

Profitability and conservative leverage of Brazilian companies¹

Rentabilidade e alavancagem conservadora de empresas brasileiras

Camila Adam , Gleice C. L. Moreno , Matheus Andriani , and Tarcísio Pedro Silva 

University of Blumenau, Blumenau, SC, Brazil

Authors' notes

Camila Adam is now a Ph.D. student in Accounting and Business at the Postgraduate Program in Accounting of University of Blumenau (Universidade Regional de Blumenau – Furb); Gleice C. L. Moreno is now a professor at the Department of Accounting of Federal University of Rondônia (Universidade Federal de Rondônia – Unir); Matheus Andriani is now an administrative manager at ARI Ltda.; Tarcísio Pedro Silva is now a professor at the Postgraduate Program in Accounting of Furb.

Correspondence concerning this article should be addressed to Camila Adam, Rua Antônio da Veiga, 140, Itoupava Seca, Blumenau, Santa Catarina, Brasil, ZIP code 89030-903. Email: adam.camila11@gmail.com

To cite this paper: Adam, C., Moreno, G. C. L., Andriani, M., & Silva, T. P. (2023). Profitability and conservative leverage of Brazilian companies. *Revista de Administração Mackenzie*, 24(4), 1–28. <https://doi.org/10.1590/1678-6971/eRAMF230278.en>

¹ Thanks to the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes)* and to the *Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)*. The present work was carried out with the support of the Capes – Financing Code 001. Funders had no influence on study design, data collection and analysis, decision to publish, and article preparation.



This is an open-access article distributed under the terms of the Creative Commons Attribution License.

This paper may be copied, distributed, displayed, transmitted or adapted for any purpose, even commercially, if provided, in a clear and explicit way, the name of the journal, the edition, the year and the pages on which the paper was originally published, but not suggesting that RAM endorses paper reuse. This licensing term should be made explicit in cases of reuse or distribution to third parties.

Este artigo pode ser copiado, distribuído, exibido, transmitido ou adaptado para qualquer fim, mesmo que comercial, desde que citados, de forma clara e explícita, o nome da revista, a edição, o ano e as páginas nas quais o artigo foi publicado originalmente, mas sem sugerir que a RAM endosse a reutilização do artigo. Esse termo de licenciamento deve ser explicitado para os casos de reutilização ou distribuição para terceiros.



Abstract

Purpose: The study aims to analyze the relationship between profitability and conservative leverage of Brazilian companies.

Originality/value: The study contributes to the literature by investigating profitability as a fundamental determinant of the conservative leverage of Brazilian companies, making it possible to understand whether this influence is based on a perspective of flexibility or financial constraint.

Design/methodology/approach: The research is characterized as descriptive, archival, and quantitative. The study sample consisted of 271 public companies and 8,823 private companies. Data were collected in the Refinitiv Eikon database between 2012 and 2019 (eight years). For data analysis, the study used logistic regression in Stata software.

Findings: The results indicate that, on average, 5.05% of public companies have zero leverage, and 29.08% of private companies have book leverage below 5%; in the context of public companies, the more profitable the company, the greater the probability of having almost zero leverage, corroborating the perspective of financial flexibility. Less profitable private companies are likelier to have zero leverage, which is consistent with the view of financial constraint.

Keywords: profitability, conservative leverage, zero leverage, almost zero leverage, Brazilian companies



Resumo

Objetivo: O estudo tem como objetivo analisar a relação entre a rentabilidade e a alavancagem conservadora das empresas brasileiras.

Originalidade/valor: O estudo contribui para a literatura ao investigar a rentabilidade como um determinante fundamental da alavancagem conservadora das empresas brasileiras, sendo possível entender se essa influência é baseada numa perspectiva de flexibilidade ou de restrição financeira.

Design/metodologia/abordagem: A pesquisa se caracteriza como descritiva, documental e quantitativa. A amostra do estudo foi constituída por 271 empresas de capital aberto e 8.823 empresas de capital fechado. Os dados foram coletados na base Refinitiv Eikon para o período entre 2012 e 2019 (oito anos). Para a análise dos dados, o estudo utilizou a regressão logística no *software* Stata.

Resultados: Os resultados indicam que, em média, 5,05% das empresas de capital aberto possuem alavancagem zero, e 29,08% das empresas de capital fechado possuem alavancagem contábil inferior a 5%. No contexto das empresas de capital aberto, quanto mais rentável a empresa, maior a probabilidade de apresentar alavancagem quase zero, corroborando a perspectiva da flexibilidade financeira. Já para as empresas de capital fechado que são menos rentáveis, há maior probabilidade de apresentarem alavancagem zero, o que coaduna com a perspectiva da restrição financeira.

Palavras-chave: rentabilidade, alavancagem conservadora, alavancagem zero, alavancagem quase zero, empresas brasileiras



INTRODUCTION

The number of companies with conservative leverage, companies without debt or with a low level of debt, has increased considerably in the last two decades, being a global phenomenon (Bessler et al., 2013). This growing prevalence of companies with conservative leverage has some explanations, such as the entry of new companies in the stock market, which naturally have less debt (DeAngelo & Roll, 2015) and the increase in the business risk of companies, which in order not to incur emergency costs seek to be debt-free (Wei & Zhang, 2006; Bessler et al., 2013).

In the literature, there are two main reasons for conservative leverage, financial flexibility (Bessler et al., 2013; Huang et al., 2017) and financial constraint (Dang, 2013; Huang et al., 2017). From the perspective of financial flexibility, conservative leverage can be understood as a conservative position of the company with a strategic objective. Due to the financial constraint, conservative leverage results from the company being unable to borrow and face debt costs (Moon et al., 2015).

Conservative leverage can be understood in two ways, a phenomenon of zero leverage, that is, in which a company does not have long and short-term debt, or a phenomenon of almost zero leverage or low leverage, in which the company has debt but with book leverage of less than 5% (Strebulaev & Yang, 2013; Zhang & Gregoriou, 2019). Although some studies have presented relevant information on the subject, such as Strebulaev and Yang (2013), Bessler et al. (2013), and Dang (2013), there is a lack of confirmation of which factors influence the occurrence of conservative leverage (Byoun & Xu, 2013).

