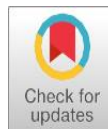


Article Review



AGENCY CONFLICTS BETWEEN CONTROLLING AND MINORITY SHAREHOLDERS IN THE DISTRIBUTION OF DIVIDENDS IN BRAZILIAN COMPANIES

CONFLITOS DE AGÊNCIA ENTRE ACIONISTAS CONTROLADORES E MINORITÁRIOS NA DISTRIBUIÇÃO DE DIVIDENDOS NAS EMPRESAS BRASILEIRAS

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Abstract

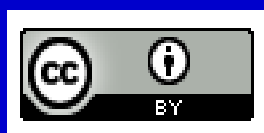
Objective: This paper aims to investigate whether the dividend policy is influenced by the shareholding concentration of publicly traded companies in Brazil. **Methodology:** This research was elaborated through panel regression analysis empirical tests, considering the period from 2013 to 2016. **Originality/ Relevance:** In Brazil, shareholding is usually concentrated in a small number of shareholders. In this scenario, controlling shareholders often end up having a great influence on management. As a result, agency conflicts may arise (Dalmácio & Corrar, 2007), mainly because controlling shareholders, who have the right to vote, are not always the holders of the preferred shares, which also share dividends (Lopes & Walker, 2008). Thus, according to the Agency Theory, the possibility could be raised of the principal - the controlling shareholder aiming to maximize its individual utility (Martinez, 2001). **Main Results:** It was verified that there is a positive relationship between the shareholding concentration and the distribution of dividends, that is, the higher the shareholding concentration, the greater the dividend distribution. **Contributions:** For this research, it were used statistical tests utilizing the panel data regression technique and estimators of Weighted Least Square (WLS), in which were observed the results of the regressions of the total sample (1.440 observations) and four industry sectors, which showed evidence that, there is at least one variable with a statistically significant power (non-cyclical consumption, financial, health, and information technology).

Keywords: Shareholding concentration, Dividends, Agency Theory.

Resumo

Objetivo: Este trabalho busca averiguar se a política de dividendos é influenciada pela concentração acionária das companhias abertas no Brasil. **Metodologia:** Esta pesquisa foi elaborada por meio de testes empíricos de análise de regressão em painel, considerando o período de 2013 a 2016. **Originalidade/Relevância:** No Brasil predomina a alta concentração do capital votante em um número reduzido de acionistas. Neste cenário, os controladores geralmente acabam tendo grande influência na administração. Como decorrência, podem surgir conflitos de agência (Dalmácio & Corrar, 2007), principalmente porque os acionistas controladores, que possuem direito a voto, nem sempre são os que detêm as ações preferenciais, que também compartilham os dividendos (Lopes & Walker, 2008). Assim, à luz da Teoria da Agência, pode-se abordar a possibilidade do principal - o acionista controlador - visar a maximização de sua utilidade individual (Martinez, 2001). **Resultados principais:** Verificou-se que existe uma relação positiva entre a concentração acionária e a distribuição de dividendos, ou seja, quanto maior a concentração acionária, maior a distribuição de dividendos. **Contribuições:** Para esta pesquisa, foram utilizados testes estatísticos mediante a técnica regressão de dados em painel e estimadores de Mínimos Quadrados Ponderados (MQP), na qual foram observados os resultados das regressões da amostra total (1.440 observações) e de quatro setores de atuação, que apresentaram indícios de que, no modelo de regressão proposto, existe ao menos uma variável com poder estatisticamente significativo (consumo não cíclico, financeiro, saúde e tecnologia da informação).

Keywords: Concentração acionária, Dividendos, Teoria da Agência.



1. Introduction

Studies carried out by La Porta, Lopez-de-Silanes and Shleifer (1999) showed that about 64% of large companies in the 27 most developed countries have controlling shareholders, which are mostly descendants of the founders of the companies. According to Okimura (2003), ownership concentration is even higher in emerging economies. Researches by Claessens et al. (2002) and Lins (2003) revealed that the concentration of controlling shareholders in emerging countries reaches 69% of all companies.

Brazil is also characterized by the high concentration of the voting capital in a small number of shareholders (Dalmácio & Corrar, 2007). According to La Porta et al. (1998), the high concentration of ownership arises mainly from the lack of legal protection. Thus, greater protection of creditor rights would encourage the development of the credit market, and greater protection of shareholder rights would encourage the development of the stock market.

Another feature of publicly traded companies in Brazil is that the control of a company can be exercised without the need to own more than half the capital invested in the company because of the possibility of issuing preferred shares with no voting rights in the administrative council.

