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INFLUENCE OF FAMILY OWNERSHIP ON THE STRUCTURE AND COST OF CAPITAL OF BRAZILIAN COMPANIES

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ABSTRACT

The present study measures the influence of ownership on the capital structure of family businesses, compared to non-family businesses, listed in B3. The existing relations between these variables are the subject of discussions and there is no consensus in the literature regarding the influence exerted by family management on capital structure. For such, this study is characterized as descriptive, with a quantitative approach. Data have been retrieved from the Economatica database and the sample consisted of 269 companies, including family and non-family. The literature review generated 6 hypotheses, which observed the dimensions of ownership, indebtedness and cost of capital. Data have been processed and analyzed using the SPSS *software*, using descriptive statistics, correlation and linear regression. Results show that Long Term Debt and Total Debt presented negative coefficients, which denotes an inversely proportional relation between them and family management. As for the regression, results show that the dimensions of ownership in family management and shareholding concentration significantly influence the indebtedness of companies. There is a trend that this influence on family businesses becomes more significant when evaluated in long-term aspects. Even with this characteristic, family businesses tend to be less indebted compared to others. Their shareholding control was not significant in the proposed analyzes. And the relation between family management, ownership concentration and ownership control with cost of capital was not significant, diverging from other studies that have shown significant influences in these relations. At the end, limitations and suggestions for further investigations are presented.

Keywords: Family Property. Capital Structure. Capital Costs. Indebtedness.

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1 INTRODUCTION

Studies have revealed differences between the types of family and non-family management, mainly in the form of financing, risk aversion and superior performance (McConaughy, Matthews, & Fialko, 2001; Charbel, Elie, & Georges, 2013; Moura, 2014). López-Gracia and Sánchez-Andújar (2007) have found lower capital financing cost in family businesses, due to use of internal resources and financial behavior of family members. Empirical evidence suggests that family ownership is associated with a lower funding agency cost [about 32% less] than non-family businesses, indicating that family ownership reduces the cost of debt financing (Anderson, Mansi, & Reeb, 2003).

However, this trend does not represent unanimity. A recent study by Kayo, Brunaldi, and Aldrighi (2018) reveals a different perspective, stating that family companies tend to have greater indebtedness because their managers are more confident and optimistic than managers of non-family companies. The authors add that optimistic managers tend to overestimate their companies' money and future flow; and overconfident managers tend to underestimate the company's risk, leading to an overvaluation of the company's future performance and present value.

A characteristic of the family business with regard to management reveals a distinction, with the presence of family members on board of directors. Shareholders may be families or individuals, funds, financial institutions or other companies and are responsible for different types of strategic choices, being able to participate with different percentages of shareholding (La Porta, Lopez-De-Silanes, & Shleifer, 1999; Hautz, Mayer, & Stadler, 2013). González, Guzmán, Pombo, and Trujillo (2013) indicate that, when families are present on board of directors, debt levels tend to be lower, which suggests that family directors are more risk-averse.

In family-owned and family-run companies, there is a greater possibility of alignment between the interests of managers and the interests of owners (McConaughy *et al*., 2001). Erbetta, Menozzi, Corbetta, and Fraquelli (2013) state that family relationships, present in the management of the company, usually give out evidence of better performance, as they provide confidence for managers in decision making. Likewise, the family relationship between members of the board of directors and controllers through family ties, friendship, commercial relations are mechanisms that create value for the family business (San Martin-Reyna & Duran-Encalada, 2012). The family concentration and the historical presence of family members in the company suggest that the strategies are set as reduced risks, less stock diversification and lower levels of debt (Anderson & Reeb, 2003).

Family businesses are associated with low levels of debt, for a number of reasons, including: ownership and presence of family members in management, which may pose a greater influence on the company's funding levels. Based on the inconclusive findings, the investigative context points to new research. In view of the evidence, the following research problem arises: What is the influence of ownership (control, concentration and management) on capital structure (debt and capital cost) of family businesses listed in B3? In this sense, the goal of this study is measuring the influence of ownership (control, concentration and management) on capital structure (indebtedness and cost of capital) of family businesses, compared to non-family businesses, listed in B3.

