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"Family business": Does the family structure affect the performance of listed companies?

"Negócios familiares": A estrutura familiar afeta o desempenho de companhias listadas?

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Abstract

Purpose: This paper sought to verify the influence of family structure on the performance of family companies listed in Brazil between 2010 and 2017. We also analyzed the impact of monitoring and duality on the performance of these companies.

Originality/value: The relevance of the study is found mainly in the use of unusual variables, such as the participation of founders and descendants as shareholders, on the boards of directors, and as chief executive officers (CEOs), since it was not possible to identify any study in Brazil that addressed family participation in a fragmented way, separating the effects caused by founders and descendants, giving greater depth to the issue. In addition, it generates interest to the most varied audiences, including shareholders, regulators, analysts, and investors who have a specific interest in how family structures affect the performance of companies.

Design/methodology/approach: Data related to shareholders, composition of the boards of directors, executives, family ties, founding families, founders, descendants, and financial performance were used in the research. An unbalanced data panel was analyzed through the generalized method of moments (GMM).

Findings: A positive effect of monitoring and duality on the firms' performance was verified. The impact of family structure on performance was ambiguous. Founders and descendants that were CEOs or were working in management had positive and negative effects on the performance measures. Additionally, the participation of founders on the board of directors negatively impacted the performance. Finally, it was observed that family ownership positively impacts the firms' performance, suggesting that families look after the companies.

Keywords: family structure, family ties, performance, corporate governance, listed companies

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Resumo

Objetivo: Este artigo buscou verificar a influência da estrutura familiar no desempenho de companhias familiares listadas no Brasil entre 2010 e 2017. Também se analisou o impacto do monitoramento e da dualidade no desempenho dessas empresas.

Originalidade/valor: A relevância do estudo encontra-se principalmente na utilização de variáveis inusitadas, como a participação de fundadores e descendentes como acionistas, nos conselhos de administração e como *chief executive officers* (CEOs), pois não foi possível identificar nenhum estudo no Brasil que tratasse dessa participação de forma fragmentada, separando os efeitos causados por fundadores e descendentes, dando maior profundidade ao tema. Além disso, o estudo desperta interesse dos mais variados públicos, abrangendo acionistas, reguladores, analistas e investidores que tenham interesse específico em como as estruturas familiares afetam o desempenho das companhias.

Design/metodologia/abordagem: Na pesquisa, foram utilizados dados relativos a acionistas, composição do conselho de administração, executivos, vínculos familiares, famílias fundadoras, fundadores, descendentes e desempenho financeiro. Um painel de dados não balanceado foi analisado por meio do método dos momentos generalizados (*generalized method of moments* – GMM).

Resultados: Verificou-se um efeito positivo do monitoramento e da dualidade no desempenho das empresas. O impacto da estrutura familiar no desempenho foi ambíguo. Fundadores e descendentes que eram CEOs ou atuavam na gestão tiveram efeitos positivos e negativos nas medidas de desempenho. Adicionalmente, a participação dos fundadores no conselho de administração impactou negativamente o desempenho. Por fim, observou-se que a propriedade familiar impacta positivamente o desempenho das empresas, sugerindo que as famílias cuidam das empresas.

Palavras-chave: estrutura familiar, laços familiares, desempenho, governança corporativa, companhias listadas

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INTRODUCTION

Family businesses are an important organizational form that includes firms of different sizes, from small producers to large multinational and listed firms (Andersson et al., 2018). In the case of listed family businesses, in which members of a family participate as shareholders and/or managers, agency conflicts – differences of interests between managers and owners – can be very complex since relationships between owners and managers that are members of a family are supported by feelings and informal connections, which may lead to less monitoring (Schulze et al., 2001).

Agency conflicts can also occur due to the concentration of ownership belonging to a single controlling shareholder, the family (Valadares, 2002), which is more frequent in countries with weak legal protection, such as Brazil. According to Rapaport (2009), the controlling family can obtain private benefits by supporting decisions that are favorable to them but not to other shareholders, and family firms commonly undervalue a diverse management team or work experience in order to "keep it in the family" (Camisón-Zornoza et al., 2020). However, family connections can be positive for the company since it strengthens behaviors like loyalty and pride, which can turn into commitment and hold the family responsible for the business' success (Alves & Gama, 2020).

These conflicting positions lead to a recurring topic in the research on family businesses: performance. Authors such as Poutziouris et al. (2015) have shown that family involvement in company ownership creates value and has a positive influence on performance; while others, such as Young et al. (2008), concluded that listed family businesses did not perform better than non-family businesses. Alves and Gama (2020) argue that the family effect on the performance of a family business cannot be seen only from a positive or negative perspective.

