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## SHAREHOLDER CONCENTRATION AND DIVIDEND POLICY IN THE BRAZILIAN ELECTRICITY SECTOR

# CONCENTRAÇÃO ACIONÁRIA E POLÍTICA DE DIVIDENDOS NO SETOR ELÉTRICO BRASILEIRO

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#### **ABSTRACT**

The aim of this paper is to demonstrate the influence of the shareholding concentration and the size of the company on the dividend policy of companies in the Brazilian electric sector. The shareholding control data of companies in the electricity sector and other sectors were collected from the B3 website during 2019. Based on the results, the following conclusions were reached: 1) companies in the electricity sector have lower payouts than companies in other sectors; 2) there was no difference between the companies in the electric sector and the others regarding the payout in relation to the shareholding concentration, both between companies considered large and those of smaller size; 3) regarding the size of the companies, there was no statistically significant difference between the payout paid by the electricity sector and the other companies; 4) the smaller size of the company was related to the higher occurrence of losses both in the electricity sector and in the group of other companies.

**Keywords**: Dividend policy; Electric sector, Corporate finance.

#### **RESUMO**

O objetivo deste trabalho é demonstrar a influência da concentração acionária e do tamanho da empresa sobre a política de dividendos de empresas do setor elétrico brasileiro. Foram coletados a partir do site da B3 os dados de controle acionário de empresas do setor elétrico e dos demais setores durante o ano de 2019. Com base nos resultados, chegou-se às seguintes conclusões: 1) empresas do setor elétrico pagam menor payout que as empresas dos demais setores; 2) não houve diferença entre as empresas do setor elétrico e as demais quanto ao payout em relação à concentração acionária, tanto entre empresas consideradas grandes quanto naquelas de menor tamanho; 3) quanto ao tamanho das empresas, não houve diferença estatisticamente significativa entre o payout pago pelo setor elétrico e as demais empresas; 4) menor







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tamanho da empresa esteve relacionado à maior ocorrência de prejuízos tanto no setor elétrico quanto no grupo das demais empresas.

Palavras-chave: Política de dividendos; Setor elétrico; Finanças corporativas.

#### 1 INTRODUÇÃO

The understanding of the company's control structure has fundamental importance, since it directly influences the market efficiency through corporate control. According to Leal et al. (2002), it shows the degree of risk diversification by shareholders. Another important point, according to Leal et al. (2002), is that it demonstrates a potential agency problem in the management of the firm. There may be an agency problem between management and shareholders, as the former may not be maximizing the value for the latter. When there is a shareholder who can influence the management of a company, a new agency problem may arise, this time between controlling shareholders and minority shareholders.

Still according to Leal et al. (2002), few countries are characterized by companies with diffuse ownership. This ownership structure basically occurs in large corporations in countries with Anglo-Saxon legal tradition. Countries such as France, Italy and Germany, among others, are characterized by a strong concentration of ownership and control. La Porta et al. (1999) present evidence that, in 27 developed countries, there is a great concentration of control and ownership of companies in the hands of families and the State, instead of the diffuse property proposed by Berle and Means (1932). In another study, La Porta et al. (1998), using a sample of 49 countries, show that, even when focusing on the largest publicly-held companies (usually characterized by more diffuse ownership), the three largest shareholders own, on average, 46% of the company.

According to Silva et al. (2009), the high share concentration held by a few shareholders is characteristic of the Brazilian capital market. When discussing the ownership structure of publicly traded companies (Shareholding Concentration), the

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relationship between managers, majority shareholders and minority shareholders is being discussed. In the center of corporate governance studies, it is also discussed how decisions for ownership of a company's shares can be biased, as well as costs of monitoring the shareholder in relation to the activities of managers, among other issues raised by the Agency Theory (SILVA et al., 2009). Durnev and Kim (2003), when studying the Shareholding Concentration, Legal Environment and the Value of 859 Companies from 27 countries around the world, classified Brazil as having a poor legal regime, low transparency (disclosure) in the capital market and where the rigor in complying with rules regarding the capital market is low.

The studies on dividend policy in Brazil need some specific care, since the tax system on dividends differs from that adopted in the countries of origin of the most relevant studies on the subject, such as the USA, England, Germany and Japan (FORTI et al., 2015). Brazil also has the figure of interest on own capital, which offers companies different tax options for their profit distribution. Still according to Forti et al. (2015), there are also the minimum mandatory dividends, which can affect companies' levels of dividend payment due to legal imposition. Thus, the dividend literature in Brazil is developed in parallel, seeking to understand the effect of these specificities on the behavior of companies and their managers.