In this scenario of share concentration, with the possibility of leveraging the invested capital, the controllers usually end up having a great influence on the administration. Thus, conflicts of agency may arise (Dalmácio & Corrar, 2007).

In Brazil, mainly as a result of the high ownership concentration, the main conflict of agency is not amongst shareholders and managers, but between controlling and minority shareholders (Lopes & Walker, 2008). According to Luz (2000), the controlling shareholders may affect the minority ones in various ways, such as through the sale of assets at values below the market rate for companies belonging to the directors of the same corporation, hiring of unqualified personnel and implementation of projects that benefit only the executives of the company. Another potential conflict between controlling and minority shareholders is related to the dividend distribution policy. Conflict can arise because the controlling shareholders, who are entitled to vote, are not always those who hold preferred shares, which also share dividends (Lopes & Walker, 2008).

As such, in the light of the Agency Theory, one can address the possibility of an agent - the controlling shareholder - undertaking opportunistic behavior aimed at maximizing their individual utility at the expense of the interests of the organization (Martinez, 2001). Such a situation can be imagined through the selection of accounting choices which will influence net income, which is the basis for the calculation of dividends, based on the assumption that the controlling shareholder may have different incentives compared to other capital providers (minority shareholders and creditors) (Watts, 2003).

From this context, the aim of this study is to determine whether the dividend policy is influenced by the shareholding concentration of publicly traded companies in Brazil. To achieve this goal, this study aims to answer the following research question: is there a relationship between the concentration of shareholder control and the distribution of dividends in companies traded on the BMF&Bovespa (São Paulo Stock Exchange) in the light of the Agency Theory? For such, financial and accounting information was collected on publicly traded Brazilian companies whose shares are traded on the BMF&Bovespa (São Paulo Stock Exchange). The samples were collected through the Economática software and comprise 360 companies in the period between 2013 and 2016.

The motivation for this study stems from the fact that there are few academic investigations in Brazil on the relationship between the concentration of shareholder control and the distribution of dividends, and of the few available papers almost all were developed at the beginning of the 2000s. This research aims to contribute to the expansion of the discussion on this issue, bringing about new analysis approaches and data that reflects recent political, economic and social changes in Brazil, and that probably were reflected in the organizations.

2. Literature Review

2.1 Shareholder Concentration in Brazil

The shareholding control of Brazilian companies is highly concentrated. In general, few shareholders have control of the shares with the right to vote (Silva & Leal, 2005). This may come to influence many decisions that occur in the companies administration, as a result of the centralization of power in the hands of controlling shareholders (Hahn, Nossa, Teixeira & Nossa, 2010).

The existence of a well-defined controller or controlling group enables the centralization of control and management of the organizations, as it has access to the possibility of governing the company by electing members of the executive board and, thus, to appoint the directors of the company. It can be stated that in Brazil, the final say is generally up to the controller or their representative. Such a situation would not occur if control was diluted among several shareholders (Procianoy, 1994b).

According to researches by La Porta et al. (1998), the high concentration of ownership arises mainly from the lack of legal protection. Therefore, countries with poor legal protection - adopting the French civil law, such as Brazil - have a higher concentration of ownership, measured by the percentage of shares held by the major shareholders. On the other hand, countries with better legal protection - adopting the common law, civil law - tend to present a more scattered ownership structure. Thus, greater protection of creditor rights would encourage the development of the credit market, and greater protection of shareholder rights would encourage the development of the stock market. La Porta et al. (2000a) conducted studies that show that when compared to countries that offer low legal protection, those with a higher degree of legal protection for investors present, among others:

- higher market capitalization of companies;
- greater amount of publicly trading companies;
- higher rate of initial public offerings;
- higher credit markets;
- higher dividends.

According to Prociány (1994a), family businesses are also a typical feature of the Brazilian economy:

“A significant influence of the family on the management of the business can be verified. The controller, in most cases, is the president of the company's board of directors themselves, even when not serving as chair of the board. On the other hand, when the directors are professional elements, not belonging to the family, they are directly subordinated to this controller”.

For Hahn et al. (2010), “the influence of family business owners in the management of organizations generates a conflict of agency problem with foreign investors because those tend to make decisions for their own benefit”. For La Porta et al. (1999), in companies whose shareholding control is familiar, the owners have the power to expropriate minority shareholders.

Another feature of publicly traded companies in Brazil is that the control of a company can be exercised without the need to own more than half the capital invested in the company, because, according to Law n. 6.404 (1976), later modified by Law n. 10.303 (2001), 11.638 (2007) and 11.941 (2009), and known as the New Corporation Law:

“Article 15. A share may be common, preferred or fruition, depending on the nature of the rights or advantages which it confers upon the shareholder.