Morais et al. (2021) studied the phenomenon of conservative leverage to understand the behavior of leverage in European companies. The contributions confirmed that both financial flexibility and restrictions on access to credit between different countries are explanations presented when the structure of capital has conservative leverage.

When studying the environment of North American companies, Devos et al. (2012) infer explanations that funding constraints are determinants for conservative leverage, while companies with low debt have lower total assets, are younger, and have fewer intangible assets than leveraged ones, suggesting that they have not yet developed a reputation in the debt markets.

When analyzing the perspective of financial flexibility, profitability is one of the critical factors for the existence of conservative leverage (Morais et al., 2021). In their study, Titman and Wessels (1988) empirically estab-





lished a negative relationship between profitability and leverage. Corroborating this idea, Wong (2015) and Jermias and Yigit (2019) found that the most profitable companies have lower leverage levels, as profitability causes less dependence on indebtedness. Studies addressing conservative leverage also point to a trend toward greater profitability in companies with conservative leverage compared to more leveraged companies (Byoun & Xu, 2013; Strebulaev & Yang, 2013; Devos et al., 2012).

According to data from the Central Bank of Brazil (BCB) (2019), Brazilian companies have high levels of leverage, reaching, on average, almost half of their total assets, despite the high interest charged and the underdeveloped stock market compared to other countries. For Bessler et al. (2013), it is common for companies to have a higher level of leverage in countries where the main source of funds is banks, as in the case of Brazil. Banking concentration in the country is high, with the five largest banks in Brazil holding 81.2% of the total assets of the commercial banking segment (BCB, 2019).

Despite the high leverage ratio of Brazilian companies, financial disclosures in recent years indicate the occurrence of conservative leverage. Therefore, based on previous studies on the subject, which found a significant and positive association between conservative leverage and profitability, and given the country's financial characteristics (bank-based system) that indicate high dependence on debt, it is assumed that the company's conservative leverage must be explained by increased profitability. For this argument, the perspective of financial flexibility is used, one of the main reasons indicated in the literature as an influencer of conservative leverage in companies from emerging countries, according to Iliasov and Kokoreva (2018) and Yasmin and Rashid (2019).

Given the above, with the understanding that there is a relationship between profitability and conservative leverage, and considering the particular context of Brazil, the study's objective is to analyze the relationship between profitability and conservative leverage of Brazilian companies. Two hundred seventy-one public companies and 8,823 Brazilian private companies were analyzed over eight years to meet the proposed purpose. Data were analyzed using logistic regressions in Stata software.

The survey results indicate that for public companies, the higher the profitability, the greater the probability of almost zero leverage, supporting the perspective of financial flexibility. In the context of the stock market, public companies are more likely to become companies with nearly zero leverage since they have other ways to finance their activities, such as issuing shares. For private companies, it was found that the lower the profitability,





the greater the probability of zero leverage, which supports the perspective of financial constraints. It is understood that private companies are more dependent on third-party capital and end up not incurring debt when they are financially constrained.

According to El Ghouli et al. (2018), conservative leverage is more prominent in developed and high-income countries, as they have favorable conditions for it. As a result, the literature on conservative leverage is very concentrated in developed countries, with few studies covering emerging countries, among which Yasmin and Rashid (2019) investigated companies in Pakistan, and Iliasov and Kokoreva (2018) analyzed 21 emerging countries.

Therefore, this research seeks to provide empirical evidence in the context of Brazil as an emerging country, chosen because its context differs from previous studies that investigated developed countries such as the United States, Japan, and European countries (Strebulaev & Yang, 2013; Takami, 2016; Morais et al., 2021). Thus, one of the justifications for this study is the development of empirical literature that deals with conservative leverage and profitability in companies from emerging countries, such as Brazil.

Notably, the literature on conservative leverage surveys is mostly on public companies. In this way, this study also contributes to the literature when working with both public and private companies, showing the peculiarities and main differences of each type of company to profitability and the phenomenon of conservative leverage. In this context, it is possible to analyze the kind of financial condition promoted by the characteristics of the companies (public and private), that is, financial constraint or financial flexibility, and how this influences the occurrence of conservative leverage.

THEORETICAL FRAMEWORK

In the context of capital structure, important studies were developed (Modigliani & Miller, 1958, 1963; Jensen & Meckling, 1976; Myers, 1984) with the expectation of clarifying which theories, reasons, or criteria justify a financing policy in which companies can reduce transaction costs and maximize their results.

The influential research developed by Modigliani and Miller (1958), which encouraged other researchers to develop studies related to capital structure, showed that the maximization of profits and the maximization of the company's market value are independent of this structure. The study by Modigliani and Miller (1963) recognizes the influence of taxes on debt and profit. Jensen and Meckling (1976) highlighted the influence of agency costs





and conflicts of interest arising from the existence of debt on the capital structure. While Myers (1984) mentions some reflections on capital structure, such as the static trade-off, which seeks to balance the risk of bankruptcy of high debt burdens with the tax benefits of indebtedness, and the pecking order theory, which orders the preference for finance its internal projects, using first its resources, second debts and finally raising funds through the issuance of shares.

In the literature, there is some understanding that companies with conservative leverage are inconsistent with what the theories on capital structures advocate (Dang, 2013; Lotfaliei, 2018). According to Bessler et al. (2013), neither the trade-off theory nor the pecking order theory can explain why many companies adopt conservative leverage. However, from an alternative perspective, the study by Haddad and Lotfaliei (2019) indicates that the static trade-off theory is aligned with the phenomenon of conservative leverage.

Due to the lack of theoretical support provided by the main capital structure theories for the zero-leverage phenomenon, studies have used alternative approaches to explain financial conservatism. Among the main aspects investigated are financial constraint and financial flexibility (Morais et al., 2020).

