

INFLUENCE OF CAPITAL STRUCTURE ON THE ECONOMIC PERFORMANCE OF BRAZILIAN FAMILY AND NON-FAMILY BUSINESSES

INFLUÊNCIA DA ESTRUTURA DE CAPITAL NO DESEMPENHO ECONÔMICO DE EMPRESAS FAMILIARES E NÃO FAMILIARES BRASILEIRAS

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Edgar Pamplona¹
Tarcísio Pedro da Silva²
Wilson Toshiro Nakamura³

1 Federal University of Mato Grosso do Sul (UFMS), Três Lagoas, Mato Grosso do Sul (MS), Brazil

2 Regional University of Blumenau (FURB), Blumenau, Santa Catarina (SC), Brazil

3 Mackenzie Presbyterian University (UPM), São Paulo (SP), Brazil

ABSTRACT

Purpose – This research aims to verify the influence of the capital structure on the economic performance of the Brazilian family and non-family businesses.

Design/methodology/approach – The research is characterized as descriptive, documentary, and quantitative, being the accounting data under analysis extracted from the Economática® database. The sample is composed of 117 publicly traded companies listed in B3, being 68 family and 49 non-family with an analysis period from 2011 to 2015. To reach the objective, statistical techniques were used, with emphasis on multiple linear regression models.

Findings – The results point out that the Short-term Debt Ratio (SDR) and Long-term Debt Ratio (LDR) negatively influence the performance of family businesses, while SDR and LDR have a negative and positive relationship, respectively, with the performance of the non-family business.

Originality/value – In short, such results demonstrate that family businesses must follow the pecking-order theory prerogatives to maximize their performance, while managers of non-family organizations need to observe the assumptions of both theories – trade-off and pecking-order – according to the type of indebtedness (short or long term).

Keywords: Capital Structure; Economic Performance; Brazilian Family and Non-Family Businesses.



RESUMO

Objetivo – Esta pesquisa tem por objetivo verificar a influência da estrutura de capital no desempenho econômico de empresas familiares e não familiares brasileiras.

Design/metodologia/abordagem – A pesquisa é caracterizada como descritiva, documental e quantitativa, sendo os dados contábeis em análise extraídos da base de dados Economática®. A amostra é composta por 117 empresas de capital aberto listadas na B3, sendo 68 familiares e 49 não familiares com período de análise de 2011 a 2015. Para consecução do objetivo, foram utilizadas técnicas estatísticas, tendo-se ênfase aos modelos de regressão linear múltipla.

Resultados – Os resultados apontam que o Endividamento de Curto Prazo (ECP) e o Endividamento de Longo Prazo (ELP) influenciam negativamente o desempenho de empresas familiares, enquanto o ECP e o ELP possuem relação negativa e positiva, respectivamente, com o desempenho de empresas não familiares.

Originalidade/valor – Em suma, tais resultados demonstram que empresas familiares devem seguir as prerrogativas da teoria de pecking-order a fim de maximizar seu desempenho, enquanto gestores de organizações não familiares necessitam observar os pressupostos de ambas as teorias – trade-off e pecking-order – de acordo com o tipo de endividamento (curto ou longo prazo).

Palavras-Chaves: Estrutura de Capital; Desempenho Econômico; Empresas Familiares e Não Familiares Brasileiras.

1 INTRODUCTION

The success of a company may be tied to many facets, but among this diversity, the economic perspective is always essential. In such case, the corporate economic success involves creating value, in which it aims to generate enough returns for adequate remuneration of the invested capital (Anderson, 2016). Indeed, Gyan, Brahmana, and Bakri (2017) highlight that the Shareholder Wealth Maximization is tied to the constant improvement of corporate performance.

In this sense, according to Campos and Nakamura (2015), the organizations have two well-defined objectives: maximizing their long-term value to satisfy shareholders and creditors and surviving internal and/or external shocks in the short term. Thus, it may infer that the economic performance is directly linked to both objectives, once that satisfactory results maximize value and provide stability to the organization in the market. Therefore, due to the real importance of economic performance for firms, over the past decades, researchers have sought to identify which aspects influence business *performance*, being the capital structure one of the most important factors to be understood.

Empirical evidence that existed until the mid-1990s already indicated that changes in the capital structure of companies may affect their market value, once it is imperfect, therefore, there is an optimal level of indebtedness that would maximize performance and organizational value (Eld Júnior, 1996). More recently, Antwi, Antwi, Peprah, and Barnoh (2016) stated that fundraising decisions, which form the capital structure, are highly linked to the ability of organizations to meet the expectations of their stakeholders (Antwi et al., 2016), given its potential influence on corporate performance and value. Besides that, Narang (2018) asserts that the pursuit of minimizing the average cost of capital to finance investments is crucial to maximizing corporate profits.

However, even the subject in question being widely approached in the last six decades (Admed & Afza, 2019), given its complexity, the capital structure is pointed out as one of the most controversial themes in corporate finance (Lauer, 2015), providing the need of new research (Nisiyama & Nakamura, 2015). More specifically, it has been until today, intense debate about the optimal capital structure that maximizes the value of companies, as several factors, such as specific for the firms, macroeconomic and institutional (Brito, Corrar & Batistella, 2007; Bastos, Nakamura &



Basso, 2009) may affect the way how organizations raise funds.

