrenchment and wealth expropriation by controlling shareholders; ii) larger firms and highly leveraged firms have more informative earnings; iii) the stock prices reflect the controlling shareholder identity; iv) Firms controlled by financial institutions, non-financial institutions and the government are much more likely to expropriate minority investors wealth and have less informative earnings; v) family firms are positively priced by the market.

**Keywords:** Agency Conflict. Controlling Shareholders. Earnings Informativeness. Value Relevance.

## *Uma análise da influência da identidade dos acionistas controladores sobre a informatividade dos lucros no mercado de capitais brasileiro*

## RESUMO

Este trabalho teve como objetivo investigar a influência da identidade dos acionistas sobre a informatividade dos lucros contribuindo empiricamente para uma melhor compreensão do conflito de agência entre acionistas controladores e investidores minoritários através da ótica do *value relevance*. A amostra da pesquisa considerou 104 ações de empresas não financeiras negociadas na BM&FBovespa de 2011 a 2016. A metodologia foi conduzida através da análise de dados de regressão em painel. Como resultado, este artigo conclui com as seguintes constatações: i) quanto maior o poder de controle / voto do acionista controlador (concentração de propriedade) e menor a liquidez das ações, menor é a informatividade dos lucros e maior é a probabilidade de entricheiramento e de expropriação de riqueza pelos acionistas controladores; ii) empresas maiores e com alto grau de endividamento têm lucros mais informativos; iii) os preços das ações refletem a identidade acionista controlador; iv) as empresas controladas por instituições financeiras, instituições não financeiras e pelo governo são muito mais propensas a expropriar riqueza investidores minoritários e têm lucros menos relevantes; v) as empresas familiares são precificadas de forma positiva pelo mercado.

**Palavras-chave:** Conflito de Agência. Acionistas Controladores. Informatividade dos Lucros. *Value Relevance*.

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## 1 INTRODUCTION

The value relevance literature have been focusing on a long debate about the informativeness of accounting numbers, metrics and its relations to stock prices. This debate made possible the development of the Capital Market Based Accounting Research (CMBAR) which aims to provide evidence about the relevance of accounting information to access the fundamental values of firms.

Beisland (2009, p. 9) defines value relevance as "the ability of financial statement information to capture and summarize information that determines firm's value". In this context, value relevance research measures accounting informativeness as the intensity of the relations between stock prices and accounting information.

Commonly, value relevance research considers the efficient market hypothesis (FAMA, 1970) in its semi-strong form as it accepts the underlying premise that stock prices reflect the past and the publicly available accounting information. However, it is disregarded that the accounting information environment can be affected in its own preparation and disclosure processes.

Regarding this assertive, Piotroski and Roulstone (2004) alert that different market player's possess different types of information that can influence firms, sectors or even the whole market informational environment. According to the authors the ownership concentration through the presence of individuals or groups that holds big stakes of ownership (controlling shareholders) are more likely to impact on firm-specific information environment in order to gain informational advantage over other market agents.

An issue that concerns to the ownership concentration is whether the controlling shareholders use this informational advantage to align their interests to managers and minority investors using accounting information as a tool to reach a greater market value for their firms or to entrench managers and minority investors to achieve their private goals.

To Shleifer and Vishny (1986), Claessens et al. (2002), Velury and Jenkins (2006), Boubaker and Sami (2011) ownership

concentration enhances the probability of managers to become aligned with shareholders interest. According to Admati and Pfleiderer (2009) and Edmans and Manso (2011) it happens because in a disperse ownership enterprise the costs of monitoring are beared by a single individual or group, but the benefits are divided by all investors, contrary the ownership concentration enables the controlling shareholders to bear the costs of monitoring and take the most of the benefits from it.

On the other hand, it's theoretically acceptable that controlling shareholders can engage in minority investor's expropriation. Shleifer and Vishny (1997), Maug (1998), Pedersen and Thomsen (2003), Stulz (2005), Stepanov and Suvorov (2015) and Hearn, Phylaktis and Piesse (2016) points out that ownership concentration entrench managers to act in favor of controlling shareholders and consequently minority shareholders expropriation becomes possible.