As a result of empirical contributions, Strebulaev and Yang (2013) infer that conservative leverage comes from companies with debt-free characteristics or with a reduced level of debt during a certain period. Thus, conservative leverage encompasses two concepts of low book leverage: zero and almost zero. The zero-leverage phenomenon occurs when a company has no short-term or long-term financial debt (Zhang & Gregoriou, 2019). The phenomenon of almost zero leverage occurs when a company has financial debt, however, at a very low level, with book leverage below 5% (Strebulaev & Yang, 2013).

Strebulaev and Yang (2013), motivated by the increase in the number of large American companies that ended the year with no short- and long-term debt, concluded that, on average, 10.2% of these large American companies follow a zero-leverage policy. Furthermore, they found evidence that suggests that companies without debt are more profitable than others, which may explain the independence of indebtedness. For smaller companies, credit constraint, such as the high interest charged due to the absence of a good level of collateral, is also associated with the absence of debt.

In line with the theme, Dang (2013) found that historically in the United Kingdom, the number of companies with zero leverage is even higher than





in the United States. Its main finding was that companies avoided contracting debt in years when the interest charged was the highest. Extending the analysis to an international sample composed of several countries, Bessler et al. (2013) found that the type of dominant legal system adopted in the country influences the adoption of a zero-leverage policy. For countries with a common law legal system, about 27% of the companies analyzed experienced the absence of debt in one of the years analyzed, against only 10% in countries with a civil law system.

Takami (2016), when analyzing the phenomenon in Japan, found that only 5.7% of listed companies experienced zero leverage in the analyzed period. Its main finding was that the current financial system in the country is directly related to the phenomenon studied. In countries with a financial system based on the capital market, that is, with a developed stock market and with a large flow, as in the United States, the number of debt-free companies is greater than in countries that have banks as the main source of debt, such as Japan.

BCB (2019) showed that Brazilian companies are, on average, indebtedness in the range of 47%. This number indicates a high dependence of Brazilian companies on all types of credit (banking, subsidized, and foreign market funding), despite high-interest rates and the underdeveloped stock market in the country. Brazilian companies have a financial system based on banks; therefore, the highest level of leverage is common (Bessler et al., 2013). However, even with this trend, there are signs of conservative leverage in Brazilian companies.

More recently, Morais et al. (2021), using all the findings of previous studies, found that among the various European countries, there was a greater occurrence of the phenomenon of zero leverage in countries that adopt the common law legal system and have a financial system based on the capital market. Going into the characteristics of organizations, the research found that the credit constraint caused by the size, level of tangible assets, financial flexibility, and high profitability rates is associated with zero leverage.

Among the studies that deal with conservative leverage, a trend of greater profitability in companies with conservative leverage was pointed out concerning companies that are leveraged. In the context of developed countries, Graham (2000) and Strebulaev and Yang (2013) worked with United States' companies and identified that companies with conservative leverage are larger and more profitable. Cui (2020), investigating Japanese companies, indicated that companies are more likely to have conservative leverage when they are profitable and have assets with lower tangibility.





Studies with companies from emerging countries also found a relationship between conservative leverage and profitability. In research on public companies in Turkey, Jermias and Yigit's (2019) study found that profitability is negatively and significantly associated with leverage, considering that profitable companies tend to use less debt financing, as they can accumulate a large number of profits. And looking at Pakistani companies, the study by Yasmin and Rashid (2019) found that companies with conservative leverage are more profitable.

Thus, the alignment of this research, using the financial flexibility aspect, infers that profitability may be related to accounting leverage. This condition seeks support in the study by Titman and Wessels (1988), who found a negative relationship between the profitability and leverage of companies. The study by Wong (2015) also considered that there is an inverse relationship between leverage and corporate profitability.

Based on the results of previous studies carried out in other countries and considering the dependence on bank credit by Brazilian companies, it is assumed that only companies with a high level of profitability can have such financial flexibility as to become independent of external resources, presenting hence conservative leverage, such as zero leverage or almost zero leverage. Therefore, we highlight the following research hypothesis:

- H1: Profitability is positively related to the conservative leverage of Brazilian companies.

METHODOLOGICAL PROCEDURES

The research is characterized as descriptive, archival, and quantitative. The study population consisted of 497 public companies with shares traded on the B3 stock exchange and 39,320 private companies (privately held S. A. companies and large companies), with data in the Refinitiv Eikon database.

After excluding companies in the financial industry, the study sample consisted of 271 public companies and 8,823 private companies. Data on companies were obtained from the Refinitiv Eikon database. Data were collected between 2012 and 2019 (eight years). The study worked with unbalanced data, totaling 22,687 observations.

Table 1 presents the variables used in the study and their description and definition.



Table 1**Definition of the variables**

Variables	Definition	Source
Dependent variables		
Book leverage (BL)	Total debt/total assets	
Zero leverage (ZL)	Dummy (equals 1 if BL is 0 in a given year and 0 otherwise)	
Almost zero leverage – not exceeding 1% (AZL1)	Dummy (equals 1 if BL is 1% or lower in a given year, and 0 otherwise)	Strebulaev and Yang (2013)
Almost zero leverage – not exceeding 5% (AZL5)	Dummy (equals 1 if BL is 5% or lower in a given year, and 0 otherwise)	
Independent variable		
Profitability (PROFT)	EBIT/total assets	Strebulaev and Yang (2013) and Morais et al. (2021)
Control variables		
Cash holdings (CASH)	Cash and short-term investments/total assets	El Ghoul et al. (2018)
Growth rate (GRWT)	$\left(\frac{\text{Total sales}_t}{\text{Total sales}_{t-1}} \right) - 1$	Ghose and Kabra (2016)
Earnings volatility (EARN)	The volatility of profitability (3-year standard deviation)	
Size	The logarithm of total assets	Strebulaev and Yang (2013)
Tangibility (TANG)	Net fixed assets/total assets	
Uniqueness (UNIQ)	Selling, general and administrative expenses/net sales	Ghose and Kabra (2016)

Source: Elaborated by the authors.