Forti et al. (2015), sought the factors that determine the earnings distribution policy of publicly traded Brazilian companies listed on the BM & F BOVESPA, from 1995 to 2011. As main results, it was found that the significant and positive variables were: Size, ROA, Market to Book, Liquidity and Profit Growth. That is, it can be inferred that the greater the size of the company, its profitability, market value, liquidity and the growth of its profits, the greater the propensity of this firm to distribute money to shareholders.

The electricity sector, not only because it is classified as part of the public concession sectors that makes it different from other sectors of the economy, but, due to its specific form of regulation, places it on a different level. According to Bernardino et al. (2015), this sector is regulated and subordinated to public policies related to price, contribution margin and returns. In the Brazilian case, its regulatory structure resulting

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from the time of privatizations that occurred in the 1990s creates, in a sector already full of challenges, very important issues, such as the dividend policy (SILVA; KIRCH, 2019) and stock splits policy (SILVA; KIRCH, 2020).

The aim of this paper is to demonstrate the influence of the shareholding concentration and the size of the company on the dividend policy of companies in the Brazilian electric sector. This article is divided as follows: this introduction, followed by the theoretical framework, where a bibliographic review is demonstrated which will support the working hypotheses. Then, the methodology details how the data was collected and analyzed. In the results section, the data analysis is shown according to the hypotheses and the results are discussed in the light of the literature. The article ends with the final considerations, where the conclusions are taken up.

#### 2 THEORETICAL REFERENCE

According to Hahn et al. (2010), Brazilian companies are marked by a high shareholding concentration and highly concentrated control. Publicly traded companies after determining their profit have to decide between distributing dividends to their shareholders or retaining profits for future investments or reinvestments, that is, companies have to define their dividend policy. The dividend policy, however, is not always in line with the interests of minority shareholders, and they have the main right to receive dividends, thus generating an agency conflict with the controllers of the companies, as they may be interested in investments that do not have good returns. The controller can have a strong influence on the decisions of companies that meet the interests of shareholders. This situation is cited by Procianoy (1994, p. 15): "The power exercised by the controller of these companies will determine, or at least significantly influence, the management's attitude."

According to Silveira et al. (2008), companies from the same country may present different levels of concentration of ownership due to characteristics intrinsic to them or to their sector of activity. Demsetz and Lehn (1985) were among the pioneers to work with

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this possibility, postulating an empirical model in which certain characteristics of the companies or sectors in which they operate, such as size, risk and regulation of the sector, could be determinants of the degree of shareholding concentration. The authors argue that the causal relationship between ownership structure and performance would be potentially spurious, since the concentration of ownership could be an endogenous variable determined by the characteristics of the companies

In Brazil, Okimura (2003) presented studies similar to that of Demsetz and Lehn (1985). In addition, the line of research by Demsetz and Lehn (1985) was taken up by Himmelberg et al. (1999), who extended their results using panel data and new explanatory variables for the concentration of the property. The author proposes that investor protection, in addition to having an external component related to the legal environment in which the company operates, has an internal component related to the type of activity undertaken and other characteristics of the company. In this way, the concentration of ownership would not only occur due to the legal protection of the investor, but also due to the investor protection intrinsic to the company, different for companies submitted to the same contractual environment.

Among the attributes cited by Himmelberg et al. (1999) as potential determinants of the ownership structure, three stand out: the size of the company, the scope for spending defined by the manager's free will and the idiosyncratic risk of the company. According to the authors, the size would have an uncertain effect beforehand on the concentration of the property. On the one hand, agency and monitoring costs could be higher in large companies, increasing the need for concentration of ownership structure. On the other hand, large companies could use economies of scale to monitor senior management using, for example, rating agencies, which would lead to a lower optimal level of concentration of ownership. Regarding the scope of expenses defined by the manager's free will, Himmelberg et al. (1999) argue that, since investments in fixed assets are observable and easier to monitor, companies with a higher proportion of fixed assets should generally have a lower optimal level of concentration of ownership because they present greater intrinsic protection to the investor.



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Neves et al. (2016), based mainly on Silveira (2002), Dey (2008) and Renders and Gaeremynck (2012), who consider shareholder concentration and corporate governance as the main causes of conflicts between shareholders, whose effects reflect on the company's value, studied empirically the relationship between these variables. The sample consisted of a balanced panel of 250 publicly traded companies listed on four BM & FBovespa indexes from 2012 to 2014. In order to meet the proposed objectives, the main components analysis was used to create indicators for "conflict", "concentration ownership "and" corporate governance "and Tobin's Q as a proxy to represent the company's value.