Prior research, such as Fan and Wong (2002), Bae and Jeong (2007), Sarlo Neto, Lopes and Dalmácio (2010), Boubaker and Sami (2011) and Lew and Wu (2013) provide evidence about the alignment and entrenchment effects as a consequence of the influence of ownership concentration over earnings informativeness.

More recently, the literature has started to investigate the effect of ownership identity over the firms. Pedersen and Thomsen (2003) were the firsts to examine the influence of controlling shareholder identity, since they believe that this variable couldn't be neglected because the fundamental values of the firms would depend on the goals and expectations each kind of controlling shareholder has on the firm. After this study, the influence of controlling shareholder identity has attracted the attention of researchers in exploring a wide range of propositions, but to the best knowledge of the authors of the present paper no studies examined earnings informativeness considering the influence of controlling shareholder identity over earnings informativeness.

Thus, this research aims to test the alignment and entrenchment effects in order to understand and provide evidence about the influence of controlling shareholder identity over earnings informativeness on Brazilian

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capital market, since the ownership structure of Brazilian listed companies are characterized as highly concentrated (OKIMURA; SILVEIRA; ROCHA, 2007; SARLO NETO; LOPES; DALMÁCIO, 2010; CAIXE; KRAUTER, 2013).

This paper aims to investigate the influence of controlling shareholder identity over earnings informativeness and to contribute empirically on the advance on the understanding of the agency conflict between controlling shareholders and minority investors through the lens of value relevance.

Given this purpose this study presents the following research question: What is the influence of controlling shareholder identity over the informativeness of reported earnings on Brazilian market?

The rest of this paper is structured as follows: after this introductory section, the second section presents the theoretical background and the third concerns to the research methodology. The fourth section describes and discusses the results and the fifth section concludes.

## 2 THEORETICAL BACKGROUND: AGENCY CONFLICT BETWEEN CONTROLLING SHAREHOLDERS AND MINORITY INVESTORS AND THE ENTRENCHMENT AND ALIGNMENT HYPOTHESES

The classical agency relationship is defined by Jensen and Meckling (1976, p.308) "as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". Given this definition, it is important to note that the agency relationship can be affected by an informational disequilibrium between the agent and the principal.

The disequilibrium mentioned above is explained by Jensen and Meckling (1976) as a consequence of interest divergence. The agency theory assumption assumes that the agent will not always act in favor of principal's interest and as a result the principal will take measures to align the agent's interests with theirs.

The principal may limit the agent's attitudes by

creating appropriate incentives and monitoring strategies. The other problem is the asymmetric information that is a phenomenon that occurs when the agent and the principal has an information disequilibrium, giving to one of them certain advantage.

In order to mitigate the agency problem, some strategies would be adopted, e.g. (i) **monitoring costs**, which relate the costs incurred in monitoring the agent's behavior; (ii) **bonding costs**, which relate to those initiatives to align the interests both agent and principal; and (iii) **residual costs**, which are other costs incurred to mitigate incongruences (JENSEN; MECKLING, 1976).

In what concerns to this research, the agency conflict is studied and analyzed through the relationship between the controlling shareholders and the minority investors. The vote power held by controlling investors is assumed to have a significant influence over the managers and the administration acts (PROCIANOY, 1994) what enhances the probability of controlling shareholders to use the organizational structure to achieve their private goals.

As a consequence, the probability of expropriation of minority shareholders is particularly high if large investors hold voting rights in excess of cash flow rights (FACCIO; LANG; YOUNG, 2001). According Andres (2008, p.432) in these cases, "they have an incentive to payout a larger proportion of company cash flows to themselves instead of evenly distributing funds among all shareholders." However, the acts/behavior of controller shareholders can be influenced/determined by their identity: Family Ownership, Financial Institutions Ownership, Non-Financial Institutions Ownership or Government Ownership. This way, the literature points out some differences between such categories, as described in the next sections.

Based on these considerations, many effects can be observed from the perspective of agency theory about ownership concentration. From a certain range of concentration in ownership and control structure, as it increases the participation of large shareholders in the property and especially the control of the company, the board of directors and the market for hostile takeovers are losing ground to the power exerted by the controlling

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block.

The high concentration on the corporate structure can allow the controlling shareholders, according to their dominance over the decision making process, to expropriate the wealth of minority shareholders, while the costs would be shared among all shareholders. This is the entrenchment effect (CLAESSENS et al., 2002; LIAN, 2006; OKIMURA; SILVEIRA; ROCHA, 2007; JUN, 2007; CAIXE; KRAUTER, 2013).