The justification for conducting the research is based on the fact that it is a recurring subject, but still unclear as theme. The scientific contribution of this study is attributed to comprehending and better understanding of influence of ownership structure in the capital structure of family companies listed in B3. With the results, it is possible to understand the effects of family on indebtedness and on cost of capital of the companies that make up the Brazilian stock market.

2 LITERATURE REVIEW AND RESEARCH HYPOTHESES

2.1 Management in family businesses

Studies show that family businesses tend to be more conservative in their management. López-Garcia and Sánchez-Andújar (2007) indicate a preference for using internal resources for financing, less investment in intangible assets, a lower level of debt and high concentration of capital when managed by a family. Companies with some family influence tend to be less indebted than non-family companies, that is, more conservative, while prioritizing equity in investment decisions (Segura, Formigoni, & Merofa, 2013).

Hsu, Lin, and Tsao (2018) suggest that family business owners have other ties besides the economic, within their companies. As a consequence, family owners are motivated to monitor management intensively, protecting interests conservatively. The challenge for business families is that roles of family, property and business involve different and sometimes conflicting values. Company executives are concerned with their company's strategy and reputation in the market, while owners are interested in capital and financial performance in terms of wealth creation (Dyer, 1988).

Family businesses may also be run by people who are not members of the family (Bernhoeft, 2004). Family members may also be employed. The employee also reveals concerns about social capital (reputation) and emotional capital (career opportunities, bonuses and fair performance measures) (Aronoff, McClure, & Ward, 2011). Within companies that are situated in the capital market, management is shared between family CEOs and professional CEOs, generating greater decentralization, autonomy and decisions aligned with their own interests. Gao and Jain (2011) provide arguments that support a positive effect of the founding CEO on the performance of organizations, justified by the potential to reduce agency costs, as well as psychological ties and identification with the company, in addition to greater ownership and long-term investment, when compared to non-family CEOs.

Research by Adams, Almeida and Ferreira (2009) alludes to a positive effect with relation to control by the founder, in large North American corporations, suggesting that family businesses perform better when the CEO is one of the founders. The internal mechanisms of corporate governance (recommended by the Agency Theory) act on organizational performance. Companies that separate ownership and control utilize control mechanisms in order to promote alignment of interests between main and agent, for reducing their agency costs. Directors and board members interact in other companies, sharing *interlocking*, in order to, when positive, bring benefits to monitoring, and may have greater power/prestige and thus obtain better information about the capacity of agents within the group (Dal Vesco & Beuren, 2015).

In general, presence of family members in management is an important factor for the company to be considered as family. Another factor to define the company as family, is when the family intends to continue the organization and to concentrate power for future generations.

2.2 Management in family businesses

Ownership structure is directly related to the percentage of votes that the controlling shareholder actually has, and in order to define family businesses, the family or family members must own at least 10% of the common shares with voting rights (La Porta *et al*., 1999). Property may include family members, investors and/or owners – who are concerned with financial capital (business performance and dividends) (Aronoff *et al*., 2011).

Family businesses in the capital market are increasingly faced with the dispersion of capital. In family-owned business, a person may be the controlling shareholder, that is, a person (rather than a state, society, trust management, or mutual fund) may gather sufficient shares to secure at least 20% of the voting rights and the highest percentage of voting rights, compared to other shareholders (Bethlem, 2004).

In family businesses that may have owners who are not family members, members are often involved in operations of their business, and in smaller companies, usually one or more family members are senior officers and managers (Bernhoeft, 2004).

If, on one hand, there is a high degree of concentration of ownership, which results in a greater interest of controlling shareholders in collecting information and monitoring management activity, putting pressure on managers for better results; on the other hand, the presence of majority shareholders and the search for private control benefits, at the expense of expropriation from other investors, may compromise from management to restructuring processes, resulting in loss of performance and value generation (Claessens, Djankov, Fan, & Lang, 2002, Fonseca & Silveira , 2016).

2.3 Control in family businesses

Growth of organizations and development of the world economy have been decisive for the separation between ownership and control, in contemporary companies. To maximize their wealth, investors hire specialized people to manage their organizations (Ribeiro, Colauto, & Clemente, 2016).