The regression analysis by Neves et al. (2016), through the marginal models managed to explain 51.7% of the "conflict" variability and 33.7% of the "company value" variability. There was a significant and positive influence of the "shareholding concentration" on the "conflict" and a significant and negative influence of the "corporate governance" on the "conflict". Regarding "company value", the same variables were not significant. The cluster analysis showed an inverse relationship between "conflict" and "company value". The results of the study showed that the shareholding concentration, corporate governance, the types of controlling shareholder and the other control variables were able to explain 51.9% of the conflict variability. The greater the shareholding concentration in the hands of the controlling shareholders (first and second shareholder) and the lower the percentage of outstanding shares, the greater the conflict.

Corrêa et al. (2015), demonstrated that the ownership structure influences the creation of value in the sense that the lower the concentration of preferred shares and the greater the concentration of total ownership, the greater the value of Tobin's Q, and the greater the concentration of total ownership and the excess of votes of the controlling shareholder, the greater the company's value in relation to the total assets.

Dami (2007) points out that, due to the high concentration of ownership and the underdeveloped capital market, in Brazil the central issue of governance is around the



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agency conflict between majority and minority shareholders. In the study of Carvalho (2002), this situation indicates a change in the paradigm, in which good governance acquires the purpose of preventing the controlling shareholders from expropriating the interests of minority shareholders. Almeida et al. (2002) add that conflicts of interest do not exist only between managers and shareholders, they occur among a broader range of agents (stakeholders), that is, between majority and minority shareholders, creditors, managers, employees, consumers, government and society in general. In this sense, the current challenge of corporate governance is to minimize conflicts between all these agents involved, with the objective of maximizing the company's value and providing a greater return for shareholders.

Saito (2008), when reviewing the ownership structure at agency costs based on the work of Jensen and Meckling (1976) and Morck et al. (1988) demonstrated that both are absolutely complementary. While the first develops a conceptual model of the ownership structure based on the agency conflicts inherent in any company, the second empirically tests the predictions of the first, finding relevant results that were later incorporated into the formulation of more robust theories. Regarding the question of ownership structure, both articles corroborate the idea, quite intuitive, that there is a greater alignment of interests as business decision makers own a higher percentage of the company's shares. However, an important result found by Morck et al. (1988) and not foreseen in the article by Jensen and Meckling (1988) is that a higher percentage of shares can also lead to a greater tendency for entrenchment by managers, causing a negative impact on the company's value.

Santos et al. (2011) analyzed the dividend distribution of 147 Brazilian companies listed on the BOVESPA, between 1994 and 2010, with dividends per share as the dependent variable and EBDITA per share as explanatory variables, general liquidity, financial leverage, capital expenditures, market value and total assets. The results confirm the hypothesis that the distribution of dividends in Brazil follows a random movement or is justified by other variables that were not incorporated in the models. Finally, he concludes that in Brazil a small number of companies distribute dividends and that the



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trend of this distribution is increasing, with no relationship between the distribution of dividends and the financial indicators of the companies studied. In turn, according to Moreiras et al. (2009), in Brazil, there is an increase in the use of the dividend policy. In this study, profit and size contribute to the distribution of dividends and the growth potential decreases the likelihood that these payments will be made.

Dalmácio and Corrar (2007), when analyzing 438 companies in the period from 1998 to 2005, found that an increase in the share concentration causes an increase in the value of dividends paid per share. However, there is an expectation that an increase in that will cause a significant decrease in the percentage of the payout (Dividends proposed ÷ Net Income for the Year). Evidence was found that the shareholding composition may partially explain the dividend policy adopted by the companies analyzed. It is interesting to note that the shareholding concentration causes a decrease in the payout, but when the dividends are effectively paid, their value per share increases. These results confirm that, in Brazil, there is a tendency for companies to retain the largest possible share of profits (PROCIANOY, 1994) and that companies are concentrated in the hands of a few (LOSS, 2003). According to these authors, the retention of profits is due to the scarcity of long-term resources. Other factors may influence the empirical results, such as the regulation of dividend policy.

Hahn et al. (2010), through empirical tests with the use of panel data regression analysis, considering the period from 1996 to 2006 in data from companies listed on the São Paulo Stock Exchange - BOVESPA divided it into two parts; the first included all positive payout amounts and the second contained only payout amounts above 25%. The percentage of shares owned by the largest shareholder was used as an independent variable and the payout was used for the dependent variable. Hahn et al. (2010) demonstrated that there is a positive relationship between the shareholding concentration and the level of payout in Brazilian companies that had shares traded on BOVESPA during the analyzed period, that is, the higher the shareholding concentration in these types of variables the higher the level of the payout. These results were obtained with the analysis carried out with all the positive values of the payout and, also considering only the data



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above 25%, also agreeing with Farinha (2003), who found a positive relationship between payout and concentration of ownership above 30%.