§ 2o The number of preferred shares without voting rights, or subject to restriction on voting rights, may not exceed fifty percent (50%) of all issued shares”.

Thus, in Brazil, there is the possibility of the share capital of a publicly traded company consist of 50% of common shares, with the right to vote at meetings of the board of directors, and 50% of preferred shares. In this situation, the controller needs to hold more than 50% of the common shares, i.e. 25% of the total capital of the company. As a result, it can be said that in this scenario the controller can perform a leverage three times higher than the total capital invested. For Prociány (1994a), it can be affirmed that this scenario favors the generation of conflicts of interest between controlling and minority shareholders. It is possible to identify attitudes of the controllers or managers that are not aimed at maximizing shareholder wealth as a whole, but rather the interests of the controller.

2.2 Dividend Policy in Brazil

According to Schall and Haley (1988), a consensus still was not reached over the relevance or otherwise of the dividend policy on the valuation of organizations. There are two schools that discuss this relationship: the School of the Perfect Market - Modigliani & Miller Theory - and the School of the Imperfect Market - Gordon's Theory and Residual Theory.

The Modigliani and Miller Theory (1961) argues that the value of a company is determined by the investment policy and the return provided by its assets. As a result, investors are indifferent as to the origin of their profits - be they dividend or capital gain due to the appreciation of their shares (Prociány, 1994a).

Differently, Gordon's Theory (1963) argues that the value of a share is a direct function of the expectations of future dividend payments, i.e., it is equal to the present value of the flow of future dividend payments, discounted at a rate consistent with the market and its risk. According to this theory, shareholders prefer to receive dividends instead of eventual capital gains in the future. Residual Theory proposes the payment of dividends after the optimal allocation of its investments, i.e., dividends should be paid only when there are no opportunities for investment with great returns and consistent risk, in order to maximize shareholder wealth (Prociány, 1994a).

In Brazil, the distribution of dividends is regulated by the New Corporation Law. According to this law,

“The distribution of the compulsory dividend must conform to what is specified in the bylaws of the corporations. When it is silent in this regard, half of the net profit should be distributed, reduced or increased by the legal reserve and the amount allocated to the formation of the contingency reserve and the reversal of this allocation made in previous years”.

If the general meeting decides to introduce a rule on the matter, the minimum mandatory dividend may not be less than 25% of adjusted net income. According to Law n. 6.404 (1976), “a preferred share without a right to vote shall acquire such a right if, during a period provided for in the bylaws, which shall not exceed three consecutive fiscal years, the corporation fails to pay the fixed or minimum dividend to which the share is entitled, and the right shall continue until payment has been made”. For Okimura (2003), this fact could possibly encourage controllers in the search of a higher dividend flow per share in order to maintain control of the organization.

According to La Porta et al. (2000b), for countries like Brazil, where legal regulations do not provide ample protection to minority shareholders, as it occurs in countries that adopt the civil law, dividends act as substitutes for legal protection to investors. These receive dividends as a form of compensation for the greater risk of exposure to expropriation. In this scenario, the distribution of dividends would not be tied to the company's growth expectations, but the legal protection given to shareholders.

On the other hand, Procianoy (1994a) found that, in Brazil, there is a tendency for companies to retain the largest possible share of profits, on account of the shortage of long-term funds, or even shares traded below the equity book value. That is, it is verified that the controllers have a strong incentive to retain the largest portion possible of the profits of their companies, without distributing them.

2.3 Agency Theory and Dividend Policy

According to Ross (1973), the agency relationship is one of the oldest and most common habits of corporate interaction, characterizing the many models of relationship between the principal and the agent. Jensen and Meckling (1976) define an agency relationship as a contract in which the principal hires the agent to perform a service, involving the delegation, to the agent, of some authority for decision making. For these authors, the Agency Theory holds that it is almost impossible to ensure that the agent will make the best decision from the point of view of the principal.

The Agency Theory suggests that there is a conflict of interest on dividend policies (Jensen & Meckling, 1976). One possible explanation for this fact is that the payment of dividends that can be used to transfer wealth from the agent - manager - to the principal - shareholder (Ahmed et al., 2002). This is due to the fact that the payment of dividends reduces the cash flow available to the agent, which ultimately reduces their freedom to manage results in their own benefit (Lie, 2000). In Brazilian companies, there is also a tendency to retained earnings due to the scarcity of resources in the long run (Procianoy, 1994a). Contrarily, the shareholders would have a preference for dividend distribution (Alen, Bernardo & Welsh, 2000).