According to Caixe and Krauter (2013), expropriations can take place through practices such as overpayment of wages or other benefits self-granted; and resistance on actions beneficial to the other shareholders as a settlement, spin-offs and mergers. Thus, from a certain percentage of concentration of ownership structure, as it increased, agency costs would intensify and the value of the firm would decrease.

On this case, supported on this practices appointed by Caixe and Krauter (2013), in the hypothesis of entrenchment effect occurs, the informational asymmetry (moral hazard and adverse selection) would increase, supported in the emergence of insider trading.

The alignment effect (or incentive effect) occurs when the concentration of ownership has a positive impact on corporate performance through the likely reduction in agency costs. This reduction is linked to the possibility of monitoring the management is done by effectively controlling, in order to equalize the interests of shareholders and managers. For, if the controllers seek private benefits of control, with the adoption of practices such as the use of privileged information and self-appointments to the board of directors, minority shareholders could price the company's shares with a certain discount, reducing the wealth of large shareholders. (CLAESSENS et al., 2002; OKIMURA; SILVEIRA; ROCHA, 2007; CAIXE; KRAUTER, 2013)

Thus, the increase in the ownership concentration could increase the corporate market value, since it would signal to investors a satisfactory solution to the agency costs due to greater alignment of interests between managers and shareholders (CLAESSENS et al., 2002). According to Dami et al. (2006) this

condition represents a high cost comparable to private benefits of expropriation of minority shareholders.

Therefore, contrary to the entrenchment effect, in the hypothesis of alignment effect occurs, the informational asymmetry (moral hazard and adverse selection) would decrease, supported in the alignment of interest that reduces the agency conflict.

Thus, it is expected by the company that there is a balance between the costs (caused by the entrenchment effect) and benefits (caused by the alignment effect) of ownership concentration.

### 3 METHODOLOGY

This section is divided in four subsections. The first presents the research design and the epistemological assumptions aiming to clarify the reasons of methodological procedures of this study. The second refers to the sample of the study, the data collection and the period of analysis. The third displays the econometric model used to estimate the regression analysis and the last subsection introduces the variables used in the regression model, its measurement and its expected results.

#### 3.1 RESEARCH DESIGN AND EPISTEMOLOGICAL ASSUMPTIONS

The research design of this paper is based on the classification of methodological approaches of value relevance studies provided by Holthausen and Watts (2001). According to them, three types of value relevance studies are common, such as: **i)** Relative Association Studies - this kind of study usually test for differences in  $R^2$  of

regressions as the key measure of value relevance; **ii)** Incremental Association Studies - analyzes the signs and significance of estimated regression coefficients; **iii)** Marginal Information Content Studies - where the stock price is analyzed through event studies.

Given this categorization, this research is classified as an incremental association study since it analyzes the signs and the significance of estimated regression coefficients in order to understand the influence of controlling shareholder identity over earnings informativeness and test the alignment and

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entrenchment effects/hypotheses on Brazilian market.

Furthermore, this study follows positive and empirical assumptions. The first aims to explain and enable predictions about the influence of controlling shareholder identity over earnings informativeness and the last tests the alignment and entrenchment effects aiming to advance on the understanding of the agency conflict between controlling shareholder and minority investors on Brazilian market.

### 3.2 SAMPLE, DATA AND PERIOD OF ANALYSIS

The sample of the study is composed by non-financial listed firms from 2011 to 2016. The sample selection consisted in four procedures; **i)** selection of non-financial companies; **ii)** exclusion of companies with incomplete or unavailable data in any of the years included in the analysis period; **iii)** exclusion of firms with no controlling shareholder; and **iv)** companies that trade more than one kind of stock, was chosen the one with greater liquidity. Hence, after those procedures the sample analyzed 104 shares, 42 preferred and 62 common stock, allowing 624 observations.

The data were collected from Economática® database considering two procedures: **i)** the stock price at the end of the first trimester from 2011 to 2016; and **ii)** the ownership and the accounting data from 2010 to 2015. These procedures are aligned with study's objectives since the literature largely regress the prices of shares at the end of the first quarter against annual reported accounting information in order to verify if the stock price reflects the accounting information (COLLINS; MAYDEW; WEISS, 1997; BAE; JEONG, 2007; MACHADO; MACEDO; MACHADO, 2015).