In this context, this study sought to verify the influence of the family structure on the performance of family companies listed on the Brazilian stock exchange, covering the period between 2010 and 2017. Family firms were identified according to Zhou et al. (2017), who consider the participation of founders and descendants on the boards of directors, the position of chief executive officer (CEO), and the ownership of companies. We also analyzed the impact of monitoring and duality, variables that are proxies to corporate governance – a set of practices that mitigate agency problems – on the performance of these firms.

Family businesses are prevalent in Brazil, even among the largest and most consolidated structures, justifying their importance (Zborowski,

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2009). The 500 most important family companies worldwide are ranked by EY and the University of St. Gallen in the Family Business Index, which, in 2021, revealed that these businesses are responsible for employing 24.1 million people and have a revenue of US$ 7.28 trillion. Specifically, there are ten Brazilian family companies in the top 500 (Robertsson et al., 2021).

Some researchers approached the performance of family firms in Brazil, such as Caixe and Krauter (2013), with data from 2001 to 2010; Degenhart et al. (2016), who analyzed 32 family firms of the cyclical consumption sector from 2008 to 2012; Goes et al. (2017), who used data only from 2013; Brandt et al. (2018), who also studied firms of the cyclical consumption sector, but from 2012 to 2016; Lunardi et al. (2020), who analyzed the performance of firms during the 2012 crisis; and Almeida and Flach (2020), who studied firms listed on the Brazil 100 Index (IBrX100) from 2012 to 2016.

Most of these studies used a single variable regarding family participation to characterize a family firm – family ownership. Our study differs by exploring a more complex group of variables related to family businesses, such as founders and heirs as CEOs, family ownership, and family participation on the board of directors; employing four different performance measures to analyze the robustness of the data; and analyzing a larger period, from 2010 to 2017. Finally, this article is divided into five sections, and this introduction is the first of them. The second section presents the theoretical foundation, the third one presents the methodology, followed by the result analysis, while the fifth section shows the conclusions and contributions of the study.

LITERATURE REVIEW

Corporate governance in family companies

Corporate governance is a set of practices that emerged from the agency theory, which regards the separation between ownership and control of firms (Berle & Means, 1932). It is more difficult to notice this division in family firms, especially in the early stages. Thus, Fama and Jensen (1983) argue that family businesses do not require corporate governance initially.

However, family firms have particular agency problems. Berle and Means (1932) indicate that the concentration of ownership and management can lead to the expropriation of minority shareholders. Shleifer and Vishny (1986, 1997) state that the concentration of ownership can be beneficial in countries with strong legal protection since the majority shareholders would

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have incentives to monitor managers for the benefit of all shareholders. Nevertheless, private benefits can prevail.

Other harmful practices may accompany expropriation in family companies. Young et al. (2008) cited the allocation of unqualified family members or friends to high-level positions; acquisition of inputs at prices above the market value or sale of products and rendering of services at prices below the market value to companies belonging to or associated with the controlling shareholder; and support for strategies that aim at personal and family benefits, rather than worrying about the firm's performance. Besides, family firms may avoid a diverse management team as there is usually the intention of keeping the business under family control (Camisón-Zornoza et al., 2020).

When facing agency problems, it is necessary to adopt corporate governance practices. Thus, Silveira et al. (2003) indicate the importance of active and independent participation by the board of directors. According to Campbell and Mínguez-Vera (2008), the board has the primary function of monitoring, as they appoint, supervise and remunerate the executives. For effective monitoring, greater participation of independent members, who are not connected to the company's activities or the family, is essential. In this context, Pombo and Gutiérrez (2011) and Ahmadi et al. (2018) realized that the more there are independent directors, the greater the company's performance. These studies create arguments for the formulation of hypothesis 1 (H1).

- H1: The more there are independent directors, the greater the performance of family companies listed on the Brazilian stock exchange.

Furthermore, Silveira et al. (2003) highlighted the importance of the board of directors having a relevant number of members, with different people exercising the positions of chairperson and CEO, avoiding duality. However, Jensen (1993) stated that a board with many members is less likely to work effectively and more likely to be controlled by the CEO. Cheng (2008) suggested that larger boards may have different effects on the performance of firms, as the decision-making process takes longer but ends up moderating the intensity of decisions. Yet, the author found that larger boards had had a negative impact on the performance of the companies, providing support for hypothesis 2 (H2).

- H2: The more there are members on the board of directors, the lower the performance of family companies listed on the Brazilian stock exchange.

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Regarding duality, the CEO would have the convenience of judging his own attitudes. However, Godard (1998) argues that the accumulation of the CEO and chairperson positions would create a good leader for the company, leading to a better performance, which was confirmed by Ahmadi et al. (2018). Duru et al. (2016) found that duality had a negative impact on the performance of firms, which was mitigated by the presence of an independent board of directors. Cabrera-Suárez and Martín-Santana (2015), in turn, demonstrated a positive relationship between these two variables. According to the authors, in the case of companies with large family ownership, the family leaders who worked in the company showed higher levels of commitment and were more motivated to take on management roles. These arguments lead to hypothesis 3 (H3).