Guerrero and Barrios (2013) define that a family can effectively control the company's operations when it owns more than 50% of the shares with voting rights, and also present family members occupying relevant management positions, as a board of directors. Fonseca and Silveira (2016) mention that the pulverized property structure is a reality, mostly restricted to the Anglo-Saxon context. In the vast majority of countries, including Brazil, corporate structure is highly concentrated, with an overlap between control and management in companies.

To a large extent, due to the need of raising funds to finance investment, the process of setting up large contemporary corporations has been closely associated with dispersion of the shareholding structure. Separation between ownership and control requires transfer of authority regarding decision-making from shareholders to executives, which have originated costs associated with conflict of interests (Fonseca & Silveira, 2016).

There are three main ways to reduce ownership without losing control. The first is the issue of shares without voting rights, or lower voting rights (preferred shares, in the case of Brazil). The second mechanism is the shareholders' agreements on the exercise of voting rights or control power. And finally, cross-participation mechanisms may be used, in which a company controlled by another has shares in its parent company (Carvalhal da Silva, 2006).

Separation between ownership and control is more evident, and accelerated, in countries that have developed regulations that guarantee to investors greater legal protection, respecting the principles of transparency, equity and corporate responsibility, among others. Therefore, there is a need for a set of rules that standardize the relationships between managers and shareholders, easing conflicts of interest between all (Sampaio, Lima, Cabral, & Paula, 2014).

3 METHODOLOGY

This section discusses the rationale for the hypotheses developed for research, and then describes the methodological procedures performed, in order to achieve the proposed objectives.

3.1 Research hypothesis

La Porta, Lopez de Silanes, and Shleifer (1999) have analyzed the ownership structure of the 20 largest publicly traded companies, in 27 countries, with the wealthiest economies in the world. They have found that controlling shareholders have significant power in companies, mainly due to their participation in management.

According to Formigoni *et al.* (2013), companies with some family influence are less indebted than non-family companies, that is, family companies tend to be more conservative

while prioritizing equity in investment decisions. Oliveira, Olyveira, and Souza (2013) compared the level of indebtedness of companies under the influence of family management and control, with those that present professional management, within different sectors of the Brazilian economy. Among the findings, family businesses in the agricultural sector do not present a consensus regarding the capital structure, but they tend to be less indebted in the short term and in total indebtedness, when compared to non-family members. From the empirical evidence, the first group of research hypotheses is presented:

H1a: Companies with family members in management influence in lower indebtedness, when compared to non-family management companies;
H1b: Companies with a family shareholding influence in lower indebtedness, when compared to companies with a non-family shareholding;
H1c: Companies with family ownership control influence in lower indebtedness when compared to non-family companies.

According to Moura (2014), the number of surveys related to the structure of family ownership has significantly increased after the studies by La Porta *et al*. (1999), Claessens, Djankov, and Lang (2000) and Faccio and Lang (2002). These studies have shown that, usually, families do not invest in a diversified way, thus, most of their private wealth is found in the family-controlled company. Consequently, they have strong economic incentives to value share control, monitor managers and reduce agency costs (Moura, 2014).

Crisóstomo and Pinheiro (2015) investigated whether the concentration of ownership has effects on the capital structure of 2,266 non-financial companies that traded shares on BM & Fbovespa, from 1996 to 2012. Findings indicate that the concentration of ownership favors companies' indebtedness. Reality may be related to possible cash shortfalls in order to finance investment projects. They also found that the concentration of ownership has a positive effect to a certain extent, beginning with excess concentration impairs the ability to finance debt.

Lanzarin (2017) reveals alignment of interests from the perspective of the Agency Theory for companies with a family owned and managed structure. Furthermore, the effect of this alignment is reflected in the cost of debt financing, with a tendency of a reduced value when compared to companies with professional management.

In order to sustain the second group of hypotheses, this study is based on McConaughy *et al*. (2001). The authors suggest that family businesses controlled by the founding family have greater value and are operated more efficiently, as well as having less debt than non-family businesses. The authors suggest that family control of the company, rather than management, is key to differences.