Besides, there is a complicating factor in the relationship between capital structure and economic performance, which consists of corporate control/ownership. According to Eld Júnior (1996), when there is a need to obtain resources, non-family businesses tend to raise in the first instance the most advantageous funds at the moment (usually bank loans), while family businesses are prone to move towards a predetermined hierarchy. (where new equity shares have priority). It is known that one of the primary aims of family organizations is to perpetuate the founder's business control for several generations, which directly impacts the firm's performance (Pinto, Henriques & Magalhães, 2015), once that the business management tends to be long-term.

Before the referred contextualization between capital structure and economic performance, and also recognizing that this relationship still lacks deeper evidence for its correct understanding, mainly concerning family and non-family businesses, the following research problem emerges: What is the influence of the capital structure on the economic performance of Brazilian family and non-family businesses? To answer the research problem, it aims to verify the influence of the capital structure on the economic performance of the Brazilian family and non-family companies.

The main justifications for carrying out this research are based on two fronts, the comparability of family and non-family businesses and the studied environment. In this sense, according to Borges, Lescura, and Oliveira (2012), in Brazil, research that considers the peculiarities of family businesses may be considered new in the academic context, providing a vast field for evolution. Thus, scholars should search to understand the specificities of family businesses, as this research seeks, since these organizations have a particular dynamic, the result of the mutual influence of the family and the company and which demand the construction of theoretical analyzes from the perspective of this interaction (Borges et al., 2012).

Furthermore, from the perspective of the context under study, Benachenhou (2013) highlights that the current economic and social geography has new parameters. The emerging countries, among them and standing out Brazil, occupy an increasingly relevant place in international exchanges of goods, services, technologies, and capital, making emerging societies go through restructuring processes. Despite the thriving opportunities, such nations also share a series of difficulties, such as instabilities in the face of globalization (Benachenhou, 2013). With such knowledge and knowing that researchers have historically focused on developing research in developed markets (Narang, 2018), the comparative connection of family and non-family businesses aligned with the developing environment provides a unique setting for the production of new insights on the theme of capital structure and corporate performance.

2 THEORETICAL REFERENCE

Several studies have already been carried out on the influence of the capital structure on the economic performance of firms. However, there are no studies that have approached the Brazilian family and non-family businesses under the methodology proposed in this research. Moreover, given the configurations of the emerging context studied, above all macroeconomic, the present research differs worldwide. For theoretical support, the theme was searched using Jstor, Scielo, Science Direct, Scopus and Willey Online Library, besides specialized journals on the subject, seeking to substantiate the study with relevant works published in high impact journals.



2.1 Capital structure

Since the early 1950s, more specifically with Durand (1952) and, later, with greater relevance, Modigliani and Miller (1958; 1963), there has been a discussion of how companies should finance their activities. In their seminal study, Modigliani and Miller (1958) argued that the market was perfect and, in this way, both debts and shares were equal substitutes. In this context, therefore, the establishment of indebtedness levels would be irrelevant, since the company's value was influenced by the composition of the assets and not how the resources are financed.

However, the assumptions made by Modigliani and Miller (1958) were the target of profound criticism due to the irrelevant practical applicability of the model, which did not provide the effect described in the real performance of firms and, consequently, in the profitability generated for shareholders and investors. In short, critics warned that the market was imperfect and, therefore, with information asymmetry between the parties, the way companies raised funds should impact the company's value.

Furthermore, given the criticism received, Modigliani and Miller (1963) published a new article, rectifying some considerations made in the previous study. In this, they report that for legal entities, it is necessary to consider the tax benefits linked to financial leverage, once the existing interest and charges on the debt are deductible in calculating the income tax, thus minimizing its cost compared to own resources that do not generate financial expenses and therefore do not raise in tax benefits. However, linked to debt, there is also an increase in the company's risk, making the shareholders demand a higher return on invested capital. In short, the authors (1963) bring in the fact that the capital structure actively participates in the valuation of the company.

The seminal works on the subject discussed, therefore, the way companies finance their activities, corresponding to the corporate capital structure. In this sense, in a more current view, Matias Filho (2012) reports that the movements (financing decisions) modify the composition between the total debt and equity of firms that, consequently, can change the way the market will see the company and its prospects, reflecting on its value. In fact, for Ahmed and Afza (2019), the ideal combination of debt and equity is essential, given that the capital structure is a significant antecedent for maximizing corporate performance (Ahmed & Afza, 2019), reflecting, therefore, in the company's survival in today's highly competitive and globalized market.

Throughout the evolution of knowledge about the capital structure in finance research, two main theories emerged that seeks, according to Silva (2014), to explain the financing policy adopted by profitable companies, being the trade-off theory and pecking-order theory. Thus, through the relevance of such theories for the understanding of possible relationships between capital structure and economic performance, the assumptions of the trade-off theory and, subsequently, of the pecking-order theory.