According to Table 1, the dependent variables of the study are related to conservative leverage, such as zero leverage (ZL), almost zero leverage up to 1% (AZL1), and almost zero leverage up to 5% (AZL5). In order to calculate the accounting leverage, the study considered the value of onerous debts (short and long-term loans, financing, and debentures) in terms of total assets, according to Strebulaev and Yang (2013). The study's independent variable is profitability (PROFT), measured from EBIT to total assets. As for



the control variables, cash holdings (CASH), growth rate (GRWT), earnings volatility (EARN), size (SIZE), tangibility (TANG), and uniqueness (UNIQ) were used.

In analyzing the results, the study by Morais et al. (2021) was used to employ the variables profitability (PROFT), cash holdings (CASH), and growth rate (GRWT), as a proxy for financial flexibility, and the variables size (SIZE) and tangibility (TANG), as a proxy for financial constraint.

The concept of conservative leverage was used to analyze the study better since it encompasses three levels of leverage together (ZL, AZL1, and AZL5). And according to Byoun and Xu (2013), companies without debt and with low leverage have different characteristics. The study by Strebulaev and Yang (2013) also worked with more than one level of conservative leverage in addition to zero leverage to verify whether companies that do not have zero leverage also pursue a low level of leverage.

As for data analysis, the study applied logistic regression to test the hypothesis using the Stata software. For the regressions, some adjustment measures of the model were considered, such as the Pseudo R2 and the Hosmer-Lemeshow Test (Fávero et al., 2009).

For logistic regression, the following models were used:

$$\begin{aligned} ZL_{i,t} = & \beta_0 + \beta_1 \text{PROFT}_{i,t} + \beta_2 \text{CASH}_{i,t} + \beta_3 \text{GRWT}_{i,t} + \beta_4 \text{EARN}_{i,t} \\ & + \beta_5 \text{SIZE}_{i,t} + \beta_6 \text{TANG}_{i,t} + \beta_7 \text{UNIQ}_{i,t} + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} AZL1_{i,t} = & \beta_0 + \beta_1 \text{PROFT}_{i,t} + \beta_2 \text{CASH}_{i,t} + \beta_3 \text{GRWT}_{i,t} + \beta_4 \text{EARN}_{i,t} \\ & + \beta_5 \text{SIZE}_{i,t} + \beta_6 \text{TANG}_{i,t} + \beta_7 \text{UNIQ}_{i,t} + \varepsilon \end{aligned} \quad (2)$$

$$\begin{aligned} AZL5_{i,t} = & \beta_0 + \beta_1 \text{PROFT}_{i,t} + \beta_2 \text{CASH}_{i,t} + \beta_3 \text{GRWT}_{i,t} + \beta_4 \text{EARN}_{i,t} + \\ & \beta_5 \text{SIZE}_{i,t} + \beta_6 \text{TANG}_{i,t} + \beta_7 \text{UNIQ}_{i,t} + \varepsilon \end{aligned} \quad (3)$$

For each of the models, equations 1, 2, and 3, three different analyzes were carried out, considering all companies, only public companies, and only private companies. In this way, it was possible to analyze whether the relationship studied has different effects when considering the context of public and private companies separately.

In addition to these analyses, the study performed the t-test to verify whether there are differences between public and private companies regarding





the variables analyzed. Additional analyzes were also motivated with the aim of verifying whether private companies are more conservative than public companies about debt since these are not exposed to the stock market environment and do not need to signal to the market through the indebtedness of the perspective of future investments of the company.

Due to the selection used, the study has certain methodological limitations. Thus, the results of this study cannot be generalized to all company configurations, only to public and private companies with conservative leverage and are non-financial.

ANALYSIS OF RESULTS

This section is intended to analyze the results. Table 2 presents the result of the t-test between companies that have conservative leverage (zero leverage and almost zero leverage) and companies that do not.

Table 2
Descriptive statistics

Variable	Conservative leverage (ZL, AZL1, and AZL5) Mean	No conservative leverage	T-test
PROFT	0.124	0.108	0.016***
CASH	0.176	0.144	0.031**
GRWT	0.147	0.094	0.053***
EARN	0.104	0.103	0.001
SIZE	18.180	18.368	-0.187***
TANG	0.238	0.268	-0.030***
UNIQ	0.234	0.203	0.030***

Source: Elaborated by the authors.

Note. PROFT: profitability; CASH: cash holdings; GRWT: growth rate; EARN: earnings volatility; TANG: tangibility; UNIQ: uniqueness.

Companies with conservative leverage present significant differences at the level of 1% with companies without any financially conservative policy concerning profitability, cash holdings, growth rate, size, tangibility, and



uniqueness. In this sense, companies adopting a conservative leverage policy (zero or almost zero leverage) tend to be more profitable and have greater liquidity, growth opportunities, and more specialized products. On the other hand, they are smaller companies in terms of assets and are less tangible. These results corroborate the studies by Ghose and Kabra (2016) and Morais et al. (2020), who point out that financially conservative companies are usually smaller, with less tangibility, retain more cash, have a higher growth rate, and act more expressively with specialized products.

As the study works with public and private companies, Table 3 shows the sample distribution to the company type and the accounting leverage measures.

Table 3
Conservative leverage and type of company

Type of company	ZL		AZL1		AZL5	
	N	%	N	%	N	%
Public companies (N = 1,723 observations)	87	5.05	127	7.37	219	12.71
Private companies (N = 20,964 observations)	260	1.24	1,474	7.03	6,096	29.08
Total (N = 22,687 observations)	347	1.53	1,601	7.06	6,315	27.84

Source: Elaborated by the authors.

Note: ZL: zero leverage; AZL1: almost zero leverage (not exceeding 1%); AZL5: almost zero leverage (not exceeding 5%).

Among the total observations, 1.53% had zero leverage, 7.06% had almost zero leverage (up to 1%), and 27.84% had almost zero leverage (up to 5%). As for public companies, 5.05% had zero leverage, slightly lower than that of North American companies (10.2%) (Strebulaev & Yang, 2013) and United Kingdom's companies (12.18%) (Dang, 2013), which have a financial system based on the capital market and are developed countries.