From the studies mentioned above, we intend to test the statements with the following assumptions, regarding the cost of capital:

H2a: Companies with family management influence the weighted average cost of lower capital, when compared to non-family management companies;
H2b: Family-owned companies that present shareholding concentration, influence the weighted average cost of lower capital, when compared to non-family-owned companies;
H2c: Family-owned companies with a higher shareholding control influence the weighted average cost of lower capital, when compared to non-family-owned companies.

3.2 Research Method and Procedures

The research universe comprises the 438 companies listed on B3, as of December 2017. Initially, we decided to exclude financial and securitization companies, which corresponded to 114 companies. This choice is due to the financial performance of these organizations, which could result in biased analysis of the results. Thus, 324 companies remained, which have been

categorized into family and non-family businesses, according to the criteria defined for management, concentration and family control.

Subsequently, we consulted the Economatica database, in order to collect data regarding the sample composition of the 324 companies. The consultation on the Reference Form took place in February 2018. The queried items were: 12.9 (family relationships), 12.5/6 (composition and professional experience of management and fiscal council) and 15.1/2 (shareholding position). Among the 324 companies consulted, 34 presented information inconsistencies (current liabilities, non-current liabilities, equity, financial expenses and interest-bearing liabilities), therefore, they have been excluded, resulting in a total sample of 290 companies.

The classification of the 290 companies listed in B3, as family or non-family driven, in this research, has been based on previous researches, since one of the main concerns in studies of this nature comprises the identification and understanding of the criteria utilized to define the sample. The family management criterion is in line with the concept of McConaughy *et al*. (2001); Villalonga and Amit (2006); Moura and Beuren (2017), given they determine that, many times, the controller itself or a family member is responsible for management. Based on these premises, companies that present family members in position of chief executive officer or chairman of the board of directors, have been identified.

The definition of the criterion of family ownership concentration has been based on the concept widely addressed by La Porta *et al*. (1999). For the authors, the identification of a company as family-driven requires the shareholding of family members with more than 10% of the total shares and the participation of the members holding the capital on board of directors.

In order to identify companies with family control, the criteria established by Guerrero and Barrios (2013) have been used, which define that a family may effectively control the company's operations when it owns more than 50% of the shares with voting rights, and also having family members occupying relevant management positions as board of directors.

The sample of 290 companies returned with 101 results from companies that met the family management requirement, with a family member as the CEO or a family member as the chairman of the board of directors. 42 companies have met the family concentration requirement, with at least 10% of the company's total shares. And only 12 companies with family control, in which the family holds at least 50% of the shares with voting rights.

In order to adapt the sample to the purpose of the study, as well as to give more reliability to the data, outliers have been identified - outliers, which differ dramatically from all others, that is, values that are out of normal. According to Hair, William, Babin, and Anderson (2009), the observations of atypical cases should be excluded from the sample, as they may generate undue influence on the results and seriously distort the statistical tests. Based on this understanding, the atypical cases of companies that presented total indebtedness or weighted average cost of capital (CMPC) above 500% have been evaluated, because this is a value that is out of the standard and well above the average CMPC and level indebtedness. Seven (7) companies that met one of these conditions have been excluded from the sample, leaving in 283 companies.

With the data on total indebtedness, the need for internal alignment was observed, and the practical rules suggested by Hair *et al*. (2009). The standard deviation interval has been calculated, multiplied by 2.5 and added to the average as an exclusion parameter for companies. Equation as follows:

$$(Dpadx2{,}5) + média\ de\ end(= 48{,}05219\% x2{,}5 = 120{,}13048\% + 73{,}4074\% = 193{,}53788\%).$$

The same procedure has been carried out at the CMPC:

$$(Dpadx2{,}5) + média\ do\ CMPC(= 37{,}59262\%\ x2{,}5 = 93{,}98155\% + 19{,}033\% = 113{,}01455\%).$$

Companies with indebtedness greater than 193.53788% have been excluded. In Table 1, from the descriptive data (283 cases), atypical cases (269 cases) have been excluded.