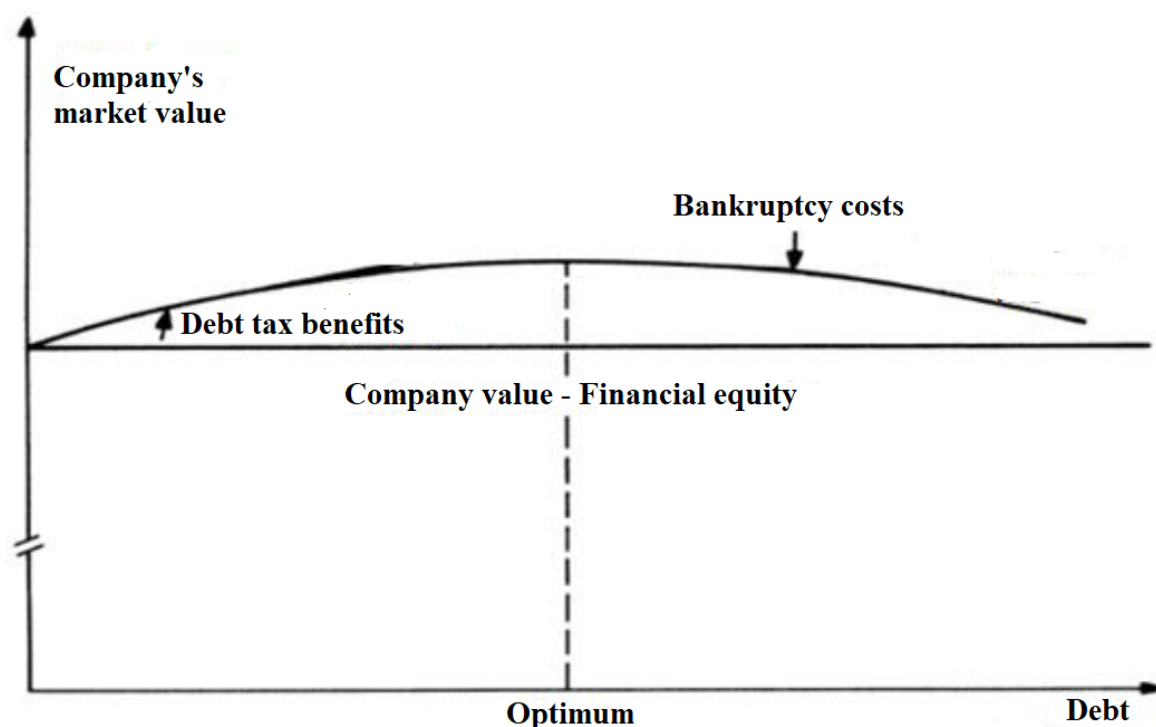
2.1.1 Trade-Off Theory

The trade-off theory is linked to the historical approach of Modigliani and Miller (1963), once it points out to fiscal issues linked to debt with third parties. However, this was discussed in greater depth by Myers (1977), who brought the understanding that companies seek to adjust their level of indebtedness at a point considered to be optimal, which is weighted by the tax benefits of debt and the increased cost of bankruptcy caused by leverage.

More specifically, for the trade-off theory, the companies establish a specific capital structure objective and, from this, financing decisions are made seeking to reach the proposed objective,

that is, they establish a relationship between third party resources, and adjust the capital structure of the corporation gradually until reaching the goal set in order to maximize the value of the company, offsetting the tax benefits and the costs of financial difficulties (Myers, 1984). For better understanding, the representation of this effect is given in Figure 1 below:

Figure 1. Static Trade-off of Capital Structure



Source: adapted from Myers (1984).

Figure 1 demonstrates that the maximum value of the company is reached at the optimum level of indebtedness, and from this point on, the costs of financial difficulties (bankruptcy) overcome the tax benefits of the debt. Thus, in theory, the trade-off theory signals a capital structure marked by a positive relationship between indebtedness and corporate performance.

2.1.2 Pecking-Order Theory

Developed by Myers (1984) and Myers and Majluf (1984), the pecking-order theory suggests that the organizations should prioritize in the first instance the capture of own resources, posteriorly of third party resources and, only as a last resort, seek resources by the intermediate of the issuance of shares. Thus, decisions about the capital structure must follow a hierarchy of preferences, since, as there is an informational asymmetry between the parties, the cost of raising capital is different depending on the capital provider.

More specifically, the connection of informational asymmetry with the hierarchy of resources is linked to the fact that equity, coming from the holders of the capital, has a lower cost, as they know the company and its prospects, with no greater need to convince them to invest in the firm. On the other hand, fundraising via debt with third parties and, mainly, issuing shares, generate costs to convince potential creditors/investors to allocate resources in the organization, as they do not know the business and, therefore, need more accurate information to make their decision, rais-

ing the cost of such sources of financing (Myers & Majluf, 1984).

Furthermore, based on the perspectives of the pecking-order theory, Abrantes (2013) reports that for that theory there must be a negative relationship between indebtedness and profitability and that the design of an order of preference is associated with information asymmetry, proving the absence of an optimal capital structure. Besides, he highlights that the primary reason for ranking is precisely to minimize the effects of asymmetry and avoid the value of the firm be depreciated after the announcement of a share offer.

Finally, it is highlighted that although the pecking-order theory can satisfactorily explain the inverse relationship between indebtedness and profitability, several factors still need to be better understood. In this sense, such theory fails to explain why countless companies with mature and abundant cash flows prefer to maintain high dividend payments instead of paying third party debts (Godoy, 2002). This fact corroborates Lopes (2015) recent statement, that the capital structure, besides being a crucial point in the area of corporate finance, due to its complexity, has several empirical studies carried out with diversified conclusions, which demands new research to be developed contemplating more robust methodologies for a better understanding of the existing phenomenon.

2.2 Economic Performance

Studies that mention economic performance indicators as fundamental for the evaluation of companies are historical. Beaver (1966) already pointed out the importance of such indicators as predictors of events, used even to alert companies to failure. Such research also highlights that the concern is not in the way the data is presented, but in the underlying predictive capacity of their financial statements. The motivation is to provide empirical verification of the utility (predictive capacity) of accounting data (financial statements).