In Brazil, as a result of the high shareholder concentration, the conflict of agency is not amongst shareholders and managers - type I agency conflict - but between controlling and minority shareholders - type II agency conflict (Lopes & Walker, 2008). According to Luz (2000), the controlling shareholders may affect the minority ones in various ways, such as the sale of assets at values below the market rate for companies belonging to the directors of the same corporation, hiring of unqualified personnel and implementation of projects that benefit only the executives of the company.

Another potential conflict between controlling and minority shareholders is related to the dividend distribution policy. Conflict can arise because the controlling shareholders, who are entitled to vote, are not always those who hold preferred shares, which also share dividends (Lopes & Walker, 2008).

As such, in the light of the Agency Theory, one can address the possibility of the principal - the controlling shareholder - undertaking opportunistic behavior aimed at maximizing their individual utility at the expense of the interests of the organization (Martinez, 2001 e Loss, 2004). Such a situation can be imagined through the selection of accounting choices which will influence net income, which is the basis for the calculation of dividends, based on the assumption that the controlling shareholder may have different incentives compared to other capital providers (minority shareholders and creditors) (Watts, 2003).

The regulation can be understood as a possible solution to reducing such agency conflicts (La Porta et al., 2000b). For the case of Brazil, Silveira (2004) points out that such conflicts have led regulators to implement a series of initiatives aimed at greater protection of minority shareholders, such as changes in the New Corporation Law and the creation of different levels of corporate governance in the Bovespa.

2.4 Hypothesis Development

The shareholding control of publicly traded companies in Brazil is highly concentrated (Silva & Leal, 2005). This fact, paired with an institutional environment that does not provide ample protection for minority shareholders, causes that, in Brazil, the main conflict of agency does not occur between shareholders and managers, as in other markets, but rather between controlling and minority shareholders (Anderson, 1999).

In this scenario, a potential conflict between these actors is manifested in the distribution of dividends (Lopes & Walker, 2008). On account of the distinction between common shares, which have voting rights, and preferred shares, which do not have voting rights, controlling shareholders and holders of common shares, since they do not have preferential right to receive dividends, may have no interest in paying them, since these transfer their wealth to the minority shareholders, who also receive dividends, at least those required by law (Ahmed et al., 2002; Anderson, 1999; Lopes & Walker, 2008).

Thus, in order to ensure that such a relationship exists, the following hypothesis will be tested empirically:

H₀: Is there a relationship between the concentration of shareholder control and the distribution of dividends in publicly traded companies whose shares are traded on the BMF&Bovespa (São Paulo Stock Exchange).

It is expected to find evidence to corroborate previous studies, in which indications of a relationship between shareholder concentration and conflicts about dividend policies were found.

3. METHODOLOGICAL PROCEDURES

3.1 Operationalization of the Research

This research can be considered exploratory, carried out from bibliographic research. It aims to seek empirical evidence regarding the relationship between the concentration of shareholder control and the distribution of dividends in publicly traded companies whose shares are traded on the BMF&Bovespa (São Paulo Stock Exchange), based on the Agency Theory.

The sample of publicly traded companies listed on the BMF&Bovespa (São Paulo Stock Exchange) was collected through the Economática software, comprising 360 companies in the period between 2013 and 2016.

To enable the possibility of testing the hypothesis presented above, the regression model presented in equation [1] was used as a proxy. In this model, were classified as explanatory variable the shareholding concentration, measured by the percentage of shares held by the controlling shareholder, and as control variables: proportion of voting rights in relation to the right of cash flow of the largest shareholder, business sector, debt (liabilities/net assets), share liquidity and size of the company. As explained variable the payout was considered, which is the percentage of the dividend distribution paid by the shareholders over the net income of the adjusted fiscal year.

$$PO_{ij} = \alpha + \beta_1 CA_{ij} + \beta_2 OP_{ij} + \beta_3 SE_{ij} + \beta_4 DP_{ij} + \beta_5 LI_{ij} + \beta_6 LA_{ij} + \varepsilon_{ij} \quad [1]$$

For each company *i* in the period *j*:

PO_{ij} : Proxy for dividend payments (Payout)

α : Canonical correlation

CA_{ij} : Shareholding concentration measured by the participation percentage of the largest shareholder

OP_{ij} : Proportion of voting rights in relation to the right of cash flow of the largest shareholder, measured by the ratio (Total of common shares/Total of preferred shares)

SE_{ij} : Industry the company operates, according to BMF&Bovespa

DP_{ij} : Debt, measured by the ratio (Total liabilities/ Net Worth)

LI_{ij} : Share liquidity

LA_{ij} : Company size, measured by the Total Assets logarithm

ε_{ij} : Regression error term

The inclusion of the variable control proportion of voting rights in relation to the right of cash flow of the largest shareholder was justified by the study carried out by Lopes and Walker (2008) and Carvalhal-da-Silva and Leal (2005). According to Lopes and Walker (2008), the controlling shareholder, with a large number of common shares and a less significant amount of preferred shares, would have a lesser interest in the distribution of dividends. For Carvalhal-da-Silva and Leal (2005), firms with a greater concentration of shares with voting rights have lower dividend payments, for the controller will opt for paying lower dividends and may expropriate minority shareholders.