Compared to Japan, which has the same financial system based on banks in Brazil, the proportion of zero leverage of Brazilian companies is very similar. In Japan, the percentage is 5.7% (Takami, 2016). Furthermore, 7.37% of Brazilian public companies had almost zero leverage (1%), and 12.71% had almost zero leverage (5%). Thus, the findings of the study by Bessler et al. (2013) showed that a higher level of leverage is common in companies from

countries with a bank-based financial system, which generates a lower occurrence of zero leverage.

Of private companies, 1.24% had zero leverage, 7.03% had almost zero leverage (1%), and 29.08% had almost zero leverage (5%). These results show that although private companies have a lower zero leverage ratio, they have a greater proportion of accounting leverage below 5% than public companies.

Thus, it can be understood that public companies have a higher proportion of zero leverage because they have a greater amount of funding sources available, such as the ability to raise funds in the capital market through the issuance of shares on the stock exchange. Thus, they do not depend as much on third-party capital as is the case with private companies, which depend more on banks for financing and loans.

In order to verify whether there are differences in the variables studied between public and private companies, descriptive analysis and t-test were performed, as shown in Table 4.

Table 4
Descriptive analysis and t-test of public and private companies

	Private companies		Public companies		T-test
	Mean	Standard deviation	Mean	Standard deviation	
BL	0.179	0.544	0.341	0.342	-0.161***
PROFT	0.118	0.294	0.052	0.120	0.065***
CASH	0.108	0.141	0.122	0.111	-0.013***
GRWT	0.153	0.790	0.160	1.178	-0.006
EARN	0.109	0.409	0.045	0.080	0.063***
SIZE	18.045	1.641	21.613	1.907	-3.568***
TANG	0.261	0.224	0.255	0.230	0.005
UNIQ	0.207	0.473	0.273	0.641	-0.066***
Observações	1,723		20,964		

Source: Elaborated by the authors.

Note. *** p < 0.01. BL: book leverage; PROFT: profitability; CASH: cash holdings; GRWT: growth rate; EARN: earnings volatility; TANG: tangibility; UNIQ: uniqueness.

It is observed that private companies present significant differences at the level of 1% with public companies in terms of accounting leverage, profitability, cash holdings, earnings volatility, size, and uniqueness. In this

sense, private companies tend to be less leveraged and more profitable, have less liquidity, and have more unstable profitability. In terms of size, private companies tend to be smaller and have less uniqueness in the products they work with. It is noteworthy that the growth rate and tangibility variables did not show significant differences between public and private companies. From the differences presented, the type of company (public or private) can influence the variables studied.

To verify whether conservative leverage is a lasting phenomenon in Brazilian companies, an analysis of the persistence of zero and almost zero leverage was carried out for the analyzed period, as shown in Table 5.

Table 5
Persistence of conservative leverage

Duration (years)	ZL		AZL1		AZL5	
	N	%	N	%	N	%
1	347	100	1,601	100	6,315	100.00
2	226	65.13	1,175	73.39	5,351	84.73
3	178	51.30	804	50.22	4,218	66.79
4	92	26.51	352	21.99	2,520	39.90
5	65	18.73	201	12.55	1,640	25.97
6	49	14.12	109	6.81	1,098	17.39
7	35	10.09	68	4.25	643	10.18
8	2	0.58	22	1.37	324	5.13

Source: Elaborated by the authors.

Note. ZL: zero leverage; AZL1: almost zero leverage (not exceeding 1%); AZL5: almost zero leverage (not exceeding 5%).

It appears that most Brazilian companies adopt conservative leverage for about 3 to 4 consecutive years. Regarding companies with zero leverage, about 26% maintain the policy for four consecutive years and 10% for seven consecutive years. Regarding companies that adopt almost zero leverage up to 1%, about 50% maintain the policy for four consecutive years and 1% for eight consecutive years. Of companies with almost zero leverage up to 5%, about 40% maintain the policy for four consecutive years and 5% for eight consecutive years.

Thus, it appears that the phenomenon of conservative leverage is attenuated over time, not lasting in the long term in most Brazilian companies that

adopt the policy. However, in smaller numbers, some companies manage to maintain a conservative leverage policy for several consecutive years, which is probably a strategic decision based on flexibility or financial constraint.

To verify the phenomenon of conservative leverage by industry, Table 6 shows the distribution of companies with conservative leverage and the respective persistence by industry.

Table 6
Conservative leverage and industry

Industry	ZL			AZL1			AZL5		
	N	%	P	N	%	P	N	%	P
Industrials (N = 7,951)	121	1.52	0.279	535	6.73	0.312	2,120	26.66	0.425
Consumer cyclicals (N = 4,609)	68	1.48	0.436	331	7.18	0.369	1,364	29.59	0.452
Consumer non-cyclicals (N = 2,271)	18	0.79	0.222	128	5.64	0.298	516	22.72	0.414
Energy (N = 268)	4	1.49	0.125	25	9.33	0.280	85	31.72	0.404
Basic materials (N = 4,194)	42	1.00	0.262	289	6.89	0.324	1,319	31.45	0.462
Healthcare (N = 746)	20	2.68	0.563	56	7.51	0.462	219	29.36	0.436
Technology (N = 1,357)	12	0.88	0.364	65	4.79	0.282	290	21.37	0.374
Utilities (N = 839)	21	2.50	0.303	84	10.01	0.327	264	31.47	0.426
Real estate (N = 398)	40	10.05	0.644	84	21.11	0.473	128	32.16	0.494
Others (N = 54)	1	1.85	0.125	4	7.41	0.500	10	18.52	0.425
Total	347	1.53		1,601	7.06		6,315	27.84	

Source: Elaborated by the authors.

Note: ZL: zero leverage; AZL1: almost zero leverage (not exceeding 1%); AZL5: almost zero leverage (not exceeding 5%). P: average persistence of conservative leverage by industry. The persistence calculation was based on the study by Bessler et al. (2013), in which the longest period of consecutive conservative leverage of the company is analyzed to the number of years analyzed. The "Other" category includes institutions, associations and organizations, government activity, and academic and educational services.