Table 1
Description of total indebtednesses (END_T) and from CMPC

Descriptions			283 companies *END_T*	* 269 companies *END_T*	283 companies CMPC	** 269 companies CMPC
	Average		73.40%	65.36%	19.03%	13.83%
	95% Interval	Lower Limit	67.78%	62.21%	14.63%	12.05%
		Upper Limit	79.03%	68.52%	23.43%	15.61%
	5% of trimmed average		67.07%	63.96%	12.60%	11.34%
	Medium		66.79%	65.34%	9.88%	9.70%
	Variance		2309.01	690.97	1413.20	220.31
	Standard Deviation		48.05%	26.28%	37.59%	14.84%
	Minimum		10.02%	10.02%	– 2.67%	– 2.67%
	Maximum		397.07%	177.08%	385.14%	106.48%
	Range		387.05%	167.06%	387.81%	109.16%
	Interquartile range		27.89%	27.51%	6.03%	5.53%
	Asymmetry		3.262	.954	6.29	4.06
	Kurtosis		14.43	2.52	47.66	18.67

Note. *Cut 14 companies with debt above 193.53788%.
**Cut 14 companies with debt above 113.01455%.
Source: Research data (2019).

We perceive a better distribution of values after adjusting the sample, which resulted in 269 companies. The average debt of the 283 companies decreased from 73.40% to 65.36%, resulting in a positive change of 8.04%. The median adjusted to 65.34 after excluding the atypical cases. The standard deviation was of 26.28% and kurtosis decreased from 14.43% to 2.52%. The main adequacy of the sample may be seen in indebtedness, the minimum identified has not changed, standing at 10.02%; however, the maximum indebtedness went from 397.07% to 17.08%, turning the data more homogeneous, giving more reliability to the search.

The average CMPC of the 283 companies decreased from 19.03% to 13.83%, representing a positive variation of 5.2%. A little significant difference has been noticed in the median, which adjusted to 9.70%, after excluding atypical cases. The standard deviation has been considerably adjusted and ranged from 37.59% to 14.84%. Kurtosis resulted in 18.67%. The CMPC minimum has not changed and got set at -2.67%, but the maximum has undergone a relevant adjustment, from 387.81% to 109.16%, improving information homogeneity.

Table 2 presents the construct with the metrics applied to the ownership structure (management, concentration and control) in the 269 companies of the sample.

Table 2
Property structure (management, concentration and control)

Variables	Subvariables	Metrics	Authors	Data collection source
Management Type (TIPO_GEST)	CEO (Dir_Pres)	Family Member = 1/Non family member = 0	La Porta *et al.* (1999); McConaughy *et al.* (2001); Moura e Beuren (2017).	B3 website; Financial Reports; Reference Form: Item 12.9 (family relationships)
	Chairman of the Board of Directors (Pres_CA)	Family Member = 1/Non family member = 0		
	CEO and Chairman of the Board of Directors (DirPres_PresCA)	Family Member = 1/Non family member = 0		

Variables	Subvariables	Metrics	Authors	Data collection source
Property Concentration (CONC_PROP)	Family owns at least 10% of the total common and preferred shares	Family Member = 1/Non family member = 0	La Porta *et al.* (1999); McConaughy *et al.* (2001); Correia, Costa and Lucena (2017).	B3 website; Financial Reports; Reference Form: Item 12.5/6 (composition and professional experience of the administration and the fiscal board)
Control Structure (EST_CONT)	Controlling shareholder (if you have a family member as a controlling shareholder receives 1, if not 0)	Family Member = 1/Non family member = 0	McConaughy *et al.* (2001); Guerrero and Barrios (2013); Moura (2014).	B3 website; Financial Reports; Reference Form: Item 15.1/2 (shareholding position)
	Family with 50% minimum common shares receives 1, if not 0	Family Member = 1/Non family member = 0		

Source: Prepared by the authors (2019).

Table 3 shows the relationship of the variables that integrate the capital structure and the level of indebtedness of the family companies surveyed.