- H3: Duality leads to a lower performance of family companies listed on the Brazilian stock exchange.

Moreover, when studying family businesses, García-Ramos and García-Olalla (2011) realized that, in firms with the founder working in the management, the size of the board had a negative effect on performance, while the presence of independent directors led to a positive impact. For firms with descendants working in the management, the size of the board had a positive impact, and the presence of independent directors had a negative effect on performance, contradicting the thought that smaller, more independent boards would lead to a better performance. Duality was also considered, which increased performance when the company was managed by descendants, and had no effect when the manager was the founder.

Family structure and performance

There is still no consensus in the literature on the relationship between family structure and a company's performance (Poutziouris et al., 2015). According to Demsetz (1983) and Shleifer and Vishny (1997), family businesses tend to be less profitable and efficient, and family members can use private benefits. However, Fama and Jensen (1983) suggested that, in family companies in which there are family ties between managers and owners, agency costs could be reduced, as long-term relationships would improve the monitoring of decision-makers.

When studying the relationship between family ownership of companies listed on Standard & Poor's 500 and their performance, Anderson and Reeb (2003) found that such firms performed better than others and that a

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family-member CEO led to better performance than an individual with no family ties. In addition, minority shareholders were not affected by family ownership, suggesting an effective organizational structure. Villalonga and Amit (2006) perceived that family ownership created value only when the founder was the CEO or chairperson with an external CEO and that the firm's value was destroyed when the CEO was a descendant.

Miller et al. (2007) noticed that companies listed on Fortune 500 that had relatives working in the management never stood out regarding market value, even when they were only in the first generation, while firms that had the founder alone did better in performance. Regarding the founder's participation, He (2008) indicates that firms managed by the founder are associated with better financial performance. According to Poutziouris et al. (2015), the greater the family's involvement in management, through the CEO position or the board of directors, the greater the firm's performance.

However, Ullah and Zhang (2016) realized that the founder's participation, both as CEO and as a board member, had a negative impact on the performance of firms, as measured by Tobin's Q, whereas it did not influence return on assets (ROA). The negative effect could be explained by the possibility that the founding managers act to benefit the controlling family, paying more attention to private cash flows than to the maximization of the firm's value. These arguments provide support for the formulation of hypothesis 4 (H4) and hypothesis 5 (H5).

- H4: The participation of family members in the management leads to a better performance of family companies listed on the Brazilian stock exchange.
- H5: The greater the number of family members on the board of directors, the greater the performance of family companies listed on the Brazilian stock exchange.

The relationship between large controlling shareholders and the performance of firms was verified by Hamadi (2010), who observed that they had a negative effect on performance, but when it comes to controlling shareholders in family companies, the effect was positive. Martin-Reyna and Duran-Encalada (2012) found that, in family companies with concentrated shareholding, shareholders had more incentives to monitor the company in order to maximize gains, ensuring a better performance. Companies with dispersed ownership require alternative governance mechanisms to monitor their performance. Moreover, Poutziouris et al. (2015) perceived a nonlinear relationship between family ownership and performance, measured

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using ROA and Tobin's Q: performance increased until family ownership reached about 31% of the shares, decreasing above that percentage.

Considering the performance of firms during the 2008 crisis, Zhou et al. (2017) realized that family businesses outperformed non-family firms, mostly due to the presence of the company's founder. When studying Brazilian firms, Brandt et al. (2018) found that family ownership was positively related to ROA, arguing that an increase in family ownership can trigger an increase in performance, which indicates that the family has greater motivation to maximize business performance because their wealth is tied to it. However, the authors found that this variable do not significantly impact return on equity (ROE) and Tobin's Q. Similarly, Almeida and Flach (2020) found no significant relationship between family ownership and both ROA and Tobin's Q.

Finally, Wagner et al. (2015) surveyed the performance of family businesses and noticed that, in general, these firms presented a superior performance, however weak, compared to non-family companies. Still, the positive effect of family participation on financial performance was more evident in large public firms whose definition involves family ownership. Hypothesis 6 (H6) is formulated based on these assumptions.

- H6: The more the ownership structure belongs to family members, the greater the performance of family companies listed on the Brazilian stock exchange.

METHODOLOGY

In this research, we used data from companies listed on Brasil, Bolsa, Balcão (B3) on an annual basis, covering 2010 to 2017. Data related to shareholders, board of directors' composition, executives, and family ties were collected from the reference forms of the Brazilian Securities and Exchange Commission's (Comissão de Valores Mobiliários – CVM) website. Information regarding families, founders, and descendants was collected by searching the companies' websites. Financial data, such as balance sheets and income statements, were taken from the Economica database.