Galvão (2015) investigated the factors related to the payment of dividends and incremental payout of Brazilian companies listed on the São Paulo Stock Exchange (BM & FBovespa) in the period from 2002 to 2013. The payout paid was calculated based on adjusted net income, with data collected in the minutes of the meetings and in the Statements of Changes in Stockholders' Equity. Incremental Payout corresponds to the amount effectively distributed by the companies in addition to what is established in the bylaws. The sample consisted of a diversity of 287 companies, distributed in the years studied, ranging from 144 companies in 2002 to 285 in 2013. The shareholding concentration, measured by the percentage of shares owned by the majority shareholder, was also significant, but with a positive sign. This result is in line with that recommended by the theory, as it indicates that the higher the percentage of shares of the majority shareholder, the more likely it is to have an incremental payout distribution. Iquiapaza et al. (2008) had found a negative relationship between the shareholding concentration and the payment of earnings. As for the size of the companies, in which the natural logarithm of the asset was used as a proxy, no significance was obtained.

Fonteles et al. (2012), when analyzing companies that are part of the BM & F BOVESPA Dividend Index, found no correlation between the dividend policy with company size or with shareholding concentration.

According to Silva (2019a), companies in the Brazilian electric sector (IEE), unlike other sectors, have their own characteristics that place them in a separate group, distinct from conventional economic theory. As they are public utility companies (in English "utilities"), they operate from public concessions (hence also the term "concessionaire"). Regardless of the way in which it operates, which varies from electricity generation to transmission and distribution, its service is subject to regulatory agencies that, in addition to inspecting the quality of the service provided, define the pricing of the fees charged.



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Rodrigues et al. (2016), when studying the dividend policy of 8 companies in the Brazilian electric sector in the period from 2007 to 2014, found that 47.54% of the dividend distributions occurred in the form of dividends in shares or bonuses; 20.49%, in the form of cash payment (cash dividend); 13.93%, share repurchases; 13.12% of the dividend distributions occurred in the form of shares groupment (inplit) and 4.92% of the distributions occurred in the form of a share split.

Silva (2019b), studying a sample of publicly traded companies listed on the IBOVESPA in the period from 2010 to 2015, demonstrated that, when comparing electric utilities with non-electric utilities, it was evident that the highest share concentration is associated with payments of dividends with a yield greater than 5% paid on a single date.

When investigating the dividend policies adopted by companies in the electricity sector listed on the BM & FBovespa, Rebouças et al. (2018) analyzed 33 companies, alluding to 2014. Dividend analysis of the Payout Ratio and Dividend Yield indices was considered as a dividend policy. From the literature recommendations, six hypotheses were raised, which relate the dividend policy to the variables: listing segment, shareholding concentration, cash flow, size, risk and origin of capital. An association was found between companies with higher cash flow and participants in the Novo Mercado and high Payout and Yield, corroborating the precepts of the Theory of the Bird in the Hand.

According to above, the following hypotheses were reached:

Hypothesis 1: companies in the IEE group with a high shareholding concentration pay a higher payout than other companies, according to Dalmácio and Corrar (2007), Hahn et al. (2010), Farinha (2003), Galvão (2015) and Silva (2019b).

Hypothesis 2: IEE group companies with larger size pay higher payout than other companies, according to Forti et al. (2015) and Moreiras (2009).

#### 3 METHODOLOGY



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The shareholding control data of companies in the electricity sector and other sectors were collected from the B3 website during 2019. The companies were classified according to their degree of shareholding concentration: very concentrated: an owner with more than 50% of the voting capital; concentrated: two owners account for more than 50% of the voting capital; medium: the two largest owners account for less than 50% of the voting capital and three owners account for more than 50% of the voting and diffuse capital: the three largest shareholders account for less than 50% of the voting capital.

From the Yahoo finance website, the net profit and dividend payment data were collected in 2019 from the companies found on the B3 website. The respective payout of all was calculated, with the exception of those that presented losses, under penalty of having a negative payout. These companies were discarded and analyzed separately.

Two large groups were formed: the group of companies in the electricity sector (IEE) and that of the other companies (TODOS), with the average and standard error of all being calculated. Share concentration data with payout were compared using Student's t test with a statistical significance level set at 0.1.