The control variable of the company's industry sector was included on account of the research by Ferreira et al. (2009), which identified that profitability may differ between sectors and this may influence the companies' investment decision and dividend policy.

The use of debt as a control variable can be substantiated through the researches by Ahmed (2002), Pomerleano and Zhang (1999) and Titman and Wessels (1988). For Ahmed (2002), the degree of debt would be related to conflicts over dividend policy because a higher debt would entail greater obligations, compromising the performance of the firm and reducing future dividends. Pomerleano and Zhang (1999), when studying companies of Latin American and Asian countries, found a negative relationship between the level of debt and the profitability and size of companies. Titman and Wessels (1988) found empirical evidence in American companies that there is a relationship between the long-term debt levels, profitability, and size in American corporations.

The use of the variable share liquidity of a company is indicated in the researches of Gitman (2004), Gordon (1963) and Lintner (1962). Gitman (2004), Gordon (1963) and Lintner (1962) argue the relevance of dividend policy through the theory of the “bird in the hand”, which states that, for investors, it is safer to receive dividends than capital earnings in the future. As such, the value and liquidity of the shares may be influenced by the dividend payment policy.

The size of the company control variable was included in the proxy for dividend payments due to the results of the researches conducted by Brito and Brito (2005), Dalmácio et al. (2005), Sutton (1997) and Hall (1987). Brito and Brito (2005) studied the relationship between the size of the companies and the distribution of income among individuals. Dalmácio et al. (2005), Gupta (1980), Sutton (1997) and Hall (1987) found a positive relationship between size and profitability of the companies.

3.2 Selection of Panel Data Regression Model

To test the hypothesis of this study, panel data regression was used. According to Duarte, Lamounier and Takamatsu (2007), this technique consists of observations of several entities for two or more time periods while combining time series features with cross-sectional data, and are widely used in the social sciences. For Brooks (2002), using panel data enables a more efficient estimation, since it allows a larger amount of information and more degrees of freedom.

Initially, the validation tests had the purpose of analyzing the application of the estimated panel data regression model by Ordinary Least Squares (OLS) or by analysis in fixed or random panel.

The Breusch-Pagan was applied, based on the Lagrange multiplier, in order to examine whether the OLS model is more suitable than the fixed or random panel data model. This test showed a p-value = 0.74, rejecting the hypothesis of the existence of possible random effects in the sample. Thus, the OLS model, when compared to the analytical models in fixed or random panel, is shown to be more suitable for this sample.

Subsequently, White's test was applied for the purpose of analyzing the heteroscedasticity of the regression residuals. The results of the White test highlighted the existence of heteroscedasticity on the regression residues, i.e., the regression residuals do not have constant variance.

In order to correct the heteroscedasticity problem, the estimators for the Weighted Least Squares (WLS) were used. The WLS are least squares estimators with correction for heteroscedasticity, i.e., they seek to assign a lower weight to the observations that have higher variance of the error, unlike the OLS, suitable for when the error variance is constant (Wooldridge, 2010).

4. RESULTS

4.1 Exploratory Data Analysis

This topic presents an exploratory discussion of the collected observations, concerning the shareholder concentration, measured by the percentage of shares held by the controlling shareholder. Data were distributed by the company's industry sector, according to BMF&Bovespa.

In general, as can be seen in Table 1, the average share of the largest shareholder was 44.4%, showing that there is high shareholder concentration in Brazil and confirming the studies by La Porta, Lopez-de-Silanes and Shleifer (1999) Okimura (2003), Claessens et al. (2002) and Lins (2003).

The largest shareholder concentrations were found in the sectors of public utilities, financial and telecommunications - oligopolistic segments and highly regulated by the government. The lowest shareholder concentrations were found in the information technology and health sectors - less oligopolistic segments of the economy. This may suggest that sectors of an oligopolistic nature and highly regulated by the government tend to have greater shareholder concentration.