The results allow us to infer that the conservative level of debt is more representative in the real estate, healthcare, utilities, and energy industries. On the other hand, the consumer non-cyclical and technology industries had the lowest observation of conservative leverage. When analyzing the persistence, it is noted that the real estate, basic materials, and healthcare industries are the ones that maintain the conservative leverage policy for the longest time and consecutively. While the energy, consumer non-cyclical, and technology industries are the ones with less persistent conservative leverage over the years.

Thus, the results are in line with the study by Dang (2013) that extreme conservative leverage may depend on the industry in which the companies operate. Concerning the Real Estate, Healthcare, and Energy industries, the reduced level of debt can be explained by the fact that they deal with exclusive and specialized products, as pointed out by Titman and Wessels (1988), by the greater volume of cash reserves and a scenario with greater opportunity for growth (Morais et al., 2020). Furthermore, development and credit policies can explain the different levels of conservative leverage among the analyzed industries and their persistence.

Figure 1 shows the distribution of Brazilian companies with conservative leverage per year.

It is observed that the phenomenon of conservative leverage showed fluctuations in Brazilian companies over the years from 2012 to 2019. In general, there is a trend of growth in conservative leverage between 2012 and 2016 and a downward trend between 2016 and 2019, especially when analyzing the total sample and private companies.

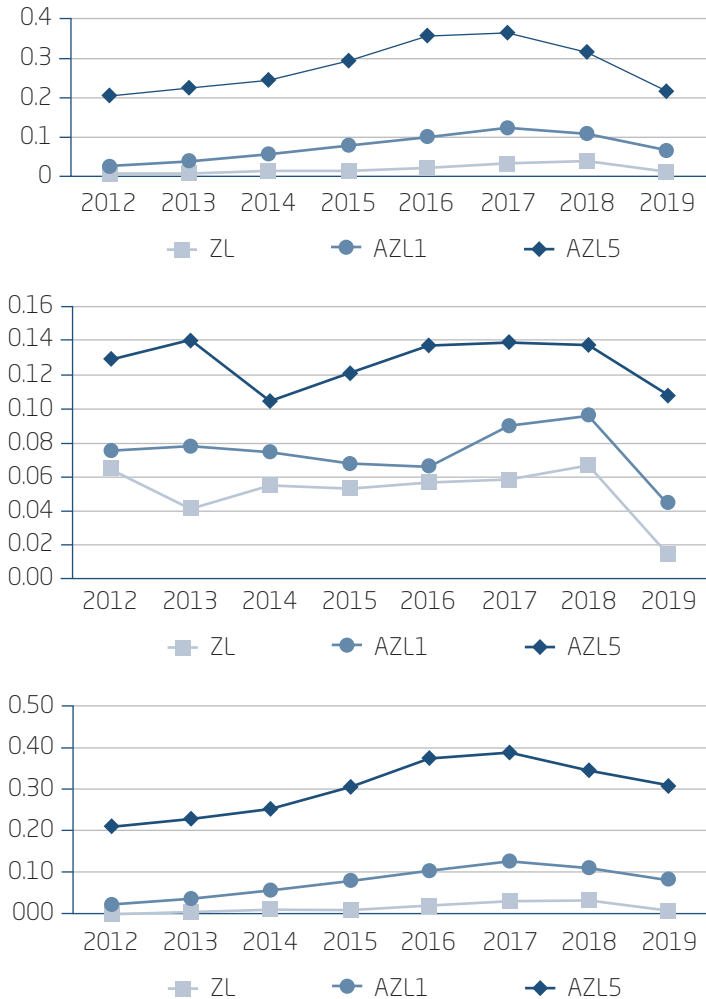
Despite the conservative leverage showing signs of decline in recent years (2016-2019), it appears that the phenomenon had periods of constant growth in Brazilian companies, especially in private companies, which is in line with what has been observed in other countries, such as the United States, United Kingdom, Japan, and Pakistan (Strebulaev & Yang, 2013; Dang, 2013; Takami, 2016; Yasmin & Rashid, 2019).

The increase in companies' business risk, that is, the volatility of assets, caused by the crisis scenario in recent years, may be a factor that justifies the increase in conservative leverage in Brazilian companies, both for public and private companies that avoid debt to avoid incurring emergency costs (Wei & Zhang, 2006; Bessler et al., 2013).



Figure 1

Conservative leverage and year



Source: Elaborated by the authors.

Note. ZL: zero leverage; AZL1: almost zero leverage (not exceeding 1%); AZL5: almost zero leverage (not exceeding 5%).

Table 7 shows the logistic regression results for the models equations 1, 2, and 3. According to the results, when analyzing all companies, it is found that zero leverage has a negative (-0.563) and significant relationship at the level of 1% with profitability. As for almost zero leverage up to 1%, there is a negative relationship (-0.179) and a significant level of 10% with profitability.