The companies were also evaluated for their size. From the Yahoo finance website, the total assets of the companies were collected during 2019. They were classified as: very large: total assets over R\$ 5 billion; large: total assets between R\$ 500 million and R\$ 5 billion; medium: total assets between R\$ 50 million and R\$ 500 million and small: total assets below R\$ 50 million. The IEE and ALL groups were also compared within this criterion and data of share concentration with payout were compared, using Student's t-test with a level of statistical significance established at 0.1.

In addition, a chi-square test was applied to compare companies that showed losses in relation to those that were profitable, both between the IEE and TODOS groups and in relation to the shareholding concentration and total assets also with a level of statistical significance established at 0.1.

#### 4 RESULTS



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A total of 155 companies were studied: 143 companies from the TODOS group and 22 companies from the IEE group. Of these, 21 companies in the TODOS group and one company in the IEE group that had deficits were excluded from the payout analysis.

Table 1 shows the distribution of the share concentration of the TODOS group. There is a predominance of companies classified as very concentrated (45.5% of the total). Table 2 shows the distribution of the shareholding concentration of the IEE group. There was a predominance of companies classified as very concentrated (66.6% of the total). Table 3 shows the distribution of loss-making companies in the TODOS group, where diffuse shareholding companies predominated (52.3%). Only one company in the IEE group (ceed3) had a loss in the period studied, and this company was classified as a very concentrated shareholder.

Table 1 - Shareholding concentration in the TODOS group

	n	%
Very concentrated	51	45,5
Concentrated	23	20,5
Medium	6	5,4
Difuse	32	28,6
total	112	100

Table 2 – Shareholding concentration in the IEE group

	n	%
Very concentrated	14	66,6
Concentrated	3	14,3
Medium	1	4,8
Difuse	3	14,3

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total	21	100

Table 3 - Shareholding concentration of companies with losses in the TODOS group

	n	%
Very concentrated	6	28,6
Concentrated	3	14,3
Medium	1	4,8
Difuse	11	52,3
total	21	100

The relationship between payout and shareholding control is shown in table 4. Before that, however, the payout between the IEE and TODOS groups was compared, which was statistically significant when showing that companies not related to the electricity sector pay, on average, higher payouts. When extracting the sample according to the shareholding concentration, however, no statistical difference was found between the groups. Even so, the data show that companies in the IEE group with lower shareholding concentration (average associated with diluted ones) pay higher payout than their counterparts in the TODOS group or even in relation to companies in the IEE group with higher shareholding concentration. Therefore, the null hypothesis is accepted for hypothesis 1.

Table 4 – Payout and company control

Subgroup		Payout (mean ± standard error)	p value
	TODOS	62,6±7,6	0,099*
	IEE	32,8±2,9	/



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very concentrated +	TODOS	58,7±8,3	0,25
concentrated	IEE	37,8±9,4	
Medium + diluted	TODOS	11,4±6,7	0,24
	IEE	70,4±15,5	
IEE	very concentrated + concentrated	37,8±9,4	0,22
	Medium + diluted	70,4±15,5	
TODOS	very concentrated + concentrated	58,7±8,3	0,47
	Medium + diluted	11,4±6,7	

<sup>\*</sup>statistical significance

#### 4.1 COMPANY SIZE

Table 5 shows the distribution of the ALL group companies according to the size of their total assets. The companies classified as very large (58.9%) predominate. Table 6 shows the distribution of companies in the IEE group according to their size, predominantly those classified as very large (95.2%). Table 7 shows the ALL group companies that presented losses, predominantly those classified as large (57.2%). In the IEE group, only one company in the IEE group (ceed3) had a loss, the size of which was classified as large.

Table 5 – Company size in the TODOS group

	n	%
Very large	66	58,9
Large	43	38,4
Medium	3	2,7
total	112	100



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Table 6 – Company size in the IEE group

	n	%
Very large	20	95,2
Large	1	4,8
total	21	100

Table 7 – Size of Companies at a loss in the TODOS group

	n	%
Very large	7	33,3
Large	12	57,2
Medium	2	9,5
total	21	100

Table 8 shows the analysis of the payout according to the size of the companies' assets. Although there is a tendency towards greater payout among the companies in the TODOS group, no statistical significance was found, accepting, also, the nullity hypothesis for hypothesis 2. Furthermore, as in the case of the share concentration seen in table 4, the biggest payout is still in the TODOS group.