Table 1: Descriptive Statistics of Shareholder Concentration

| Shareholder Concentration | Total | Industrial Goods | Cyclical Consumption | Non-cyclical Consumption | Financial | Basic Materials | Oil, gas, and biofuels | Health | Information Technology | Telecommunications | Public Utility |
|---------------------------|-------|------------------|----------------------|--------------------------|-----------|-----------------|------------------------|--------|------------------------|--------------------|----------------|
| Mean | 44,4% | 38,2% | 37,3% | 37,9% | 56,3% | 37,6% | 37,3% | 31,4% | 27,1% | 48,7% | 57,6% |
| Median | 39,0% | 32,8% | 33,4% | 37,8% | 54,5% | 33,2% | 44,3% | 25,5% | 15,3% | 47,4% | 57,7% |
| Standard Deviation | 27,7% | 23,3% | 23,4% | 19,6% | 31,6% | 24,1% | 20,5% | 25,6% | 30,0% | 23,7% | 26,2% |
| Variance | 7,7% | 5,4% | 5,5% | 3,8% | 10,0% | 5,8% | 4,2% | 6,6% | 9,0% | 5,6% | 6,9% |
| Minimum | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 14,9% | 0% |
| Maximum | 100% | 100% | 100% | 89,8% | 100% | 96,5% | 63,0% | 95,8% | 97,8% | 98,8% | 100% |
| Number of observations | 1,440 | 212 | 324 | 92 | 328 | 124 | 40 | 60 | 32 | 24 | 204 |

Source: Produced by the authors from Economática data

4.2 Panel Data Analysis

This topic presents the results and the panel data regression analysis through estimators of Weighted Least Squares (WLS), through the collected sample (1.440 observations). In Table 2 there are indications that, in the regression model proposed for the 1.440 observations, there is at least one variable with statistically significant power, since the p-value(F) = 0,000180. Among the explanatory and control variables, it is observed that the shareholder concentration and the share liquidity present significant p-value at 5% and 1% respectively.

Table 2: Results of equation [1] by Weighted Squares Methods

| | Coefficients | Standard Deviation | t-statistic | p-value |
|----------------|--------------|--------------------|-------------|------------|
| α | -0.4324140 | 0.2847480 | -1.519 | 0.1291 |
| CA_{ij} | 0.0063319 | 0.0024692 | 2.5640 | 0,0104 ** |
| OP_{ij} | -0.0009260 | 0.0054500 | -0.1701 | 0.8650 |
| SE_{ij} | -0.0033766 | 0.0207584 | -0.1627 | 0.8708 |
| DP_{ij} | -0.0001926 | 0.0028636 | -0.0673 | 0.9464 |
| LI_{ij} | 0.5480930 | 0.2055910 | 2.6660 | 0.0078 *** |
| LA_{ij} | 0.0322000 | 0.0196000 | 1.6380 | 0.1016 |
| R^2 | | | | 0.012805 |
| R^2 Adjusted | | | | 0.008672 |
| P-Value(F) | | | | 0.005109 |
| F(6, 1433) | | | | 3.097969 |
| 2.647304 | | | | |

Note: CA_{ij} is the percentage share of the largest shareholder, OP_{ij} is the proportion of voting rights in relation to the right of cash flow of the largest shareholder, SE_{ij} is the company industry sector, DP_{ij} is the debt, LI_{ij} is the share liquidity and LA_{ij} is the company size. Significance: * at 10%, ** at 5% and *** at 1%.

Source: Produced by the authors from Economática data.

By analyzing the signal and the coefficient of the variable percentage share of the largest shareholder (0.0063319), it can be said that the shareholder concentration has a positive relationship with the payment of dividends. Regarding the coefficient of the variable share liquidity (0.5480930), it can be said that liquidity has a positive relationship with the payment of dividends. From the analysis of the p-value of all the other variables, evidence was observed that they do not present statistical significant at the 5% level, although they fulfill their role of reducing the stochastic error of the regression equation.

The positive relationship between shareholder concentration of the companies and the payment of dividends is contrary to the results presented by Martinez (2001), Watts (2003) and Loss (2004). On the other hand, the results of this study regarding the positive relationship between shareholder concentration and the payment of dividends corroborate the findings of Hahn, Nossa, Teixeira, and Nossa (2010) and Carvalhal-da-Silva (2002). This argues that the administration proceeds in such

a way to meet the main right of the minority shareholder, which is the right to receive dividends since the minority do not control the Brazilian companies.