Table 7
Profitability and conservative leverage

	AZL5 ^a								
	ZL ^a				AZL1 ^a				
	1	2	3	4	5	6	7	8	9
Independent variable									
PROFIT	-0.563*** (-2.950)	-0.291 (-0.360)	-0.404* (-1.860)	-0.179* (-1.890)	0.457 (0.680)	-0.137 (-1.400)	-0.058 (-1.020)	0.925* (1.700)	-0.027 (-0.470)
Control variables									
CASH	2.643*** (8.920)	4.215*** (5.080)	2.066*** (5.980)	2.194*** (13.720)	3.605*** (4.870)	2.002*** (12.200)	2.713*** (24.600)	3.685*** (5.780)	2.664*** (23.840)
GRWT	-0.003 (-0.050)	-0.049 (-0.360)	-0.013 (-0.150)	0.059** (2.380)	-0.155 (-0.900)	0.065** (2.400)	0.057*** (3.320)	-0.180 (-1.210)	0.058*** (3.150)
EARN	0.008 (0.130)	-1.818 (-1.270)	0.035 (0.590)	0.027 (0.690)	0.322 (0.320)	0.034 (0.860)	-0.135* (-1.800)	1.937** (2.410)	-0.146* (-1.870)
SIZE	-0.083*** (-2.640)	-0.769*** (-9.150)	-0.026 (-0.680)	-0.054*** (-3.510)	-0.684*** (-10.220)	0.059*** (3.520)	-0.060*** (-6.510)	-0.509*** (-10.330)	0.063*** (6.350)
TANG	-0.510* (-1.750)	-0.777 (-1.090)	-0.799** (-2.370)	-0.533*** (-3.930)	-0.007 (-0.010)	-0.687*** (-4.880)	-0.208*** (-2.820)	0.992*** (2.580)	-0.258*** (-3.450)
UNIQ	0.163*** (3.400)	0.259** (2.450)	0.136** (2.200)	0.188*** (5.590)	0.211** (2.230)	0.186*** (5.240)	0.155*** (4.870)	0.172* (1.930)	0.166*** (4.690)
Constant	-4.406*** (-5.100)	323.487*** (2.850)	-788.303*** (-11.280)	-2.590*** (-6.570)	154.062* (1.690)	-532.307*** (-17.930)	-0.328 (-1.410)	63.229 (0.910)	-314.393*** (-18.490)

(continue)

Table 7 (conclusion)
Profitability and conservative leverage

	1	2	3	4	5	6	7	8	9
	ZL ^a		AZL1 ^a			AZL5 ^a			
Model information									
Industry fixed effects	Yes			Yes			Yes		
Year fixed effects	Yes			Yes			Yes		
Observations	22,687	1,723	20,964	22,687	1,723	20,964	22,687	1,723	20,964
Prob > chi ²	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R ²	0.1067	0.2931	0.0693	0.0663	0.2362	0.0538	0.0491	0.1687	0.0420

Source: Elaborated by the authors.

Note: *p < 0.1. **p < 0.05. ***p < 0.01. ^a Dummy variable. Columns 1, 4, and 7 present the results for the total sample. Columns 2, 5, and 8 present the results for the subsample of public companies. Columns 3, 6, and 9 present the results for the subsample of private companies. ZL: zero leverage; AZL1: almost zero leverage (not exceeding 1%); AZL5: almost zero leverage (not exceeding 5%); PROFIT: profitability; CASH: cash holdings; GRWT: growth rate; EARN: earnings volatility; TANG: tangibility; UNIQ: uniqueness. The Hosmer-Lemeshow test showed a p-value greater than 0.05 for all models, indicating no significant differences between predicted and observed frequencies at a significance level of 5%.



Thus, when analyzing the entire sample, it appears that companies with lower profitability are more likely to have zero leverage, that is, not having financial indebtedness. The results are different from the study by Strebulaev and Yang (2013), which shows that companies with zero leverage are more profitable. However, the results can confirm the financial constraint aspect of studies on zero leverage, which considers that companies that are financially constrained are more likely to have zero leverage, as it reduces the chances of obtaining resources from third parties (Dang, 2013; Bessler et al., 2013; Morais et al., 2021).

Although a negative and significant relationship was found between conservative leverage and profitability for the entire sample, different results were found when analyzing public and private companies separately. There was no significant relationship between zero leverage and profitability for public companies. However, with almost zero leverage up to 5%, there was a positive and significant relationship with profitability at the level of 10%. While for private companies, there was a negative (-0.404) and significant relationship at the 10% level between zero leverage and profitability.

Given the above, it is noteworthy that, for public companies, profitability significantly explains the occurrence of the phenomenon of almost zero leverage, indicating that the more profitable the company is, the greater the probability of presenting almost zero leverage. This result is consistent with the study by Strebulaev and Yang (2013) and Morais et al. (2021), who verified from a financial flexibility perspective that profitability helps explain the occurrence of the phenomenon of conservative leverage. Thus, public companies have almost zero leverage, not because of a financial constraint condition but of management's choice to preserve the company's future indebtedness capacity and thus be able to invest in future opportunities and maintain a good reputation in the market (Morais et al., 2020).

In addition, this positive relationship supports the understanding that stock markets are more favorable for companies with little or no debt, which is the case for public companies (Byoun & Xu, 2013). The findings are also in line with the study by Huang et al. (2017), who found that companies without external financing needs are more likely to become companies with conservative leverage, which is the case of public companies, which have other ways to finance their activities, such as the issuance of shares, at their disposal.

On the other hand, private companies have a negative and significant relationship between profitability and zero leverage. They indicate that less profitable companies are more likely to have zero leverage. This result





corroborates the study by Iliasov and Kokoreva (2018), who, despite investigating public companies, worked in a context of 21 emerging countries and identified that companies with conservative leverage are less profitable.

The negative relationship between profitability and conservative leverage in private Brazilian companies can be explained by the current financial system in the country, the banking system, which influences the greater leverage of companies, not least because credit markets are less favorable for debt-free companies (Byoun & Xu, 2013). Thus, only companies with financial constraints would not be leveraged, so high profitability encourages increased leverage in this context (Bessler et al., 2013; Takami, 2016).

In this way, the results regarding private companies can confirm the financial constraint aspect of conservative leverage, which considers that companies are more likely to have zero or almost zero leverage when they are financially constrained, as the ability to raise funds with third parties of these companies is reduced (Dang, 2013; Bessler et al., 2013; Morais et al., 2021). In this case, companies with low profitability and size would be more likely to have conservative leverage, as they have a lower reputation for borrowing resources from third parties.

In addition, private companies differ from public companies in terms of conservative leverage, as these have a higher cost of debt capital, generating a preference for contracting debt over equity financing. And since it is more costly for private companies to rebalance their debt ratios, leverage will be more sensitive to profitability (Brav, 2009).

Regarding the control variables, it was found that cash holdings presented a positive and significant relationship with all models, indicating that companies with greater liquidity are more likely to present conservative leverage. As for the growth rate, there was a positive and significant relationship with almost zero leverage up to 1% and almost zero leverage up to 5%. In this way, presenting an opportunity for growth increases the probability that companies will present conservative leverage, especially almost zero leverage. The result of these two control variables corroborates the financial flexibility aspect. According to the literature, companies with greater cash holdings and growth opportunities tend to be more likely to be financially conservative and to be able to invest in good opportunities (Morais et al., 2020).