Table 3
Capital Structure

Variables	Subvariables	Metrics	Authors	Data collection source
Indebtedness	Short-term indebtedness (END_CURT)	$= \frac{Passivo\ Circulante.}{Ativo\ Total}$	Bastos and Nakamura (2009), Correa, Basso and Nakamura (2013).	Economatics.
	Long-term indebtedness (END_LONG)	$= \frac{Passivo\ Não\ Circulante}{Ativo\ Total}$	Bastos and Nakamura (2009), Correa *et al.* (2013).	Economatics.
	Total indebtedness (END_TOT)	$= \frac{Pas.Circ + Pas.\ Não\ Circ.}{Ativo\ Total}$	Segura, Formigoni, *et al.* (2013); Segura, Oliveira *et al.* (2013).	Economatics.
Capital Costs	Cost of equity (CAPM)	$CAPM = Rf + beta[E(Rm) - Rf\ ] +$ risk/Br	Young and O´Byrne (2003); Assaf (2012).	Central Bank Of Brazil
	Third party capital cost (Kd)	Kd = (1 – Income tax) x (Financial expense / financing amount.	Assaf (2012).	Economatica.
	Weighted Average Cost of Capital (CMPC)	$\left[\frac{E}{v}\ \text{x}\ Re\right] + \left[\frac{D}{v}\ \text{x}\ RD\right]\ \text{x}\ (1 - Tc)$	Gitman and Madura (2003); Assaf (2012); Oro, Beuren and Hein (2009).	Economatics.

Source: Prepared by the authors (2019).

The definition of the used indicators to define the factors that determine the capital structure relates to total, short and long term indebtedness. The selected period for collection of data related to the capital structure and the selected indicators was the year of 2017.

The data have been analyzed using the SPSS *software* and the utilized methods of analysis were descriptive analysis, correlation and linear regression.

4 DISCUSSION AND ANALYSIS OF RESULTS

In this section, we propose data discussions and the results evidenced in the research. The sample of 269 companies is composed of 9 different economic sectors, distributed in several segments of companies that trade shares in the B3 stock market, as shown in Table 4.

Table 4
Sample segmentation

Economic Sector	Non family member		Family members		Total
	No. of companies	%	No. of companies	%	
Industrial Goods	26	15.03%	22	22.92%	48
Cyclical Consumption	27	15.61%	38	39.58%	65
Non-cyclical Consumption	11	6.36%	10	10.42%	21
Basic Materials	15	8.67%	9	9.38%	24
Oil and gas	5	2.89%	3	3.13%	8
Health	7	4.05%	5	5.21%	12
Information Technology	4	2.31%	5	5.21%	9
Telecommunications	5	2.89%	0	0.00%	5
Public utilities	73	42.20%	4	4.17%	77
Total	**173**	**100.0%**	**96**	**100.00%**	**269**

Source: Research data (2019).

Table 4 shows that 173 companies are classified as not familiar, with 42.2% represented by the utilities sector. On the other hand, the sample of companies classified as family-run is composed of 96 cases, 39.58% located at the cyclical consumption sector.

Two relevant points may be considered in this analysis. First, among all sectors, only telecommunications has no case of companies classified as family-run. Although this sector comprises only 5 companies, it characterizes a sector specificity as to the non-occurrence of this type of management. Another highlighted point is the distribution of companies in the public utility sector. Unlike the telecommunications sector, it has a significant number of related companies. However, among the 77 listed companies, only 4 are family-run, exposing an atypical situation, considering that all the others present a balanced distribution in the sector.

Then, a descriptive analysis of the variables used in the research has been carried out. Results can be seen in Table 5.

Table 5
Descriptive analysis

Variable	Minimum	Maximum	Average	Standard Deviation	Variance
Management	0	1	0.36	0.480	0.230
Concentration	0	1	0.14	0.349	0.122
Control	0	1	0.04	0.198	0.039
Net_cost	0.4%	16.2%	8.2%	2.5	6.226
Net_cost	0.7%	242.7%	26.3%	33.3	1108.327
WACC	2.7%	106.5%	13.8%	14.8	220.310
End_CP	2.5%	150.1%	29.6%	20.9	436.108
End_LP	0.4%	110.4%	35.7%	20.6	423.038
End_TT	10.0%	177.1%	65.4%	26.3	690.977
Valid N (listwise)	269				

Source: Research data.