In addition, according to Hahn, Nossa, Teixeira, and Nossa (2010), the positive relationship between shareholder concentration and the payment of dividends may also be an indication that the controllers make use of the decision-making opportunity for their own benefit since they are also benefiting from the payment of dividends. The positive relationship between shareholder concentration and the company's share liquidity corroborates the researches by Gitman (2004), Gordon (1963) and Lintner (1962), who argue that the value and liquidity of the shares can be influenced by the dividend payment policy. In order to deepen this study, a regression analysis of panel data through estimators of Weighted Least Squares (WLS) to each of the industry sectors of the companies, according to the criteria defined by the BMF&Bovespa, was carried out.

Among the ten industry sectors where the companies the BMF&Bovespa operate, six (industrial goods, cyclical consumption, basic materials, oil, gas, and biofuels, telecommunications and public utilities) presented $p\text{-value}(F) > 10\%$, showcasing evidence that the model proposed is not valid. Therefore, their data will not be detailed in this paper. Four sectors of activity presented $p\text{-value}(F) < 1\%$, bringing evidence that in the proposed regression model there is at least one variable with statistically significant power (non-cyclical consumption, financial, health, and information technology). For the non-cyclical consumption sector (Table 3), it can be stated that the share liquidity ($p = 0.0008$) have statistically valid explanatory power regarding the payment of dividends. By analyzing the signal and the coefficient of the variable share liquidity (0.1995430), it can be said that the share liquidity has a positive relationship with the payment of dividends.

Table 3: Results of equation [1] by WLS for the non-cyclic consumption sector

| | Coefficients | Standard Deviation | t-statistic | p-value |
|----------------|---------------------|---------------------------|--------------------|----------------|
| α | -0.2275430 | 0.2972880 | -0.7654 | 0.4461 |
| CA_{ij} | 0.0002789 | 0.0023116 | 0.1207 | 0.9042 |
| OP_{ij} | 0.0035106 | 0.0034300 | 1.0230 | 0.3089 |
| DP_{ij} | 0.0009427 | 0.0017867 | 0.5276 | 0.5991 |
| LI_{ij} | 0.1995430 | 0.0572967 | 3.4830 | 0.0008 *** |
| LA_{ij} | 0.0215203 | 0.0180788 | 1.1900 | 0.2372 |
| R^2 | | | | 0.243625 |
| R^2 Adjusted | | | | 0.199649 |
| P-Value(F) | | | | 0.000180 |
| F(5, 86) | | | | 5.540036 |
| 2.647304 | | | | |

Note: CA_{ij} is the percentage share of the largest shareholder, OP_{ij} is the proportion of voting rights in relation to the right of cash flow of the largest shareholder, DP_{ij} is debt, LI_{ij} is share liquidity and LA_{ij} is company size. The company industry sector (SE_{ij}) was disregarded in this test. Significance: * at 10%, ** at 5% and *** at 1%.

Source: Produced by the authors from Economática data

For the financial sector (Table 4), it can be stated that the size of the company ($p = 0.0021$) have statistically valid explanatory power regarding the payment of dividends. By analyzing the signal and the coefficient of the variable size of the company (0.0374989), it can be said that the company's size has a positive relation to the payment of dividends.

Table 4: Results of equation [1] by WLS for the financial sector

| | Coefficients | Standard Deviation | t-statistic | p-value |
|----------------|---------------------|---------------------------|--------------------|----------------|
| α | -0.2303570 | 0.2072540 | -1.1110 | 0.2672 |
| CA_{ij} | 0.0001382 | 0.0018154 | 0.0761 | 0.9394 |
| OP_{ij} | -0.0130067 | 0.0469952 | -0.2768 | 0.7821 |
| DP_{ij} | 0.0001640 | 0.0013347 | 0.1230 | 0.9022 |
| LI_{ij} | 0.1906740 | 0.1431810 | 1.3320 | 0.1839 |
| LA_{ij} | 0.0374989 | 0.0120714 | 3.1060 | 0.0021 *** |
| R^2 | | | | 0.046161 |
| R^2 Adjusted | | | | 0.031350 |
| P-Value(F) | | | | 0.009198 |
| F(5, 322) | | | | 3.116657 |
| 2.647304 | | | | |

Note: CA_{ij} is the percentage share of the largest shareholder, OP_{ij} is the proportion of voting rights in relation to the right of cash flow of the largest shareholder, DP_{ij} is debt, LI_{ij} is share liquidity and LA_{ij} is company size. The company industry sector SE_{ij} was disregarded in this test. Significance: * at 10%, ** at 5% and *** at 1%.

Source: Produced by the authors from Economática data

In the health sector (Table 5), shareholding concentration (p -value = 0.0046) and share liquidity (p = 0.0132) have statistically valid explanatory power regarding the payment of dividends. By analyzing the signal and the coefficient of both variables (0.0087625 and 0.8833870, respectively), it can be stated that both have a positive relationship with the payment of dividends.