Data selection did not include non-industrial companies or company-year observations that presented Tobin's Q below zero or above ten, which solves problems in measuring investment opportunities in raw data (Almeida & Campello, 2007). The final sample included 753 observations, distributed among 112 companies, considering the survival bias. Table 1 shows the

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dependent variables used, in which ROA (Anderson & Reeb, 2003; Villalonga & Amit, 2006; He, 2008; Almeida & Flach, 2020) and ROE (Duru et al., 2016; Brandt et al., 2018) are used for internal performance, and Tobin's Q (Chung & Pruitt, 1994; Villalonga & Amit, 2006; Hamadi, 2010; Almeida & Flach, 2020) and market to book (MB) (Frank & Goyal, 2009) are used to measure market performance.

Table 1

Description and measurement of the dependent variables

Variables	Description	Formula
ROA	It measures the profitability of a company's total assets.	$\frac{EBIT_t}{total\ assets_t}$
ROE	It measures the profitability of a company's equity.	$\frac{Net\ profit_t}{equity_t}$
Tobin's Q	It indicates growth opportunities and reveals the wealth added by the market as a reflection of the company's performance.	$\frac{Market\ value_t}{total\ assets_t}$
MB	It indicates growth opportunities and shows that the market recognizes that the company is worth more than what is recorded in its accounting data.	$\frac{Net\ profit_t}{equity_t}$

Source: Elaborated by the authors.

EBIT: earnings before interest and taxes; MVE: firm's stock price multiplied by the number of common stocks outstanding; PS: settlement value of the preferred stocks outstanding; D: total debt (current liabilities minus current assets plus inventories and long-term debt).

All variables are placed in period *t*.

Table 2

Variables of family structure

Variables	Formula	Signals found in the literature	
		IP*	MP**
Founders' participation in the board of directors (FPD)	$\frac{Number\ of\ founders\ on\ the\ board}{total\ number\ of\ members\ on\ the\ board}$	+	+/-
Founders' participation as shareholders (FPS)	Percentage of common shares owned by the founders.	+/-	+

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Table 2 (conclusion)

Variables of family structure

Variables	Formula	Signals found in the literature	
		IP*	MP**
Founder as CEO (FCEO)	Dummy: one if the CEO is a founder of the company; zero, otherwise.	+	+/-
Descendants' participation in the board of directors (DPD)	$\frac{\textit{Number of descendants on the board}}{\textit{total number of members on the board}}$	+/-	+/-
Descendants' participation as shareholders (DPS)	Percentage of common shares belonging to descendants.	+/-	+/-
Descendant as CEO (DCEO)	Dummy: one if the CEO is a descendant/heir of the company; zero, otherwise.	+/-	+/=/-
Family-owned company (FOC)	Percentage of shares owned by family members.	+/=/-	+/-

Source: Elaborated by the authors.

* IP: internal performance (ROA, ROE); **MP: market performance (Q, MB); (+): positive and significant expected signal; (-): negative and significant expected signal; (=): non-significant effect.

Family structure variables were collected from Zhou et al. (2017), Anderson and Reeb (2003), and Miller et al. (2007) and compiled. Furthermore, variables in Table 2 were used to classify the companies as family businesses. In other words, each company should have at least one founder/descendant/heir serving on the board, a founder/descendant in the position of CEO, or at least 5% of the shares should be owned by the founder/heir/family (Zhou et al., 2017). Table 3 presents the variables related to monitoring, duality, and other control variables, with their respective measurements and signals found in the literature.

Board size and participation of ID were used for monitoring, while a dummy that indicates whether the CEO is, at the same time, the chairperson of the board was used for duality. Such variables were used by Silveira et al. (2003), García-Ramos and García-Ollala (2011), Duru et al. (2016), and Ahmadi et al. (2018). We also used the number of executives, leverage, company size, and temporal and sectoral fixed effects to control the models.

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Table 3

Monitoring, duality, and control variables

Variables	Formula	Signals found in the literature	
		IP*	MP**
Size of the board of directors (BS)	Total number of members on the board.	+/=/-	+/=/-
Independent directors (ID)	$\frac{\textit{Number of independent board members}}{\textit{total number of members on the board}}$	+	+/-
Duality (dual)	Dummy: one if the CEO is also chairperson of the company; and zero, otherwise.	+/=/-	+/-
Number of executives (NEx)	Total number of executives.	+	+
Leverage (lev)	$\frac{\textit{Short and long – term debt}}{\textit{–equity}}$	-/+	-/+
Size	The logarithm of the company's total assets.	+/-	+/-
Sectoral fixed effects	Dummy for each Economatica sector.	NA	NA
Temporal fixed effects	Dummy for each year.	NA	NA

Source: Elaborated by the authors.
NA: not applicable.