Table 5 shows the descriptive composition of selected sample data. For Management, Concentration and Control variables, the minimum presented was 0 and the maximum was 1,

considering that these variables have a *Dummy* characteristic. The other variables present more dispersed values and with greater standard deviations, due to the cost of capital and the composition of the debt being unbalanced.

Subsequently, the correlation coefficients of the variables have been calculated. For this purpose, the final sample used to compose the analysis remained 269 companies, the results of which can be seen in Table 6.

Table 6
Correlation Coefficients

Variables		Management	Concentration	Control
End_CP	Correlation	0.053	0.041	0.082
	Sig.	0.390	0.504	0.180
End_LP	Correlation	**−0.213****	**−0.149***	−0.081
	Sig.	0.000	0.015	0.185
End_TT	Correlation	**−0.125***	−0.084	0.002
	Sig.	0.040	0.171	0.978
Own_Cost	Correlation	−0.103	−0.038	0.055
	Sig.	0.091	0.536	0.368
ThirdParty_Cost	Correlation	0.083	0.007	0.028
	Sig.	0.177	0.909	0.644
WACC	Correlation	0.029	0.012	0.082
	Sig.	0.632	0.848	0.182

Note. *The correlation is significant at a 0.05 level (bilateral).
**The correlation is significant at a 0.01 level (bilateral).
Source: research data (2019).

Three associations were significant in the correlation analysis presented in Table 6. Initially, we found that two variables were significantly associated with the variable of family members in management, them being Long-Term Debt and Total Debt. For both situations, the coefficient was negative, which denotes an inversely proportional relationship between the variables. Bearing in mind that the highest value in the *Dummy* variable represented the occurrence of a family member in management, we may interpret that there is a tendency for companies with Family Management occurring lower long-term debt than non-family companies. The same behavior could be observed in the total indebtedness, whose coefficient was significantly associated with the occurrence of family management, and in the same way, inversely proportional.

These results are in line with those evidenced by La Porta *et al*. (1999). The results found by those authors, compared with the findings of this investigation, allow to infer that these endogenous variables tend to influence aspects of management when analyzed from the perspective of structure and cost of capital of the company. Another finding is consistent with the ones by Segura, Formigoni, *et al*. (2013), whose evidence reveals family businesses have less debt.

In the association of variables with the Family Shareholding Concentration, only one was significant. The relation between this and long-term debt brought a coefficient of −0.149, with significance at 0.05 level. Again, an inverse characteristic is observed, showing that companies with a family share concentration tend to have lower long-term debt when compared to others. Finally, the associations made with variable Family Shareholding Control were not significant. These results differ from those found by Lanzarin (2017), while the author's results demonstrate a significant alignment between family management and the cost of the organization's debt, this evidence has not been found in this research.

After presenting the results of correlation of research variables, we pass on measuring the influence of management factors, shareholding concentration and shareholder control on indebtedness and on the cost of capital. Thus, the linear regression test has been performed using multivariate data statistics, whose data may be seen in Table 7.

Table 7
Data linear regression

Dependent Variable	Independent Variable	R2	F	B	t	Sig.
Indebtedness	Management	0.016	4.249	−6.854	−2.061	0.040*
	Concentration	0.012	1.882	−6.303	−1.372	0.001*
	Control	0.000	0.001	0.227	0.028	0.978
WACC	Management	0.001	0.229	0.906	0.479	0.632
	Concentration	0.000	0.037	0.498	0.191	0.848
	Control	0.007	1.787	6.100	1.337	0.182

Source: Research data (2019).

Two analyzes have shown significant results in the linear regression test. As may be visualized in Table 7, tests have shown significance of the independent variables Family Management and Shareholding Concentration with relation to the indebtedness of the surveyed organizations. We verified, in both, that the influence of the independent variables is inversely proportional, that is, companies that have family management present less indebtedness. In the same way, the results demonstrate the inversely proportional influence with relation to the concentration, which denotes companies that have a shareholding concentration also present less indebtedness.