The period of analysis coincides with Brazil's full adoption of international accounting standards, which enables a greater uniformity on the process of variables measurement. Additionally, most of the available data corresponds to the analyzed period, which represents the limitation of this research.

### 3.3 ECONOMETRIC MODEL

As previously said this research is characterized as an incremental association study. Thus, this work is based on the

methodological approach of Collins, Maydew and Weiss (1997) which regress earnings against stock price in order to analyze variables signs and its significance.

The basic pooled regression model stated by Collins, Maydew and Weiss (1997) is given by equation 1:

$$A_{i(t+1)} = \beta_0 + \beta_1 EPS_{it} + \varepsilon_{it} \quad (1)$$

where  $A_{i(t+1)}$  is the stock price of firm i at the

and of the first trimester after fiscal year end,  $EPS_{it}$  is the earnings per share of firm i at the

end of the fiscal year and  $\varepsilon_{it}$  represents the stochastic error of the regression.

In order to analyze the influence of controlling shareholder identity over earnings informativeness and test the alignment and entrenchment effects, this research adapts Collins, Maydew and Weiss (1997) model. The adaptation is given by equation 2:

$$\begin{aligned} A_{i(t+1)} = & \beta_0 + \beta_1 EPS_{it} + \beta_2 EPS_{it} * \\ & Block_{it} + \beta_3 EPS_{it} * Size_{it} + \\ & \beta_4 EPS_{it} * MTB_{it} + \\ & \beta_5 EPS_{it} * Leverage_{it} + \\ & \beta_6 EPS_{it} * Liquidity_{it} + (\text{Identity Fixed} \\ & \text{Effects}) + \varepsilon_{it} \end{aligned} \quad (2)$$

where  $A_{i(t+1)}$  is the stock price of firm i at the

and of the first trimester after fiscal year end,  $EPS_{it}$  is the earnings per share of firm i at the

end of the fiscal year t, block represents the variable that captures the effects of ownership concentration of firm i at time t. Size, market to book (MTB), leverage and liquidity are control variables of firm i at time t. Identity fixed effects captures the influence of the controlling shareholder identity and  $\varepsilon_{it}$  represents the

stochastic error of the regression.

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The regression model presented by equation 2 estimates the earnings informativeness in combination with ownership concentration and control variables similar to Fan and Wong (2002), Sarlo Neto, Lopes and Dalmácio(2010) and Boubaker and Sami (2011). Thus, the results presented in this study focus on the analysis of the relations between the combined effects of the explanatory variables and stock prices.

### 3.4 VARIABLES AND EXPECTED RESULTS

Considering the econometric model given by equation, 2 this section presents the proxies for variables measurement and its expected results based on the theoretical assumptions of value relevance and agency theory.

#### 3.4.1 Dependent variable

The stock price at the end of the first trimester after the fiscal year end was chosen as dependent variable (COLLINS; MAYDEW; WEISS, 1997; MACHADO; MACEDO; MACHADO, 2015). According to Barth, Beaver and Landsman (2001) regressions that use stock price as a dependent variable aims to investigate if the stock price reflects the accounting numbers reported. Therefore, the price at the end of the first trimester was chosen because it is the deadline for the publication of the annual financial statements which consequently reflects on stock price.

#### 3.4.2 Independent and control variables

To test influence of ownership concentration over earnings informativeness this research uses the controlling block as an independent variable (FAN; WONG, 2002; SARLO NETO; LOPES; DALMÁCIO, 2010). This variable captures the control/vote rights of the controlling block in order to test the alignment and entrenchment effects. If the estimated coefficient of earnings and the controlling block proves positively related to stock price the expected outcome is the alignment effect, contrary the entrenchment effect.