In a more recent perspective, Nascimento (2011) confirms that profitability indicators make up the assessment of an organization's economic performance. Such indicators, specifically, represent the relationship between the earned result in the exercise and the elements used to achieve that result, such as total assets and invested equity (Nascimento, 2011), therefore referring to the measures of Return on Assets (ROA) and Return on Equity (ROE).

Henriques (2017) emphasizes that among the factors to be considered by organizations, performance is highlighted. This is because only after the analysis of such measures, the current corporate stakeholders or potential ones may choose to remain or transact with the analyzed organization, respectively (Henriques, 2017). In this way, it is possible to adhere to the relevant performance indicators with an informational role. Not by chance, the organizations strongly observe this dimension, being, according to Gyan et al. (2017) and Narang (2018), the performance maximization of the main corporate objective.

Furthermore, from a strategic point of view, until today, performance evaluation is essential seeking the decision making more assertive. Specifically, through performance evaluation, organizational managers can obtain reports that demonstrate their position with the established goals. Therefore, when analyzing the economic and financial performance, a process of directing resources and people is carried out in the way it was planned by the management (Zago, Mello & Rojo, 2015).

2.3 Family and Non-Family Business

Donnelley's (1967) seminal work brought to light some characteristics that differentiate family businesses from those managed by members who are not part of the family. In this sense, the



survey highlighted that the advantages that family businesses generally have over their non-family counterparts are personal sacrifice, a valuable family reputation, employee loyalty, social sensitivity, and continuity. However, there are also disadvantages such as conflicts of interest, lack of discipline, promotions from relatives (nepotism), and lack of formal controls.

Although the first theoretical studies on family businesses were dated at the end of the 1960s, research on such organizations is empirically relatively recent (Soto Maciel, 2013) and, therefore, there is still a huge field for investigations. However, studies have already been able to empirically prove certain differences between family organizations and companies managed by people who are not related.

In this sense, Anderson, Duru, and Reeb (2012) emphasize that family businesses are more averse to risk and operate with long-term investment horizons that, consequently, influence the level and type of investments that such organizations make. Also, Zellweger, Nason, Nordqvist, and Brush (2013) suggest that family businesses are more likely to seek non-financial results, also highlighting that the concern with corporate reputation leads the family to pursue such non-financial goals.

Recently, Miller and Miller (2015) also stated that family businesses have a long-term orientation, being directed to transmit tacit knowledge, protect and leverage the organizational reputation and, also, build strong relationships with all the parties. Therefore, based on this broad debate, it is expected that the capital structure will show different behavior under the economic performance of family businesses and their non-family counterparts.

2.4 Hypotheses Construction

Research that seeks to verify issues related to the capital structure of the organizations has been developed for some decades around the world, reaching the Brazilian scenario in the 1990s. In this sense, empirically, the first work of greater notoriety was carried out by Nakamura (1992), which verified the determinants of the capital structure of companies in the country. The research sample was made up of 427 publicly traded and closed companies, with the period of analysis from 1984 to 1989. The findings showed that the organizations in their debt decisions seek to maximize the wealth of shareholders looking for funds that have lower-cost resources. Still, has that the tangible asset, the size and the degree of mobilization positively influence the profitability, while indebtedness is negatively related to profitability, the latter finding being in line with the pecking-order theory prerogatives, given the preference and viability of internally generated sources as opposed to debt

Although Nakamura (1992) studied the Brazilian context in the early 1990s, it was only in the 2000s that research on the capital structure proliferated in Brazil. In this sense, Perobelli and Famá (2002) sought to verify which factors induce the indebtedness of Brazilian companies, with the research sample being 165 publicly traded organizations with data extracted from Economatica® for the periods from 1995 to 2000. The results show that there is a negative relationship between the profitability of the organizations and the level of short-term debt, corroborating, therefore, with the assumptions of the pecking-order theory. Besides, the short-term debt ratio also presented negatively related to the size and growth attributes of companies' assets.

Brito et al. (2007) investigated the determinants of the capital structure of the largest companies operating in Brazil. More specifically, the research sample consisted of 466 companies, being 185 publicly traded and 281 privately held with data for five years (1998 to 2002). The results indicated that profitability is not a determinant of the capital structure, as it did not present statistical significance. However, factors such as risk, size, asset composition, and growth have the power to explain how organizations finance their activities.



More recently, Correa, Basso, and Nakamura (2013) sought to analyze the level of indebtedness of the largest Brazilian companies, testing their determinants. To this end, they used a sample of 389 companies that generated a total of 1,945 observations (five years under analysis). The results point out to a negative relationship between corporate indebtedness and profitability, suggesting that the pecking-order theory is more consistent than the trade-off theory in order to explain the capital structure of Brazilian organizations. Moreover, tangibility negatively influences indebtedness, while risk has a positive relationship with debt, complementing the significant relationships observed in this study.

Given the aforementioned research, it appears that researchers have, over the years, sought to understand the relationship between capital structure and economic performance in the Brazilian scenario. However, the question of control and ownership of companies has been little explored, which is fundamental for the proper understanding of the phenomenon in question. Given theoretical aspects that family businesses are more risk-averse (Anderson et al., 2012) and also that they have long-term perspectives, aiming to shield the organization's reputation (Miller & Miller, 2015) and the name of the family, it is possible to foresee differentiation in fundraising between family and non-family businesses, especially because of family businesses being more conservative in terms of contracting debts. Therefore, this research seeks to fill this gap, testing the following research hypothesis:

H₁ - There is an influence of the capital structure on the economic performance of Brazilian family and non-family businesses, with differentiation between the two groups as to the best alternative for raising funds.