The results found herein are consistent with the evidence pointed out by La Porta *et al*. (1999), who analyzed the ownership structure of companies in the richest economies in the world. They found that in family companies whose controlling shareholders have significant management power, the debt is lower when compared to non-family companies. This finding is consistent with the ones by Segura, Formigoni, *et al*. (2013) and by Segura, Oliveira, *et al.* (2013), who found that entities with a family influence in management are less indebted than non-family companies. They differ, however, from the recent positioning of Kayo *et al*. (2018), who argue that family businesses are more confident and, therefore, more prone to risk.

The fact that tests that related the family influence to the companies' cost of capital have not presented significant influence in this investigation, diverge from the findings by McConaughy *et al*. (2001) and Lanzarin (2017), who found alignment of interests from the perspective of the Agency Theory, which reflects on cost of debt financing. This result implies that, even with management, shareholding concentration or shareholding control in hands of a family, the cost of capital does not undergo significant changes.

In view of the found and discussed results throughout this section, it is possible to compose a summary table, which presents the results of the validation of proposed hypotheses, as shown in Table 8.

Table 8
Summary of Hypotheses

Hypothesis	Relationship	Status
H1a	Family Management → Indebtedness	Accepted
H1b	Shareholding Concentration → Indebtedness	Accepted
H1c	Shareholding Control → Indebtedness	Rejects
H2a	Family Management → Capital Costs	Rejects
H2b	Shareholding Concentration → Capital Costs	Rejects
H2c	Shareholding Control → Capital Costs	Rejects

Source: Research data (2019).

Notice that, among the proposed hypotheses, only two have been accepted. The H1a hypothesis, which proposed that companies that include family members in management present a lower indebtedness when compared to non-family management companies, the hypothesis has been accepted, that is, we have shown that companies with family management have lower indebtedness than non-family companies. The same conclusion may be reached in the assessment of H1b, as it remained to be proved that companies with a family shareholding influence lower indebtedness, while compared to companies with a non-family concentration.

The H1c hypothesis, which sought to measure whether companies that have family ownership control influence lower indebtedness, when compared to non-family companies, remained rejected, considering that the carried out analysis using the correlation and determination coefficient was not significant.

After presenting the results regarding the hypotheses that evaluated the composition of the indebtedness, it follows for those related to the cost of capital. Notice that in this assessment, all hypotheses have been rejected, that is, the results of the influence of family management, shareholding and shareholding control on the cost of capital remained unsuccessful, which again rejected hypotheses H2a, H2b and H2c.

After results, the following section presents the study's considerations, limitations and suggestions for further investigations.

5 FINAL CONSIDERATIONS

This study aimed to measure the influence of property under the aspects of family management, ownership concentration and ownership control in the capital structure, whose variables were composed of debt and capital cost indicators, comparing family businesses with non-family owned companies, listed in B3.

The study, carried out with data retrieved from the Economatica database, presents a descriptive characteristic with a quantitative approach. The research sample consisted of 269 family and non-family businesses. In the description of the literature review, it was possible to construct 6 hypotheses that observed the dimensions of ownership, indebtedness and cost of capital.

The results have shown that family management and shareholding influence significantly influence companies' indebtedness, that is, family businesses tend to be less indebted. This condition allowed for the confirmation of two of the six proposed hypotheses. The shareholding control in family companies was not significant in the proposed analyzes.

Other three hypotheses that measured family management, shareholding concentration and shareholding control with relation to the cost of capital, have been rejected, and did not present any level of significance in the proposed relations. This result is in line with other studies, which have shown significant influences on these relationships.

The study presents some limitations, including the fact that the analysis has been carried out in a single period (2017), as well as the use of only publicly traded companies. Although the data have been retrieved from secondary databases, the results cannot be generalized, given that the used sample has not included characteristics of the vast majority of companies.

We suggest, for future research, that longitudinal data be used, allowing for understanding the evolution of the behavior of the indicators. The use of time series and panel data, possibly, shall bring more detailed subsidies of the reasons that caused the proposed hypotheses to be rejected, even with related studies having shown results different from those presented in this investigation.

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