Table 8 – Payout and asset size

Subgroup		Payout (mean ± standard error)	P value
Very large + large	TODOS	62,1±7,8	0,109
	IEE	32,8±8,1	/

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Large	TODOS	53,7±6	0,11
	IEE	34,3±8,3	
TODOS	Very large + large	62,1±7,8	0,68
	medium	81,6±7	

The IEE and TODOS groups were also compared from the subgroup of very large AND very concentrated companies: the first group (IEE) had a payout of  $36.69 \pm 9.3$ , while the second had a payout of  $41 \pm 5.4$ . Student's t test showed a p-value of 0.644, that is, there was no statistically significant difference between groups. Even when leveling companies at these levels, their payouts were closer than in previous tests (tables 4 and 8), which suggests that when leveled at high levels, the stock concentration and size classified as large, both groups behave similarly.

As for the analysis of the companies that showed deficits, within the IEE group only one company (4.5% of the total) presented a loss, while in the TODOS group it was 15.7%. The chi square test was 0.16 (non-significant). Within the TODOS group, 10.7% of the highly concentrated companies showed a loss, while in the other groups it was 19.7%. The chi square test showed p value at 0.15 (non-significant). However, 52% of the TODOS group companies that had diffuse shareholder control showed losses, against 28% of losses in the other categories (p = 0.03). In the IEE group, 6.6% of the very concentrated companies showed losses, while there was no loss in the other groups. The chi square test was 0.48 (non-significant).

As for the size of assets, within the TODOS group, 9.5% of very large companies showed losses, while in the other sizes of the group it was 20%. The chi square test was 0.078 (significant), concluding that the smaller size of the company is related to a higher occurrence of losses.

Within the IEE group, none of the companies classified as Very Large showed a loss, whereas in 50% of the companies in the other groups (one company) presented a



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loss. The chi square test was 0.0012 (significant), concluding that the smaller size of the company is related to a higher occurrence of losses, similar to the TODOS group.

At first, the difference between the IEE and TODOS groups regarding the payout could be explained by the resolution of the agency conflict through the regulation of companies in the electricity sector, which would guarantee a low payout in relation to the TODOS group, which included non regulated. However, when stratifying the groups both by size and by shareholding concentration, this difference loses statistical significance.

#### CONCLUSION

Based on the results, the following conclusions were reached: 1) companies in the IEE group pay lower payout than companies in other sectors; 2) there was no difference between the IEE companies and the others regarding the payout in relation to the shareholding concentration, both between companies considered large and those of smaller size; 3) regarding the size of the companies, there was no statistically significant difference between the payout paid by the IEE group and the other companies; 4) the smaller size of the company was related to the higher occurrence of losses both in the IEE group and in the group of other companies.

At the very least, therefore, publicly traded companies in the Brazilian electricity sector behave in the same way as other companies in other sectors when they are paired in terms of their shareholding concentrations and sizes with respect to dividend policy. Interestingly, despite being without statistical significance, is the fact that companies in the less concentrated capital sector paid higher payouts than their counterparts with greater shareholding concentration (table 4), unlike the large group of other companies in which a lower payout was found in companies with a more diffuse shareholding concentration. Reviewing the literature, an explanation for this fact was not found.

The future prospects are to continue with this line of research on the dividend policy of companies in the electricity sector, exploring other aspects of the theory of dividends



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and the dynamics of companies that hold natural monopolies with their respective regulatory frameworks. In addition, the so-called TODOS group was characterized by being a heterogeneous group, when companies from the most diverse sectors were included. However, despite the large number of companies analyzed, sectorial analyzes were not carried out, which may be another future aspect to be studied.

#### **REFERENCES**

ALMEIDA, Flávia Gribel; ALMEIDA, Leandro Cabral; NESS Jr., Walter Lee. A governança corporativa no setor de telecomunicações brasileiro. In: 2º Encontro Brasileiro de Finanças, Rio de Janeiro, 2002. **Anais do Encontro Brasileiro de Finanças**, Rio de Janeiro, 2002.

BERLE, A.; MEANS, G. The modern corporation and private property. New York: MacMillan, 1932.

BERNARDINO, F. F. M., PEIXOTO, F. M., FERREIRA, R. N. Governança corporativa e valor da firma: um estudo de empresas brasileiras do setor elétrico. **Revista Eletrônica de Ciência Administrativa**, v. 13, n. 2, p. 185-202, 2014.

CARVALHO, A. G. Governança corporativa no Brasil em perspectiva. **Revista de Administração de Empresas**, v. 37, n. 3, p. 19-32, 2002.

CORRÊA, E. L.; SILVA, W. A. C.; PINHEIRO, J. L.; MELO, A. A. O. Estrutura de propriedade e criação de valor em companhias brasileiras. **Tourism & Management Studies**, v. 11, n. 2, 130-137, 2015.