3 RESEARCH METHODOLOGY

In order to verify the influence of the capital structure on the economic performance of Brazilian family and non-family businesses, the present study is characterized as descriptive, by observing variables without manipulating them. Besides, the study is configured as a documentary, once the data used to calculate the variables are derived from the Economática® database and additional information obtained from the website of Brasil, Bolsa, Balcão (B3). Finally, the problem approach is defined as quantitative, as it identifies the influence of variables through statistical techniques.

The research population consisted of all Brazilian non-financial publicly traded companies listed in B3. To outline the sample, companies that did not have the necessary information to calculate the variables in the five periods under study (2011 to 2015) were excluded. Besides, companies whose information was characterized as outliers were also disregarded, being the data more than two standard deviations distant from the general average. Overall, the research sample included 117 companies that generated 585 observations with information from the years 2011 to 2015.

Subsequently, the research sample was subdivided into two groups, being family and non-family companies. It is worth mentioning that, to classify a given organization as family, the following criteria found in the literature were observed: family members hold 10% or more of the company's shares (Mok, Lam & Cheung, 1992); and/or, family members (two or more) participate in managing the business (Anderson & Reeb, 2003).

To measure the aforementioned information, the reference form of the organizations under study was consulted on the B3 website. In the end, 68 companies (58.1%) were classified as family members, generating 340 observations and 49 companies (41.9%) were outlined as non-familiar, obtaining 245 observations.



Regarding the data analysis, initially, the descriptive statistics of the quantitative variables under study were developed. Besides, an average test (Student's t) was performed to verify whether there are significant differences between the two groups surveyed (family and non-family businesses). Finally, linear regression models were operationalized to achieve the research goal. In this sense, Box 1, that is presented below, which contains the variables related to the study.

Box 1 – Research Construct

Dimension	Indicator	Formula	Authors
Dependent Variables	Return on Assets – ROA	$\frac{EBIT}{Total\ Assets}$	Bastos and Nakamura (2009); Ahmed and Afza (2019)
	Return on Equity – ROE	$\frac{Net\ Income}{Equity}$	Brito et al. (2007); Narang (2018)
Independent variables	Short-term Debt Ratio – SDR	$\frac{Short - term\ interest - bearing\ debt}{Total\ Assets}$	Silva (2002); Meneses, Ponte and Mapurunga (2013); Horta, Alves and Carvalho (2013)
	Long-term Debt Ratio – LDR	$\frac{Long - term\ interest - bearing\ debt}{Total\ Assets}$	
	Size – SIZE	Natural Logarithm (NL) of Total Assets	Forti, Peixoto and Alves (2015)
	Financial Slack – FS	$\frac{Current\ Assets - Inventory}{Current\ Liabilities}$	Campos and Nakamura (2013)
	Investment – INV	$\frac{Fixed\ Assets\ t1 - Fixed\ Assets\ t0}{Fixed\ Assets\ t0}$	Forti et al. (2015)
	Growth – GROW	$\frac{Total\ Revenue\ t1 - Total\ Revenue\ t0}{Total\ Revenue\ t0}$	Nakamura et al. (2007)
	Inflation – INFL	Annual Inflation Rate	Bastos et al. (2009)
	Gross Domestic Product (GDP) growth rate – GDP	Growth in Gross Domestic Product between 2011 and 2015	

Note: EBIT – Earnings Before Interest and Taxes.

Source: research data.

It should be noted that, for this study, the main independent variables, being Short-term Debt Ratio (SDR) and Long-term Debt Ratio (LDR), represent the capital structure of organizations. For its operationalization, the “Loans and Financing” account was observed, arising from the liabilities of organizations, both short and long term, respectively. Therefore, only interest-bearing debt is used, rather than all liabilities.

According to Machado, Medeiros, and Eld Júnior (2010), one of the most used measures in capital structure surveys is the interest-bearing debt divided by total assets, being the interest-bearing debt those that generate interest payments. Albanez and Valle (2009) report that the interest-bearing debt is specifically composed of loans and financing and debentures. Thus, as mentioned, in this study the option was made to use the equity account “Loans and Financing”, which corresponds to the sum of loans and financing in national and foreign currency, debentures, and finance by finance lease.

Besides, as performance measures, the variables being study-dependent, we chose the Return on Assets (ROA) and the Return on Equity (ROE). According to Nascimento (2011), economic performance indicators should relate the return earned by companies to their generating aspects, being mainly the assets and equity invested (Nascimento, 2011), since such elements contemplate the desires of countless interested parties existing in the company and the owners, respectively. Thus, was opted for such traditional indicators and widely used in previous research, as in Brito et al. (2007) and Bastos and Nakamura (2009) in the Brazilian scenario and Narang (2018) and Ahmed and Afza (2019) internationally.

That said, besides, using the variables presented in Chart 1, the models of multiple linear regressions were elaborated, observing their assumptions. Thus, the linear equations that will be used seeking to reach the research aim previously elaborated are shown below.

$$ROA = \beta_0 + \beta_1SDR + \beta_2LDR + \beta_3SIZE + \beta_4FS + \beta_5INV + \beta_6GROW + \beta_7INFL + \beta_8GDP \quad (1)$$

$$ROE = \beta_0 + \beta_1SDR + \beta_2LDR + \beta_3SIZE + \beta_4FS + \beta_5INV + \beta_6GROW + \beta_7INFL + \beta_8GDP \quad (2)$$

It should be noted that the information used was tabulated in electronic spreadsheets and, subsequently, the econometric models were performed with the support of the specialized software SPSS version 21.