We used the software Stata 14 for data analysis. As for the analysis techniques, we initially performed descriptive statistics and, for the main analysis, a panel with unbalanced data, which considers a certain sample of cases over the period and allows for several observations for each case (Hsiao, 2003).

We applied the normality, covariance, absence of autocorrelation, homoscedasticity, linearity, and endogeneity tests to assess the four models assigned to each of the dependent variables. These conditions were rejected for the first two, showing that the sample is not normal, the covariance matrix is not diagonal, and there are serial correlation and heteroscedasticity. On the other hand, there is no multicollinearity, as the variance inflation factor (VIF) was below five, and the possibility of endogeneity was rejected. Since most of the models' assumptions were rejected, the use of maximum likelihood estimation (MLE) or ordinary least squares (OLS) is not recommended.

For this reason, we decided to use the dynamic systemic generalized method of moments (GMM-Sys), which relaxes some assumptions, such as

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heteroscedasticity, and is recommended for autocorrelated samples. This model was proposed by Blundell and Bond (1998) and consists of a dynamic model in differences, considering the lagged dependent variable as explanatory of the model to relax the condition of homoscedasticity. We considered the two-step estimator, in which the endogenous variables are related to the family-owned companies, and the instruments used were the lagged variables, as proposed by Almeida et al. (2010). The following tests were performed: 1. correlation; 2. Arellano and Bond's test (1991), which verifies the existence of serial autocorrelation in the sample; 3. chi-square; and 4. Hansen's (1982) overidentification test. Equation 1 presents the variables used in the model.

$$P_{it} = \alpha_i + M_{it}.\gamma + D_{it}.\delta + F_{it}.\theta + C_{it}.\omega + \sum_i^n EFsec_i + \sum_t^n EFtemp_t + \varepsilon_{it} \qquad (1)$$

In Equation 1, P_{it} represents the dependent variables regarding performance; α, the intercept; γ, δ, θ, and ω, the variables' coefficients; M_{it}, the monitoring variables; D_{it}, the duality; F_{it}, the families' participation variables; C_{it}, the control variables; *EFsec*, the sectoral fixed effects; *EFtemp*, the fixed temporal effects; and ε_{it}, the error term.

RESULTS ANALYSIS

The descriptive statistics are presented in Table 4. For ROA, approximately 3.7% of total assets were converted into operating revenue, a value close to the median, 3.8%. For ROE, approximately 6.7% of shareholders' equity was converted into net income, and, at the median, this percentage was 9.5%. Regarding Tobin's Q, on average, the companies' market value corresponded to 61% of total assets, with a median of 36.2%. For the MB, the company's market value exceeded total assets by 59.5%, with a median value of 13.3%.

Regarding family structure, on average, 8.8% of the board members were founders of the companies (founders' participation in the board of directors – FPD), and the median was only 0.3%. Descendants represented 30.2% of the board members (descendants' participation in the board of directors – DPD), with a central value of 25.3%. Regarding the participation as shareholders, approximately 6% of the companies' shares were owned by founders (founders' participation as shareholders – FPS), and 9% by descendants (descendants' participation as shareholders – DPS). Finally, regarding the families' ownership (family-owned company – FOC), on average, 43.6% of the shares belonged to family members, while the median was 44.6%.

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Table 4

Descriptive statistics

Variable	Mean	Median	Standard deviation	Skewness	Kurtosis
ROA*	0.037	0.038	0.048	-0.325	3.577
ROE*	0.067	0.095	0.223	-1.051	5.005
Q*	0.610	0.362	0.637	1.647	4.862
MB*	1.595	1.133	1.451	1.124	3.353
FPD	0.088	0.003	0.135	1.838	6.478
FPS	0.060	0.000	0.155	3.411	15.611
DPD	0.302	0.253	0.272	0.794	2.989
DPS	0.090	0.000	0.198	2.827	10.726
FOC	0.436	0.446	0.326	0.183	1.774
NEx	4.381	4.000	2.959	3.087	22.111
BS	6.243	6.000	2.428	0.328	3.170
ID	0.215	0.201	0.216	0.553	2.159
Lev	0.862	0.611	2.523	13.510	197.142
Size	2.710[1]	0.864[1]	5.256[1]	3.401	14.879

Source: Elaborated by the authors.

* Variables winsorized at 5% to control for outliers. [1] in billions of dollars.

Nonetheless, 14.08% of the observations indicated the participation of a founder as CEO (FCEO), 43.03% showed a descendant as CEO (DCEO), while 42.89% of the observations showed that the CEO was neither a founder nor a descendent. Thus, the greater participation of family members, especially the heirs, is notable in the CEO position, the most important position in a company.