According to Silva (2004) Brazilian companies are controlled by indirect blocks of property which on average is owned by the three largest shareholders. Based on this assertive, the Block variable is measured by the sum of common shares held by the three largest

shareholders of firm  $i$  at time  $t$  divided by the total of common shares of firm  $i$  at time  $t$ .

$$Block_{it} = \frac{\sum_{n=1}^3 Common\ Shares_{it}}{Total\ Common\ Shares_{it}} \quad (3)$$

As control variables size, market to book, leverage and liquidity were chosen to prevent the possibility of interference in the relationship between earnings and stock prices. The choice for each variable relies on prior literature as follows:

Demsetz and Lehn (1985) and Himmelberg, Hubbard and Palia (1999) advocates that the larger is the firm size the greater is the market value of firm's assets and consequently the higher is the price to acquire a fraction of firm's ownership. Thus, it is possible that firm size work as a restriction to ownership concentration reducing the risk of controlling shareholders to expropriate minority investors, but firm size can also prevent controlling shareholders to implement monitoring strategies.

Hence, both positive and negative relations are expected for the estimated coefficient of earnings and firm size. The size of the firm  $i$  at time  $t$  was measured by the natural logarithm of total assets of firm  $i$  at time  $t$ .

$$Size_{it} = \text{Log} (Total\ Assets)_{it} \quad (1)$$

The market to book ratio controls for growth opportunities. Collins and Khotari (1989, p.166) points that this variable depends "upon the firm's return on its existing assets and expected future investments exceed its required rate of return on equity". In this context, it is expected positive relation between stock price since the estimated coefficient of the combination of earnings and market to book since growing firms signals a greater allocation of firm's resources. Contrary, if growth opportunities prove to exert a negative influence over earnings informativeness it will be possible to infer that minority investor's interests are entrenched since firms resources allocation will not signal that firms future investments will exceed its required rate of return.

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The market to book ratio is measured by the market value of firm  $i$  at time  $t$  divided by the book value of equity of firm  $i$  at time  $t$ .

$$MTB_{it} = \frac{\text{Market Value}_{it}}{\text{Equity Book Value}_{it}} \quad (5)$$

According to Soares and Kloenckner (2008) leverage can be used by controlling shareholders as a mechanism to reduce profits and the attractiveness of negotiated shares and consequently expropriate minority investor's wealth. Boubaker and Sami (2011) points out that leveraged firms are exposed to high degrees of risk what implies less informative earnings.

On the other hand, Fan and Wong (2002, p.415) points that "mature firms with low growth opportunities generally have high leverage and are likely to have informative earnings". Fan and Wong (2002) explain based on Smith and Watts (1992) that leverage can proxy for a firm's investment opportunity set (greater resource allocation) that can lead to a higher sensitivity between earnings and stock return.

Given those assertive, a negative relation between stock price and the combination of earnings and leverage predicts less informative earnings. On the other hand, if the estimated coefficient between stock prices and the combination of earnings and leverage proves positive, more informative earnings are expected.

Leverage is measured by the total financial debt divided by total assets of firm  $i$  at time  $t$ .

$$\text{Leverage}_{it} = \frac{\text{Total Financial Debt}_{it}}{\text{Total Assets}_{it}} \quad (6)$$

Finally, according to Maug (1998) stock liquidity can lead to two consequences: i) shares with high liquidity allow investors to sell their shares in case of bad news, driving down the firm value; and ii) lower liquidity of shares incentive controlling shareholders to use their direct voting rights to influence management through monitoring strategies in order to obtain

higher rates of return and growth.

Thus, more informative earnings are expected if the estimated coefficient of earnings and liquidity proves positively related to stock prices. Contrary, less informative earnings are expected. The proxy used for liquidity is displayed below:

$$\text{Liquidity}_{it} = 100x \frac{p}{P} \sqrt{\frac{n}{N} x \frac{v}{V}} \quad (7)$$

where  $p$  is the number of days in which there was at least one business in the chosen period of analysis;  $P$  is the total number of days in the period of analysis;  $n$  is number of business in the period of analysis;  $N$  represents the total number of trades in the period of analysis;  $v$  refers to the volume of negotiations within the period of analysis;  $V$  is the total volume of negotiations of all shares within the period of analysis.

### 3.4.3 Controlling shareholder identity

This subsection is divided in four topics which are based on the controlling shareholder identity classification presented by Pedersen and Thomsen (2003) which lists families, financial and non-financial institutions and government. Each topic presents the theoretical assumptions about the influence of controlling shareholder identity over earnings informativeness.

It is expected that the controlling shareholder identity influence will be captured by the fixed effects dummies presented in the regression model (equation 2).