4 RESULTS ANALYSIS

Initially, the descriptive statistics of the variables under study are presented in Table 1, as well as the Student t-test, to verify whether there are significant differences in the averages between the indicators of capital structure, economic performance, and other quantitative variables of Brazilian family and non-family businesses, which will then be the focus of more robust analysis.

Table 1. Descriptive Statistics and Variable Average Test

	Descriptive Statistics								Average Test (student t)	
	Brazilian Family Businesses				Brazilian non-Family Businesses				T	Sig
	Average	Standard Deviation	Min.	Max.	Average	Standard Deviation	Min.	Max.		
ROA	0.0674	0.0526	-0.1280	0.2226	0.0862	0.0594	-0.1307	0.2559	-4.044	0.000*
ROE	0.0732	0.1133	-0.3948	0.3413	0.1125	0.1165	-0.3568	0.3932	-4.092	0.000*
SDR	0.1035	0.0656	0.0015	0.3662	0.0815	0.0603	0.0024	0.3790	4.137	0.000*
LDR	0.1963	0.1298	0.0000	0.6157	0.2447	0.1276	0.0000	0.5291	-4.475	0.000*
SIZE	14.463	1.557	9.639	18.618	15.864	1.353	13.122	20.618	-11.327	0.000*
FS	1.4821	0.7102	0.3010	4.3964	1.2153	0.5313	0.3385	3.9892	4.963	0.000*
INV	0.0850	0.1910	-0.6466	1.0166	0.0754	0.2270	-0.6690	1.0942	0.554	0.290
GROW	0.0790	0.1610	-0.4267	0.6699	0.1053	0.1343	-0.3923	0.5230	-2.082	0.019**

Note: *Significance at 1% level; **Significance at 5% level; ***Significance at 10% level.

Source: research data.

As shown in Table 1, it is possible to observe that in both profitability indicators, being ROA and ROE, non-family businesses have higher ratios than family businesses, with such significant findings at a 5% level. Such evidence may be explained by the understanding of Zellweger et al. (2013) that family businesses tend to focus more on non-financial results, such as maintaining corporate reputation with society, being the financial perspective a consequence of non-financial objectives.



Besides, regarding the capital structure indicators (SDR and LDR), it is clear that family associations have a higher short-term debt ratio, while non-family businesses have a higher level of long-term debt ratio. Overall, consolidating the SDR and LDR variables, non-family businesses have a higher level of indebtedness (0.3262) than family businesses (0.2998). This fact corroborates the assumptions mentioned by Eld Júnior (1996) that companies managed by non-family professionals are more likely to seek capital from financial institutions, while family companies, as they are risk-averse (Anderson et al., 2012), must operate with lower leverage levels, mainly in the long term, once medium and long-term debt ratios are higher than those in the short-term (Nakano, 2005) and, thus, generate greater risk, meeting the conjectures of family management.

Finally, there is still, according to the descriptive statistics and average test that non-family businesses are larger than family businesses and have more accelerated growth, while family businesses operate with higher levels of financial slack compared to their non-family counterparts and present greater investment in fixed assets, although the latter finding is not significant at the 5% level. Among these, the variable financial slack is highlighted once, according to Miller and Miller (2015), family businesses are more likely to maintain slack resources, seeking long-term survival through risk mitigation, and the financial slack assists in achieving such goals.

In sequence, Table 2 is presented, which contains macroeconomic data from Brazil in the period studied, with inflation and GDP (Gross Domestic Product) growth rate being more specifically, which will later be used in the regression models to explain the economic performance of the organizations focus of analysis.

Table 2. Brazilian Macroeconomic Indicators (Inflation and GDP growth rate)

Year	Inflation	GDP growth rate
2011	6.6%	3.9%
2012	5.4%	1.9%
2013	6.2%	3.0%
2014	6.3%	0.1%
2015	9.0%	-3.8%

Source: World Bank.

As shown in Table 2, it is possible to observe that in 2015 Brazil faced its worst year within the time gap understudy, with inflation reaching a high rate of 9.0% and the economy decreasing 3.8% concerning the previous year. Such variables are important, once they may contribute to the explanation of the economic performance of firms, and are therefore included in the multiple linear regression model. Thus, Table 3 is presented next, which contains the results of the previously mentioned statistical model and which will be the focus of further analysis.



Table 3. Multiple Linear Regression Results

Variables	Brazilian Family Businesses				Brazilian non-Family Businesses			
	ROA		ROE		ROA		ROE	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
SDR	-0.080	0.059***	-0.104	0.269	-0.107	0.090***	-0.053	0.677
LDR	-0.009	0.690	-0.095	0.052***	0.060	0.043**	0.066	0.269
SIZE	-0.003	0.158	0.003	0.526	-0.002	0.379	0.000	0.988
FS	0.014	0.000*	0.033	0.000*	-0.018	0.013**	-0.023	0.113
INV	0.051	0.001*	0.099	0.002*	0.022	0.185	0.031	0.355
GROW	0.078	0.000*	0.136	0.001*	0.079	0.005*	0.117	0.041**
INFL	-0.001	0.678	-0.004	0.617	0.000	0.973	-0.004	0.657
GDP	0.001	0.520	0.003	0.381	0.004	0.101	0.005	0.262
(Constant)	0.092	0.010*	0.019	0.813	0.126	0.033**	0.140	0.240
R2	0.247		0.210		0.120		0.067	
Model Sig.	0.000*		0.000*		0.000*		0.036**	
Durbin-Watson	1.937		1.939		2.103		2.078	
VIF	<2.78		<2.78		<2.74		<2.74	
Obs. N°	340		340		245		245	

Note: *Significance at 1% level; **Significance at 5% level; ***Significance at 10% level.