As for the board's size (BS), the board of directors had 6.24 members, with a median of six members. Approximately 21.5% of the directors were independent (ID), while the median was 20.1%. Regarding the number of executives (NEx), the companies had 4.38 executives, with a median of four individuals. In 29.35% of the observations, the CEO was also the firm's chairperson (Dual). Concerning leverage (Lev), for each US$ 1.00 of equity, companies were indebted in the short and long term at approximately US$ 0.86, with a median'of US$ 0.61. Finally, regarding size, the firms had an approxi-

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mate value of US$ 2.71 billion in total assets and a median of approximately US$ 864 million.

Subsequently, no coefficients were greater than 0.7 for the correlation test, indicating the absence of high correlation. Table 5 presents the results achieved for the analysis. In panel B, most of the generalized method of moments' (GMM) assumptions were met. The chi-square test rejected the null hypothesis, indicating an association between the variables used in the model. The Hansen's test (1982) indicates that the null hypothesis cannot be rejected. In other words, it is assumed that there is no correlation between the instruments and the regression error. Finally, the Arellano and Bond's test (1991) (Ar1 and Ar2) for market performance showed that the first-order serial autocorrelation hypothesis is not rejected. Otherwise, the regressions related to internal performance did not show first-order serial autocorrelation. Still, as the Woldridge test (5.95, significant at 5%) indicated autocorrelation and a need to maintain a pattern in the regressions, we decided to keep using the GMM-Sys for all analyses.

Table 5

Analysis of the effect of duality, monitoring, and family participation on the performance of family companies

Panel A												
DV	ROA			ROE			Q			MB		
IV	β		Z	β		Z	β		Z	β		Z
L1	-0.245	***	-14.940	-0.059	***	-3.140	0.616	***	20.740	-0.246	***	-3.120
Dual.	0.026		1.400	-0.010		-0.810	0.409	***	4.480	0.033		1.090
BS	0.000		-0.090	-0.002	***	-3.020	-0.053	***	-3.930	-0.002		-0.990
ID	-0.107		-1.550	-0.032	***	-2.820	-0.164		-0.790	0.281	***	5.510
FPD	-1.718	***	-8.180	-0.164	***	-2.820	0.257		0.650	0.193		1.330
FCEO	-0.154	***	-2.850	-0.232	***	-7.620	0.199		0.840	-0.024		-0.340
FPS	0.232		0.880	0.241	***	4.630	0.246		0.260	0.362	**	2.420
DPD	0.031		1.540	-0.002		-0.050	0.863	***	7.850	-0.056		-1.050
DCEO	-0.056	**	-2.040	0.000		-0.020	-0.246	***	-2.900	-0.028		-0.740
DPS	0.064	**	2.300	0.061		0.880	0.482	***	4.110	0.559	***	5.400
FOC	0.064		0.730	0.085	***	2.530	0.218		0.590	0.042		0.460

(continue)

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Table 5 (conclusion)

Analysis of the effect of duality, monitoring, and family participation on the performance of family companies

Panel A												
DV	ROA			ROE			Q			MB		
IV	β		Z	β		Z	β		Z	β		Z
Neex	0.012	***	5.090	0.003	***	4.370	0.081	***	8.840	0.006	***	4.890
Lev.	0.034	***	8.430	0.020		1.020	-0.056		-1.570	0.010		0.890
Size	0.080	***	4.000	0.015	***	5.590	-0.029		-0.450	0.021	*	1.640
Const.	-0.947	***	-2.910	-0.172	***	-3.230	0.000		0.999	-0.565	***	-3.120
EFsec	Yes			Yes			Yes			Yes		
EFtemp	Yes			Yes			Yes			Yes		
Panel B												
Chi²	4,210.000			1,350.000			18,400.000			3,510.000		
p value	0.000			0.000			0.000			0.000		
Hansen	33.397			28.043			37.972			25.014		
p value	0.682			0.882			0.471			0.948		
Ar1	0.432			-0.899			-2.256			-1.644		
p value	0.666			0.369			0.024			0.100		
Ar2	-0.944			1.076			0.470			-1.072		
p value	0.345			0.282			0.638			0.284		

Source: Elaborated by the authors.

DV: dependent variables; IV: independent variables; L1: dynamic variable (lag of the dependent variable); Chi² = chi-square test; Hansen: Hansen test; Ar1 and Ar2 = first and second order serial correlation tests.

* significant at 10%; ** significant at 5%; *** significant at 1%.

Panel A of Table 5 shows the analysis of the main results. The existence of duality (Dual) leads to an increase of 0.409% in Tobin's Q, with a significance level of 1%, indicating that duality is positive for the market performance of family companies. It corroborates Godard (1998), who argue that the same individual in the positions of CEO and chairperson would be an efficient leader for the company, leading to a better performance. García-Ramos and García-Olalla (2011) showed that duality positively affects market performance when descendants manage the company, and, in our sample,

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there is a predominance of descendants. When the position is occupied by a founder or a descendant – who, having the company as part of the family's assets, aims for better results –, there is a duality (Cabrera-Suárez & Martín-Santana, 2015).