DAMI, A. B. T.; ROGERS, P.; RIBEIRO, K. C. S. Estrutura de propriedade no Brasil: evidências empíricas no grau de concentração acionária. **Revista Contemporânea de Economia e Gestão**, v. 4, n. 2, p. 21-30, 2007.

DALMÁCIO, F. Z; CORRAR, L. J. A concentração do controle acionário e a política de dividendos das empresas listadas na Bovespa: uma abordagem exploratória à luz da Teoria da Agência. **Revista de Contabilidade e Organizações**, v.1, n. 1, p. 10-23, 2007.

DEMSETZ, H.; LEHN, K. The structure of corporate ownership: causes and consequences. **Journal of Political Economy**, v. 93, n. 6, p. 1155-1177, 1985.





CENTRO UNIVERSITÁRIO CURITIBA - UNICURITIBA - VOLUME 3 - NÚMERO 29/2022 - CURITIBA/PR - PÁGINAS 131 A 151

DEY, A. Corporate Governance and Agency Conflicts. **Journal of Accounting Research**, v. 46, n. 5, p. 1143-1181, 2008.

DURNEV, A; KIM, E.H. To Steal or not to Steal: Firm Atributes, Legal Environment, and Valuation. **Journal of Finance**, v. 60, p. 1461 – 1493, 2005.

FARINHA, J. Dividend Policy, Corporate Governance and the Managerial Entrenchment Hypothesis: An Empirical Analysis. **Journal of Business Finance & Accounting**, v. 30, n. 9&10, p. 1173–209, 2003.

FONTELES, I. V; PEIXOTO JÚNIOR, C. A; VASCONCELOS, A. C; DE LUCA, M. M. M. Política de Dividendos das Empresas Participantes do Índice Dividendos da Bm&FBovespa. **Revista Contabilidade Vista & Revista**, v. 23, n. 3, p. 173 -204, 2012.

FORTI, C. A. B.; PEIXOTO, F. M.; ALVES, D. L. Fatores determinantes do pagamento de dividendos no Brasil. **Revista Contabilidade & Finanças**, v. 26, n. 68, p. 167-180, 2015.

GALVÃO, K. D. S. (2015). Política de distribuição de dividendos: por que as empresas brasileiras pagam Payout incremental? **Tese de Doutorado em Administração, Universidade Federal de Pernambuco**, Pernambuco, PE, Brasil.

HAHN, A. V.; NOSSA, S. N.; TEIXEIRA, A. J. C.; NOSSA, V. Um estudo sobre a relação entre a concentração acionária e o nível de payout das empresas brasileiras negociadas na Bovespa. Contabilidade Vista & Revista, v. 21, n. 3, p. 15-48, 2010.

HIMMELBERG, C; HUBBARD, G.; PALIA, D. Understanding the determinants of managerial ownership and the link between ownership and performance. **Journal of Financial Economics**, v. 53, p. 353-384, 1999.

IQUIAPAZA, R. A.; LAMOUNIER, W. M.; AMARAL, H. F. Assimetria de Informações e Pagamento de Proventos em Dinheiro na Bovespa. **Advances in Scientific and Applied Accounting**, v. 1, n. 1, p. 1-15, 2008.

JENSEN, M.; MECKLING, W. Theory of the firm: managerial behavior, agency costs and ownership structure. **Journal of Financial Economics**, v. 3, n. 4, p. 305-360, 1976.

LA PORTA, R., LOPEZ-DE-SILANES, F.; SHLEIFER, A.; VISHNY, R. W. Law and Finance, Journal of Political Economy, v. 106, p. 1113-55, 1998.

LA PORTA, R., LOPEZ-DE-SILANES, F.; SHLEIFER, A.; VISHNY, R. W. The Quality of Government, Journal of Law. **Economics and Organization**, v.15, p. 222-279, 1999.





CENTRO UNIVERSITÁRIO CURITIBA - UNICURITIBA - VOLUME 3 - NÚMERO 29/2022 - CURITIBA/PR - PÁGINAS 131 A 151

LEAL, R.; SILVA, A. C.; VALADARES, S. Estrutura de controle e propriedade das companhias brasileiras de capital aberto. **Revista de Administração Contemporânea**, v. 6, n.1, p. 7-18, 2002.

LOSS, L; SARLO NETO, A. Política de dividendos, na prática, é importante?. **Revista de Contabilidade e Finanças**, Edição Comemorativa, p. 39-53, 2003.