Source: research data.

According to Table 3, it is possible to initially observe that all four operationalized models, being two for family businesses and two for non-family businesses are significant 1% or 5% levels, which allow us to make inferences. Besides, the Variance Inflation Factor (VIF), always below “5”, connotes that there are no multicollinearity problems between the variables. Finally, in all models the Durbin-Watson test was between the acceptable level that goes from “1 to 3”, always close, even, to 2, which is ideal.

Regarding the research findings, for family businesses, the variables of the capital structure called Short-term Debt Ratio (SDR) and Long-term Debt Ratio (LDR) were shown to be negatively related to economic performance, both for ROA such as for ROE. Of these, SDR has statistical significance at the level of 10% with the ROA and LDR present significance, at the same level, with the ROE.

Based on the aforementioned findings, it appears that for family businesses, the pecking-order theory, which postulates a negative relationship between indebtedness and profitability (Abrantes, 2013) better explains how such organizations should raise funds to maximize their value. According to Eld Júnior (1996) family businesses tend to obey a predetermined hierarchy of resources sources, a hierarchy based on the assumptions of the pecking-order theory, suggesting that organizations should in the first instance make use of their resources, other sources being used only when the organization can no longer generate resources internally, either through accumulated profits or allocation of additional resources by the partners (Myers, 1984; Myers & Majluf, 1984).

Besides, still about family businesses, financial slack has a positive influence on economic performance. Such evidence can be explained by two currents, being them: resource-based theory argues that financial slack is a source of competitive advantage and drives organizational growth (Lee, 2011); and, the company’s behavioral theory suggests that financial slack mitigates conflicts of interest (making payments to all stakeholders) and encourages innovation (Daniel, Lohrke, Fornaciari & Turner Jr, 2004). Besides, these findings are similar to the study by Lee (2011) in the American context, which also observed a positive linear relationship between slack and corporate performance.

The variables investment in fixed assets and growth are also positively related to the economic performance of family businesses, being such significant findings at a 1% level. It is

reasonable to assume that the relationship of both variables to the performance is similar, once the growth in sales occurs, generally, through the acquisition of new fixed assets, which boosts the production and enables the company's market growth. Besides, Gomes (2015) also evidenced a positive relationship between sales growth and profitability for companies in the European Union, corroborating the findings of this research. The increase in sales should provide a dilution of fixed costs, making it possible for companies to operate with higher profit margins, which ultimately leads to increased profitability. It should be noted that the variables size, inflation, and GDP growth rate were not significant for the sample of family businesses, thus not allowing inferences.

For non-family businesses, on the other hand, Short-term Debt Ratio (SDR) is negatively related to economic performance, while Long-term Debt Ratio (LDR) positively influences the corporate performance, and these findings are significant only for the variable ROA, at 10% and 5% levels, respectively. These results demonstrate that both, the trade-off theory and the pecking-order theory have the potential to explain how organizations should raise funds to maximize their value.

More specifically, the trade-off theory states that to maximize its value, the companies must make use of indebtedness to enjoy the tax benefits of debt, limiting themselves to the point where bankruptcy costs exceed those benefits, thus aiming, a certain capital structure objective (Myers, 1984), marked to a certain extent by the positive relationship between indebtedness and performance. The pecking-order theory, in turn, defends the negative relationship between indebtedness and performance (Abrantes, 2013), arguing that the companies should follow a hierarchy of preferences in fundraising, prioritizing their resources, subsequently from third parties and, ultimately, search for capital through the issuance of shares, basing that there is an informational asymmetry to support the understanding that their resources have lower funding costs (Myers, 1984; Myers & Majluf, 1984).

However, for this research, the results must be interpreted with greater accuracy. According to Braga, Nossa, and Marques (2004), companies that take short-term loans to finance needs related to working capital or even investments in non-current assets generally have a highly unfavorable position. It may even be assumed that in extreme situations, organizations in such conditions would be close to concordat or bankruptcy (Braga et al., 2004). Companies that use short-term loans and financing for their turnover or investments in non-current assets (which should generate long-term benefits) tend to reduce their performance, as they bear financial charges that deteriorate their performance, in addition to causing a mismatch in cash flows that may further harm the organization in the future.

On the other hand, according to Machado, Machado, and Callado (2006), one of the ways for companies to acquire new investments (notably in non-current assets) is through long-term loans, which is the source of funds generally used by companies managed by non-family managers (Eld Júnior, 1996). Thus, the evidenced positive relationship between long-term debt ratio and economic performance for non-family businesses, consistent with the trade-off theory, seems reasonable, once that the organizations raise long-term funds from financial institutions, enjoy the tax benefits of the debt and, consequently, generate resources through investments made to leverage their performance and settle their obligations, that is, they use financial leverage to maximize performance sustainably, without compromising the organization's future cash flows.