#### 3.4.3.1 Family ownership

According to Roger and Schatt (2016) family controlled firms share four main characteristics. First, an individual or a group holds a large block of stock and voting rights. Second, the family controlling shareholders invests a large part of his or her personal wealth in the firm, consequently the controlling shareholder holds an under-diversified portfolio and assumes idiosyncratic risk of the firm in the addition to systematic risk. Third, the family controlling shareholder significantly influences the firm's strategic decisions, as either as a



CEO or as a member of board directors. Fourth, this controlling shareholder is able to extract private benefits in the expense of minority shareholders.

Consequently, the relation between family controlling shareholders and minority investors involves different degrees of risk. In fact, it is assumed that minority investors are well diversified contrary to family controlling shareholder who bears the risks of capital concentration. Then, it's acceptable that nonfamily investors expected return is adjusted by a lower discount rate while family controlling shareholders have higher expectations on firm performance and profit rates.

Hence, as a way to ensure a return for the investment, family controlling shareholders become much more likely to engage in monitoring activities since they significantly influence firms strategic decisions. In this case, an alignment between family controlling shareholders and minority investor's interests is expected and as a consequence, more informative earnings.

On the other hand, it is also possible that a family controlling shareholder expropriate minority investors. This expropriation can assume different forms such as nepotism, excessive salaries and compensations for family members (ROGER; SCHATT, 2016) or through the practice of "unfair price transfer" of an asset or a firm product to another family enterprise (DYCK; ZINGALES, 2004).

In this case, when minority investors perceive the risk of expropriation by a family controlling shareholder it is possible that they review their return expectations and adjust their discount rate to reflect the risk of expropriation driving down the market value of the firms. In scenarios like those less informative earnings are expected as a consequence of the disequilibrium in the informational environment.

#### 3.4.3.2 Financial institutions ownership

Financial institutions according to Pedersen and Thomsen (2003) are assumed to be portfolio investors whose main objective is shareholder value. As a consequence, Chung and Zhang (2011) point that the level of corporate governance increases with the rise of financial institutions ownership, suggesting that good governance allow financial

controlling shareholders to exert an active monitoring role over firms in order to ensure the return for their investment.

Prior research examined the active monitoring role of financial institutions over firms. Aggarwal et al. (2011) found that financial institutions ownership is positively related to increases in firm-level corporate governance, Edmans and Manso (2011) points that financial institutions may be active through the mechanisms of voice and threat of exit and Aggarwal, Saffi and Sturgess (2015) argue that financial controlling shareholders value their voting rights to affect corporate governance.

Given this body of evidence, it's expected that financial ownership presents a positive relation to stock price. In fact, the change in firm-level corporate governance implies more transparency between shareholders and managers, which may result in market value maximization and more informative earnings.

#### 3.4.3.3 Non-financial institutions ownership

According to Pedersen and Thomsen (2003) a non-financial controlling shareholder holds another firm shares as a part of cross-ownership of company group structure. Those related companies are more likely to experience access to new technology and other specific resources (such as expertise, funding and corporate governance) which may result in gains of market competitiveness, diversification and decreases in its idiosyncratic risk.

In scenarios like those, companies' cross-ownership are associated with more value relevant accounting information. According to Bae and Jeong (2007) this kind of investor play an intense and effective monitoring role, constraining the opportunities of discretionary choices of managers relative to accounting procedures and managerial opportunistic behavior aiming to reduce problems of moral hazard and adverse selection. As a consequence, it is expected that cross-owned firms present a higher informativeness of earnings.

#### 3.4.3.4 Government ownership

Government held firms are expected to have less informative earnings. This prediction is a result of the use of the organizational

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structures controlled by the government to achieve political goals instead of efficient financial performance. Likewise, Shleifer and Vishny (1994) argue that politicians interfere and pursue political objectives instead of value maximization.

In fact, government acts in public interest in order to correct market failures. Following this assumption, theoretically, the government focus wouldn't be on utility maximization but on social welfare.

Empirical research endorses this hypothesis showing that government ownership is negatively related to firm value (PEDERSEN; THOMSEN, 2003), corporate governance quality (BORISOVA et al., 2012) and stock price variation (BEN-NASR; COSSET, 2014).