Board size (BS) was inversely related to performance, in which the increase of 1% in its variable decreases the ROE by 0.002% and Tobin's Q by 0.053%, both significant at 1%. This result is in line with Jensen (1993), who indicates that maintaining a small group on the board of directors can help to increase the company's performance. Concerning the independent directors, the increase of 1% of ID in family companies' boards leads to an increase of 0.281% on MB, with a significance of 1%. This shows that greater participation of ID in the board is well regarded by the market, being an indicator of good corporate governance practices (Silveira et al., 2003). In contrast, this variable was negatively related to ROE, differing from the results found in the literature.

The FPD showed a negative influence on internal performance, in which the increase of 1% of founders on the boards reduces ROA and ROE by 1.718 and 0.164%, respectively, both significant at the 1% level. This result is contrary to what is generally expected in the literature; however, it can be the case that founders in important positions can obtain private benefits and act for the benefit of the controlling family, harming the company's results and other interested parties (Young et al., 2008; Ullah & Zhang, 2016).

Similar results are found for FCEO. The presence of a founder CEO led to a reduction of 0.154 and 0.232% in ROA and ROE, respectively, significant at 1%. This result is in accordance with Ullah and Zhang (2016), who proved that having a founder CEO can reduce the performance of companies, addressing the issue of private and family interests, which the CEO may have as a priority.

Regarding FPS, the increase of 1% in founders' ownership leads to an increase of 0.241% in ROE, significant at the 1% level. This result is in agreement with the literature, in which Anderson and Reeb (2003) and Villalonga and Amit (2006) showed that family and founding shareholders have more incentives to monitor businesses since the families' fortune and investments are allocated there, inducing them to be careful monitors, which may be associated with higher internal performance.

The participation of descendants on the board of directors increases market performance by 0.863%, significant at 1%. Authors such as Anderson and Reeb (2003) and Poutziouris et al. (2015) highlighted the importance of family members being involved with the company, not only founders but

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also descendants, who would positively affect the company's value, arguing that family members understand the business better and tend to act as guardians of the company.

In turn, the participation of DCEO leads to a negative influence of 0.056% (significant at 5%) on internal performance and 0.246% (significant at 1%) on market performance. Villalonga and Amit (2006) state that the participation of a DCEO would destroy the firm's value, which was confirmed by the negative effect on ROA and Tobin's Q. Additionally, Miller et al. (2007) identified that only the participation of founders themselves would be able to benefit the performance of companies.

Regarding DPS, the increase of 1% in the descendants' shares led to an increase of 0.064% in ROA, significant at 5%, and an increase of 0.482 and 0.559% in the market performance (Tobin's Q and MB), significant at 1%. This result corroborates the work conducted by Anderson and Reeb (2003), who demonstrated that family ownership, which includes the participation of descendants, is an effective organizational structure, being contradictory to the idea that minority shareholders would be negatively affected by family ownership.

The increase of 1% in the shares held by the family (FOC), directly or indirectly, led to an increase of 0.085% in ROE, significant at 1%. The families' ownership structure in companies is one of the most addressed issues in the literature on family business. This result is in line with research that shows that the family structure works effectively, not harming minority shareholders with private benefits and making positive contributions to performance. According to Anderson and Reeb (2003), Hamadi (2010), and Wagner et al. (2015), this can be attributed to the link between family assets and the company, inducing families to act effectively to ensure the best possible performance.

The increase of 1% in the total NEx led to an increase of 0.012 and 0.003% in ROA and ROE, significant at 1%. For Tobin's Q and MB, the increase was 0.081 and 0.006%, respectively, with a significance of 1%. This result corroborates Eisenhardt (2013), who states that larger groups of executives tend to bring positive results due to the diversity of opinions and experiences, contributing to the success and growth of companies.

The increase of 1% in companies' leverage led to an increase of 0.034% in ROA, with a significance of 1%. This result is in accordance with the trade-off theory, which indicates a positive relationship between indebtedness and profitability due to the tax benefit (Frank & Goyal, 2009; Ibhagui & Olokoyo, 2018). Finally, the increase of 1% in the size of the companies

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led to an increase of 0.080 and 0.015% in internal performance (ROA and ROE), significant at 5%, and to an increase of 0.021% in MB, significant at 10%. In this sense, Klapper and Love (2004) affirmed that larger companies generally have greater growth opportunities and more access to resources, which are positively related to internal and market performance.