Besides, for non-family businesses, financial slack has a negative influence on performance, unlike the evidence found in family businesses. The relationship between financial slack and performance is complex and has mixed results (Daniel et al., 2004). The explanations that measure financial slack as a reduction in the performance are based on the understanding that surplus resources represent only unnecessary costs (Tan & Peng, 2003), as well as potential waste and refug-



es of strategic errors (Laffranchini & Braun, 2014), justifying the negative relationship between such variables.

Finally, the growth variable of the company positively influences the economic performance of Brazilian non-family businesses. Such evidence is similar to that evidenced for family businesses, as it corroborates the recent research findings of Gomes (2015) for the European Union context, revealing that the organization's growth, when sustainable, assists in maximizing the corporate performance. The variables size, investment in fixed assets, inflation, and GDP growth rate, in turn, were not significant and, therefore, do not allow inferences.

5 CONCLUSION

This study aimed to verify the influence of the capital structure on the economic performance of the Brazilian family and non-family businesses. According to evidence extracted from descriptive statistics, non-family businesses have greater performance than family businesses, which is consistent with the postulate by Zellweger et al. (2013) that family businesses are more likely to envision the achievement of non-financial objectives (such as maintaining corporate reputation), while companies managed by non-family professionals focus exclusively on financial returns, making them have superior economic performance. Besides, family businesses are more likely to use short-term debt, while non-family businesses have a higher level of long-term and total leverage.

Regarding the determinants of economic performance, with a special focus on the influence of the capital structure, both Short-term Debt Ratio (SDR) and Long-term Debt Ratio (LDR) negatively influence the performance of family businesses. As for non-family organizations, it was shown that the SDR is negatively related to the performance, while the LDR positively influences the performance of the companies. These results, compared with the two main existing theories on the topic - trade-off and pecking-order - are shown in Table 4 below:

Table 4 – Influence of the Capital Structure on the Economic Performance

Results Summary					
Family Businesses			Non-Family Businesses		
SDR (-)	ROA (+)	Pecking-Order	SDR (-)	ROA (+)	Pecking-Order
LDR (-)	ROE (+)	Pecking-Order	LDR (+)	ROA (+)	Trade-Off

Note: results shown above were significant at 1%, 5%, or 10% level.

Source: research data.

According to Table 4, the pecking-order theory best explains how family organizations should raise funds in order to maximize their performance. In fact, for Eld Júnior (1996), family businesses are predisposed to seek resources through a predetermined hierarchy, which is consistent with the pecking-order theory, which advocates the use of their resources initially, as these are the most accessible. Besides, Anderson et al. (2012) report that family organizations are risk-averse, being in a position to operate with lower debt levels.

For non-family businesses, in turn, both the trade-off theory and the pecking-order theory have the potential to explain how companies must seek resources to maintain their operations. Thus, the short-term debt ratio is detrimental to performance, mainly because, in general, organizations with high levels of short-term leverage have an unfavorable financial situation (Braga et al., 2004). However, the long-term debt ratio is used to make new investments (Machado et al., 2006), which generate sustainable cash flows in the future for the organization, maximizing business per-

formance.

In summary, the findings of this research refer to the statement by Fama and French (2005) that both theories have problems and advantages, being necessary to consider the two models together, each one having elements of truth that help to explain aspects of the financing decisions. Moreover, questions about ownership and management of companies discussed since Donnelley (1967), are fundamental to understand the correct relationship between capital structure and economic performance in family and non-family businesses. Thus, the accepted research hypothesis is that “There is an influence of the capital structure on the economic performance of Brazilian family and non-family businesses, with differentiation between the two groups as to the best alternative for raising funds” especially in what concerns to long-term debt ratio.

Therefore, it is concluded that family and non-family managers must observe, in a different way, the best way to raise funds (always looking for the lowest cost alternative) to maximize the value of the organizations they manage, considering the differentiated issues between both types of companies as a long-term view for family businesses and a short-term view for non-family businesses (Miller & Miller, 2015). As future research, it is directed to the use of the methodological precepts of this study, which demonstrated to be aligned to the phenomenon, in other emerging Latin American contexts, given the strong existence of family businesses in the mentioned environment.

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AUTHORS

1. Edgar Pamplona

PhD in Accounting and Administration from Regional University of Blumenau (FURB). Professor at Federal University of Mato Grosso do Sul (UFMS).

E-mail: edgarpamplona@hotmail.com

ORCID: <https://orcid.org/0000-0002-2579-5458>

2. Tarcísio Pedro da Silva

PhD in Accounting and Administration from Regional University of Blumenau (FURB).

E-mail: tarcisio@furb.br

ORCID: <https://orcid.org/0000-0002-2370-791X>

3. Wilson Toshiro Nakamura

PhD in Administration from University of São Paulo (USP).

E-mail: wtnakamura@uol.com.br

ORCID: <https://orcid.org/0000-0002-4697-5685>

Contribution of authors.

Contribution	[Author 1]	[Author 2]	[Author 3]
1. Definition of research problem	√	√	√
2. Development of hypotheses or research questions (empirical studies)	√		
3. Development of theoretical propositions (theoretical work)	√		
4. Theoretical foundation / Literature review	√		
5. Definition of methodological procedures	√	√	√
6. Data collection	√		
7. Statistical analysis	√		
8. Analysis and interpretation of data	√		
9. Critical revision of the manuscript	√	√	√
10. Manuscript writing	√		
11. Other (please specify)			