#### 4 EMPIRICAL ANALYSIS

This section presents the results estimated from the regression model previously introduced (equation 2). Initially, the Chow Breakpoint test and the Hausman test were performed in order to determine the appropriate effect for the panel regression. Considering a level of 5% significance for both tests, the Chow Breakpoint test rejected the null hypothesis of pooled panel (p-value = 0.0004) while the Hausman test did not reject the null hypothesis for random effects (p-value = 0.9806) indicating that the random effects panel is the best estimator for the regression model given by equation 2.

Thus, the random effects panel regression was estimated considering White's robust estimation for heteroscedasticity and no evidence for serial correlation was found since the observed p-value of Durbin-Watson statistic was 2.1971.

Finally, the correlations between the explanatory variables were verified by the variance inflation factor (VIF) which indicated evidence of multicollinearity. Additionally, the fixed effects dummies did present large standard errors what in fact strengthens the suspect of multicollinearity.

In contradiction to those factors the  $R^2$  of the regression model did not present a high value (0.0638) and only one explanatory variable proved not to be statistically significant what in fact weakens the hypothesis of multicollinearity. Additionally, the combination of cross-section and time series in panel data helps to reduce the possibility of multicollinearity.

In this context, it is important to note that the problem of multicollinearity does not result in biased estimators but can result in non-efficient ones. However, based on the arguments above it is not possible to conclude in definitive about the presence of multicollinearity, then the significance and the signs of the variables are analyzed according to research objectives.

**Table 1 - Regression Results.**

Variable	Coefficient	Standard Error	t-Statistic	Prob.
EPS	-4.7016	2.49573	-1.88385	0.0601
EPS*BLOCK	-5.2778	3.05589	-1.72709	0.0847
EPS*SIZE	1.4237	0.81632	1.74400	0.0817
EPS*MTB	0.0084	0.00761	1.10341	0.2703
EPS*LEVERAGE	2.3071	1.08748	2.12153	0.0343
EPS*LIQUIDITY	-3.5386	1.84114	-1.92195	0.0551
NON-FINANCIAL CONTROL	-14.6722	5.84013	-2.51231	0.0122
FINANCIAL CONTROL	-13.6837	7.45623	-1.83521	0.0670
GOVERNMENT CONTROL	-17.2512	5.91673	-2.91566	0.0037
INTERCEPT	38.3985	5.94641	6.45742	0.0000
R-squared		0.0638		
F-statistic		4.6480		
Prob(F-statistic)		0.0000		
Durbin-Watson statistic		2.1971		

Source: Research Data.

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After the analysis of data consistency, the table 1 presents the regression results of the econometric model given by equation 2, which are analyzed below.

At first, the regression estimation confirms the entrenchment effect on Brazilian market at a 10% significance level, given the observation of a negative sign between stock price and the estimated coefficient of earnings and block, characterizing the negative influence of ownership concentration over earnings informativeness. This result is consistent with the studies of Fan and Wong (2002), Bae and Jeong (2007) and Sarlo Neto, Lopes and Dalmácio (2010) which provide evidence of less informative earnings in highly concentrated firms.

The estimated coefficient of earnings and size is positive and statically significant at a 10% level, confirming the prediction that firm size works as a restriction to ownership concentration and helps to reduce the risk of minority investor's wealth expropriation by controlling shareholders. This result is consistent with the evidence provided by Fan and Wong (2002) and Boubaker and Sami (2011) that larger firms have more informative earnings because it prevents ownership concentration and consequently it works and a mechanism that prevents owners to influence the accounting information preparation and disclosure processes.

The market-to-book ratio did not show any influence over earnings informativeness since the estimated coefficient presented statistically insignificant. This result indicates that growth opportunities plays no role in earnings informativeness on Brazilian capital market. This evidence is divergent from the one provided by Sarlo Neto, Lopes and Dalmácio (2010) who confirm the influence of growth opportunities over earnings informativeness.

The influence of leverage over earnings informativeness was found to be positive and statistically significant at a 5% level. This evidence confirms Fan and Wong (2002) prediction that mature firms have low growth opportunities and in order to ensure bigger rates of return they tend to assume higher debt levels what leads to more informative earnings. On the other hand, this result diverges from the evidence provided by Boubaker and Sami (2011) which found a negative influence of leverage over earnings informativeness what is

in accordance with Soares and Kloenckner (2008) prediction that controlling shareholders can use leverage to reduce profits and the attractiveness of negotiated shares.