The results are summarized in Table 6. H1 was not rejected for market performance because the presence of ID increases MB. H2 was not rejected for internal and market performance because the size of the board negatively influences ROE and Tobin's Q. H3 and H4, related to duality and participation of family members in the management, were rejected or inconclusive. H5 cannot be rejected for the market performance, as a larger number of board members increases Tobin's Q of companies. Finally, H6 cannot be rejected both for internal and market performance, indicating that the more the ownership structure belongs to family members, the greater the ROE and MB of the companies.

Table 6

Summary of hypotheses

	Hypotheses	Internal performance	Market performance
H1	The more there are ID, the greater the performance of family companies listed on the Brazilian stock exchange.	Rejected	Not rejected
H2	The more there are members on the board of directors, the lower the performance of family companies listed on the Brazilian stock exchange.	Not rejected	Not rejected
H3	Duality leads to a lower performance of family companies listed on the Brazilian stock exchange.	Inconclusive	Rejected
H4	The participation of family members in the management leads to a better performance of family companies listed on the Brazilian stock exchange.	Rejected	Rejected
H5	The greater the number of family members on the board of directors, the greater the performance of family companies listed on the Brazilian stock exchange.	Rejected	Not rejected
H6	The more the ownership structure belongs to family members, the greater the performance of family companies listed on the Brazilian stock exchange.	Not rejected	Not rejected

Source: Elaborated by the authors.

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CONCLUDING REMARKS

This paper aimed to verify the influence of the family structure on the performance of family companies listed on the Brazilian stock exchange. Specifically, we sought to study the impact caused by monitoring and duality on the performance of these companies and investigate family participation on the board of directors, as CEO, and as shareholders, and its impact on the performance of family businesses listed on B3.

First of all, we found a positive effect of monitoring the performance of family companies, since the presence of ID increases the companies' market performance, and a smaller number of directors on the board improves the companies' internal and market performance, corroborating Jensen (1993) and Silveira et al. (2003). Furthermore, duality proved to be favorable to the company's performance. From this analysis, it was perceived that family companies present a different behavior from what is usually indicated in the literature, contrary to Jensen (1993) and Duru et al. (2016), but in agreement with Cabrera-Suárez and Martín-Santana (2015) and Ahmadi et al. (2018), who showed that duality can be positive for companies.

Regarding family structure, it can be inferred that the impact of their participation on the companies' performance was ambiguous. We noticed that the behavior of the variables addressing the participation of founders and descendants followed the same trend, apart from the board participation, with no results much more favorable to the founders than to the descendants, contrary to what Miller et al. (2007) had suggested. We did not expect the negative results obtained regarding founders and descendants as CEOs, but this result finds support in Ullah and Zhang (2016), who pointed the negative effect of founding CEOs on performance, relating it to private benefits. However, the result of the descendants acting as CEOs was expected since Villalonga and Amit (2006) had shown that heirs tend to have less experience and reduce the value of companies.

Meanwhile, the founders' participation on the board of directors had a negative effect on the internal performance. Thus, the results followed those achieved by Demsetz (1983) and Shleifer and Vishny (1997), who pointed that family members could routinely use private benefits, which generally ended up depreciating companies. It can be expected that founders on the boards generate conflicts with other directors, and it can hinder decision-making. Furthermore, family members can nominate low-qualified people for important positions or support strategies that seek personal or family improvement (Young et al., 2008; Camisón-Zornoza et al., 2020). However, the presence of descendants on the board is welcomed by the market, which

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may be an indication that the market values family members as directors, considering that they understand the business better and tend to act as guardians of the company (Anderson & Reeb, 2003; Poutziouris et al., 2015).

We observed that family ownership positively affected the companies' internal and market performance. These results are in agreement with several authors, such as Anderson and Reeb (2003), Hamadi (2010), and Wagner et al. (2015), who indicated that family ownership is beneficial to the performance of companies. In this sense, Martin-Reyna and Duran-Encalada (2012) identified that shareholders that are family members have greater motivation to monitor the companies in order to to maximize the gains, leading to a better performance.

As contributions, the study showed that the participation of descendants as shareholders, on the boards, and as CEOs is greater than the founders' participation, indicating that many companies in the samples may have gone through the succession process. The relevance of the study is mainly the use of unusual variables since it was not possible to identify any study in Brazil that treated family participation in a fragmented way, separating the effects caused by founders and descendants and giving greater depth to the issue. Also, this study generates interest to the most varied audiences, including shareholders, regulators, practitioners, analysts, and investors who have a specific interest in how family structures affect the performance of companies.

As limitations, the data collection required a long time to be executed, and it was necessary to apply a series of restrictions to choose which companies would be included in the sample due to the large number of companies listed on B3 during the analyzed period. Still, suggestions for future research involve the investigation of a methodology that adapts better to the data and the inclusion of new variables in the study, such as the academic and professional experience of descendants and founders, which can affect the performance of companies in the long term. This would make it possible to clarify, for example, whether descendants or other family members who take on important roles in the companies are qualified to occupy these positions.

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