MOREIRAS, L. M.; GARCIA, F. G.; TAMBOSI FILHO, E. Propensão a pagar dividendos no Brasil. **Revista de Negócios**, v.14, n. 2, p.31-51, 2009.

MORCK, R.; SHLEIFER, A.; VISHNY, R. W. Management ownership and market valuation: an empirical analysis. **Journal of Financial Economics**, v. 20, n. 1/2, p. 293-315. 1988.

NEVES, Patrícia Antonacci. Conflito Entre Acionistas, Concentração Acionária, Governança Corporativa e Valor da Empresa Um Estudo Nas Companhias Abertas Brasileiras. In: **Congresso Anpcont**, Ribeirão Preto, 2016.

OKIMURA, R. T. Estrutura de propriedade, governança corporativa, valor e desempenho das empresas no Brasil. 2003. 120p. **Dissertação de Mestrado, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo**, São Paulo, 2003.

PROCIANOY, J. L. Os conflitos de agência entre controladores e minoritários nas empresas brasileiras negociadas na bolsa de valores de são Paulo: evidências através do comportamento da política de dividendos após as modificações tributárias ocorridas entre 1988-1989. Tese (Doutorado) — Departamento de Contabilidade e Atuária, Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, 1994.

REBOUÇAS, N. A; ALMENDRA, R. S; VASCONCELOS, A. C. Políticas de dividendos em empresas do setor elétrico. **Revista Ambiente Contábil**, v. 10, n. 1, p. 308-328, 2018.

RENDERS, A; GAEREMYNC, A. Corporate Governance, Principal-Principal Agency Conflicts, and Firm Value in European Listed Companies. Corporate Governance: **An International Review**. v. 20, n. 2, p. 125-143, 2012.

RODRIGUES, Lorena Coutinho; VILAMAIOR, Adriana Giarola; CORDEIRO NETO, José Almir; CASTRO, Amanda Cristina. Estudo das formas de distribuição de dividendos das organizações pertencentes ao setor elétrico brasileiro. In:20º Congresso Brasileiro de contabilidade, Fortaleza – Ceará, 2016.





CENTRO UNIVERSITÁRIO CURITIBA - UNICURITIBA - VOLUME 3 - NÚMERO 29/2022 - CURITIBA/PR - PÁGINAS 131 A 151

SAITO, R.; SILVEIRA, A. M. Governança corporativa: custos de agência e estrutura de propriedade. **Revista de Administração de Empresas**, São Paulo, v. 48, n. 2, p. 79-86, 2008.

SANTOS, Lucas Maia; COSTA, Daniel Fonseca; ALBERTO, José Guilherme Chaves; ASSIS, Aline Rabelo. Distribuição de Dividendos de Empresas Brasileiras: uma Análise Exploratória. **XXXV Encontro da ANPAD Rio de Janeiro**, 2011.

SILVA, A. Concessionárias do setor elétrico brasileiro e sua política de dividendos: influência de variações do PIB. **Revista Unemat de Contabilidade**, v. 8, n. 16, p. 20-31, 2019a.

SILVA, A. Por que empresas do setor elétrico brasileiro concentram o pagamento de dividendos? – Evidências empíricas de 2010 a 2015. **Revista de Administração e Contabilidade**. v. 11, n. 1 Feira de Santana, p.80 – 96, 2019b.

SILVA, A. R; KIRCH, G. Efeito clientela no setor elétrico brasileiro e suas possibilidades de arbitragem. **Revista de Administração da UEG**, v.10, n.3 p. 7-23, 2019.

SILVA, A. R; KIRCH, G. Stock split and groupings in the electricity sector and their influence on traded volume, price and yield. **Revista de Administração da UEG**, v. 11, n. 2, p. 111-129, 2020.

SILVA, Marcelo; LAVARDA, Carlos Eduardo Facin; CZESNAT, Aline Oliveira; TERMUS, Fabiano. Descrição da Concentração Acionária Na Bovespa: Empresas Listadas no Novo Mercado de Governança Corporativa. In: XII SemeAd – Empreendedorismo e inovação. Agosto de 2009.

SILVEIRA, Alexandre Di Miceli. Governança Corporativa, Desempenho e Valor da Empresa no Brasil. 2002. 165 f. Dissertação (Mestrado em Administração) – **Faculdade de Economia, Administração e Contabilidade, Universidade Federal de São Paulo**, São Paulo, 2002.

SILVEIRA, A. D. M., BARROS, L. A. B. C; FAMÁ, R. Atributos corporativos e concentração acionária no Brasil. **Revista de Administração de Empresas**, v. 48, n. 2, p. 51-66, 2008.