Table 5: Results of equation [1] by WLS for the health sector

| | Coefficients | Standard Deviation | t-statistic | p-value |
|----------------|--------------|--------------------|-------------|------------|
| α | -0.0110482 | 0.1422500 | -0.0777 | 0.9384 |
| CA_{ij} | 0.0087625 | 0.0029626 | 2.9580 | 0.0046 *** |
| OP_{ij} | 0.0412886 | 0.0382247 | 1.0800 | 0.2849 |
| DP_{ij} | 0.0179037 | 0.0848992 | 0.2109 | 0.8338 |
| LI_{ij} | 0.8833870 | 0.3446820 | 2.5630 | 0.0132 ** |
| LA_{ij} | -0.0053540 | 0.0161258 | -0.3320 | 0.7412 |
| R^2 | | | | 0.252828 |
| R^2 Adjusted | | | | 0.183646 |
| P-Value(F) | | | | 0.006400 |
| F(5, 54) | | | | 3.654506 |
| 2.647304 | | | | |

Note: CA_{ij} is the percentage share of the largest shareholder, OP_{ij} is the proportion of voting rights in relation to the right of cash flow of the largest shareholder, DP_{ij} is debt, LI_{ij} is share liquidity and LA_{ij} is company size. The company industry sector SE_{ij} was disregarded in this test. Significance: * at 10%, ** at 5% and *** at 1%.

Source: Produced by the authors from Economática data

Finally, for the information technology sector (Table 6), it can be said that the share liquidity (p = 0.00000652) have statistically valid explanatory power regarding the payment of dividends. By analyzing the signal and the coefficient of the share liquidity variable (2.1634200), it can be said that liquidity has a positive relationship with the payment of dividends.

Table 6: Results of equation [1] by WLS for the information technology sector

| | Coefficients | Standard Deviation | t-statistic | p-value |
|----------------|--------------|--------------------|-------------|--------------|
| α | -0.0002639 | 0.0676377 | -0.003902 | 0.9969 |
| CA_{ij} | -0.0000293 | 0.0006185 | -0.047430 | 0.9625 |
| OP_{ij} | -0.0000843 | 0.0202661 | -0.004163 | 0.9967 |
| DP_{ij} | -0.0014564 | 0.0045424 | -0.320600 | 0.7511 |
| LI_{ij} | 2.1634200 | 0.3317920 | 6.520000 | 6.52E-07 *** |
| LA_{ij} | 0.0002416 | 0.0058652 | 0.041190 | 0.9675 |
| R^2 | | | | 0.675876 |
| R^2 Adjusted | | | | 0.613544 |
| P-Value(F) | | | | 0.000010 |
| F(5, 26) | | | | 10.84323 |
| 2.647304 | | | | |

Note: CA_{ij} is the percentage share of the largest shareholder, OP_{ij} is the proportion of voting rights in relation to the right of cash flow of the largest shareholder, DP_{ij} is debt, LI_{ij} is share liquidity and LA_{ij} is company size. The company industry sector SE_{ij} was disregarded in this test. Significance: * at 10%, ** at 5% and *** at 1%.

Source: Produced by the authors from Economática data

5. CONCLUSION

This research aimed to analyze the relationship between shareholder concentration and the distribution of dividends in Brazilian companies that had shares traded on the BMF&Bovespa (São Paulo Stock Exchange), from 2013 to 2016. For this study were used statistical tests utilizing the panel data regression technique and estimators of Weighted Least Square (WLS), in which were observed the results of the regressions of the total sample (1.440 observations) and four industry sectors, which showed evidence that, in the proposed regression model, there is at least one variable with a statistically significant power (non-cyclical consumption, financial, health, and information technology).

Through tests carried out on the total sample, it was found that the shareholder concentration and share liquidity have a positive relationship with the payment of dividends. The empirical results of this research lead to not reject the hypothesis H_0 that there is a relationship between the concentration of shareholder control and the distribution of dividends when analyzing the sample constituted of Brazilian companies whose shares were traded on the Bovespa BM&F from 2013 to 2016.

From the tests carried out in the sectoral sample, it was found that:

- In the cyclical consumption sector, the share liquidity has a positive relationship with the payment of dividends;
- In the financial sector, the size of the company has a positive relation to the payment of dividends;
- In the health sector, the shareholder concentration and share liquidity have a positive relationship with the payment of dividends;
- In the information technology sector, the share liquidity has a positive relationship with the payment of dividends.

For future studies, it is suggested to explore the particularities of the various industry sectors the company operates in, seeking explanations for the variations in the explanatory and control variables in the distribution of dividends.

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