The estimated coefficient of earnings and liquidity proved negative and statistically significant at 10% level, confirming the hypothesis that earnings of firms that trade low liquidity stocks are less informative since probability of controlling shareholders to use their control/vote rights to play an active monitoring role over management is higher what consequently leads to a bigger chance of minority investors wealth expropriation.

Finally, the estimation of the regression model shows that controlling shareholder identity influences the earnings informativeness. Actually, all the fixed effects dummies rejected the null hypothesis that they are different from zero at 5% and 10% level of significance. This result confirms the prediction of Pedersen and Thomsen (2003) that controlling shareholders goals and expectations can't be neglected in the analysis of firm's fundamental values.

In this context, non-financial controlling shareholders estimated coefficient presented a negative and statistically significant at a 5% level. This result rejects Bae and Jeong (2007) prediction that non-financial controlling shareholder have a positive influence over earnings informativeness since they play an intense and effective monitoring role aiming to reduce problems of moral hazard and adverse selection, indicating that on Brazilian Market the firms held by this kind of controlling shareholder have a higher probability to expropriate minority investors wealth.

The financial controlling shareholders at a 10% level of significance are negatively related to stock price, diverging from the positive expected sign. Financial controlling shareholders are assumed to improve the levels of governance of its invested firms in order to ensure high return rates for their investments, but the evidence observed in this work is paper says otherwise.

On the other hand, the negative estimated coefficient for government controlling shareholder converges with the prediction of a negative sign. This result confirms the prediction that government use organizations to achieve political goals instead of value maximization and converges with the evidence

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provided by Pedersen and Thomsen (2003) and Ben-Nasr ad Cosset (2014) that firms held by government controlling shareholder have lower market values and are negatively related to stock price variation.

At last family controlled firms (captured by the intercept) presented the positive expected sign. This result converges with Roger and Schatt (2016) prediction that family controlling shareholders are exposed to a greater risk than minority investors and as a way to ensure a return for their investment, family controlling shareholders become much more likely to engage in monitoring activities and influence on firms strategic decisions in order to align managers and shareholders' interests.

## 5 CONCLUSIONS

This paper tested the alignment and entrenchment effects and analyzed the influence of controlling shareholder identity over earnings informativeness in order to understand and provide evidence about the influence of controlling shareholder identity over earnings informativeness on Brazilian capital market aiming to contribute to the understanding of the agency conflict between controlling shareholders and minority investors.

The results confirmed the entrenchment effect through the observation of the negative influence of ownership concentration over earnings informativeness. Allied to this result, the estimated coefficient of earnings and liquidity did present negative, what strengthens the entrenchment hypothesis for firms that trade low liquidity stocks, since the lower the liquidity the greater is the probability of wealth expropriation by controlling shareholders.

On the other hand, size and leverage did present a positive influence over earnings informativeness. Those two variables can be understood as indicatives of a lower probability of expropriation by controlling shareholders, since they work as a restriction to ownership concentration because of the high price to acquire a fraction of firm's ownership (size) and the financial risk (leverage).

In what concerns the controlling shareholder identity, the evidence of this paper confirms the prediction of Pedersen and Thomsen (2003) that the fundamental values of the firm

depends on the goals and expectations each type of controlling shareholder has on the firm. Actually, the four types of controlling shareholders did present significantly related to stock price, suggesting that stock prices reflect the controlling shareholders identity.

Actually, family firms was the only kind of controlling shareholder that shown a positive relation to stock prices, while the three other types of controlling shareholders did present negatively related to stock price what makes possible to infer that the probability of entrenchment and expropriation is bigger in firms controlled by financial institution, non-financial institution and the government.

Finally, this paper concludes with the following findings: **i)** the higher the control/vote power of controlling shareholder (ownership concentration) and the lower the stock liquidity, the less informative are the earnings and the greater is the probability of entrenchment and wealth expropriation by controlling shareholders; **ii)** larger firms and highly leveraged firms have more informative earnings; **iii)** the stock prices reflect the controlling shareholder identity; **iv)** Firms controlled by financial institutions, non-financial institutions and the government are much more likely to expropriate minority investors wealth and have less informative earnings; **v)** family firms are positively priced by the market.

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