The earnings volatility variable showed a negative and significant relationship with conservative leverage when analyzing the entire sample of private companies. On the other hand, there is a positive relationship when analyzing public companies. In this sense, the instability of profitability





increases the probability of public companies having almost zero leverage by up to 5% and reduces the probability of private companies.

Size and tangibility showed a negative and significant relationship with conservative leverage, indicating that the greater the company's total assets and fixed assets, the less likely the phenomenon of conservative leverage is to occur. However, some peculiarities were verified for public and private companies. Specifically for private companies, it was found that the greater the size of assets, the greater the probability of almost zero leverage. For public companies, it was found that the greater the tangibility, the greater the probability of leverage almost zero, up to 5%. In general, the results regarding size and tangibility corroborate the financial constraint aspect. According to the literature, larger companies with greater tangibility tend to be less likely to adopt financially conservative policies, as they present more favorable conditions for obtaining debt (Morais et al., 2020). The study by Devos et al. (2012) found that companies with zero debt are smaller and with fewer intangible assets than leveraged ones, suggesting that these companies have not yet developed a reputation in the debt markets.

Regarding the uniqueness variable, there was a positive and significant relationship with conservative leverage, indicating that companies that work with unique products are more likely to present conservative leverage. This finding corroborates the studies by Titman and Wessels (1988) and Ghose and Kabra (2016) that companies that work with exclusive products are more likely to adopt a financially conservative policy as they seek to minimize high liquidation costs.

Thus, from the results, there are indications to partially accept hypothesis 1 since, for public companies, profitability has a positive relationship with conservative leverage. However, for private companies, there is a negative relationship. The study contributes to the literature, especially in the context of private companies. Although little explored, the environment of companies that do not have publicly traded capital is representative in Brazil and of fundamental importance for the Brazilian market. It appears that the study of the conservative leverage of these companies is interesting, while the way of financing activities differ from public companies, which have access to more options.

In addition, it is possible to address some gaps described in the literature from the study. For example, how is the behavior related to financing with third-party capital in private companies characterized? Are there differences between the financial policies of public and private companies? What is significantly different between public and private companies? (Brav,



2009). According to the study results, public and private companies are different in terms of their conservative leverage policy, mainly due to the type of market they have access to (credit and shares) and capital costs. Thus, it is understood that Brazilian public companies have conservative leverage from a financial flexibility perspective, while private Brazilian companies from a financial constraint perspective.

CONCLUSION

This study aimed to analyze the relationship between profitability and conservative leverage of Brazilian companies. To do so, it used a sample of public and private Brazilian companies covering a period of eight years (2012 to 2019). On average, 5.05% of public companies have zero leverage, and 29.08% of private companies have accounting leverage below 5%.

Considering the previous studies, the study's hypothesis indicated that profitability would be one of the explanatory factors for the cases of companies with conservative leverage. However, a significant but negative relationship was found between profitability and conservative leverage for Brazilian companies. However, this result supports the perspective of financial constraint on conservative leverage since it was found that zero leverage is negatively related to tangibility and size, evidencing that companies with zero debt are smaller and with fewer intangible assets than leveraged ones, suggesting that the latter have not yet developed a reputation in the debt markets.

In turn, when analyzing only public companies, with a much smaller number of observations and very different characteristics from private companies, such as size and tangibility, a significant and positive relationship was found, indicating that in the context of public companies, the more profitable the company, the more likely it is to have almost zero leverage. In this way, the study shows that, due to their peculiarities, because they are in the context of the stock market, which is more favorable to companies with little debt, and because they are companies with no need for external financing, they are more likely to become almost zero leverage companies, as they have other ways to finance their activities, such as the issuance of shares.

On the other hand, private companies showed a negative and significant relationship between profitability and zero leverage. They indicate that private companies that are less profitable are more likely to have zero leverage. In general, the study's hypothesis, which predicted a positive relationship between profitability and conservative leverage, was partially accepted since only public companies present this indicator.





This study has some implications for the scientific community. First, it was found that conservative leverage, both at zero leverage and almost zero leverage, is somehow defined by the profitability of companies. In some, the high profitability can create an environment conducive to the conservative trend, while in others, the low profitability leads to this direction. Thus, there are indications that the profitability of Brazilian companies is a fundamental determinant to be considered when analyzing the phenomenon of conservative leverage in the capital structure.

Second, it was found that there are differences between public and private companies regarding the relationship between profitability and conservative leverage. The evidence may indicate that private Brazilian companies with conservative leverage have financial constraints, while they are less profitable, smaller, and have fewer intangible assets. While public companies have conservative leverage from a perspective of financial flexibility.

Third, the study brings contributions to the literature when working with the phenomenon of conservative leverage in an emerging country since, in this context, there is still little research. For future research, we suggest using a broader sample, such as that of Latin American countries, to verify whether macroeconomic factors, such as interest rates, influence the results found.

REFERENCES

- Banco Central do Brasil (2019). *Relatório de Estabilidade Financeira*. <https://www.bcb.gov.br/publicacoes/ref>
- Bessler, W., Drobetz, W., Haller, R., & Meier, I. (2013). The international zero-leverage phenomenon. *Journal of Corporate Finance*, 23, 196–221. <https://doi.org/10.1016/j.jcorpfin.2013.08.004>
- Brav, O. (2009). Access to capital, capital structure, and the funding of the firm. *Journal of Finance*, 64(1), 263–308. <https://doi.org/10.1111/j.1540-6261.2008.01434.x>
- Byoun, S., & Xu, Z. (2013). Why do some firms go debt free? *Asia-Pacific Journal of Financial Studies*, 42(1), 1–38. <https://doi.org/10.1111/ajfs.12009>
- Cui, W. (2020). Is debt conservatism the solution to financial constraints? An empirical analysis of Japanese firms. *Applied Economics*, 52(23), 2526–2543. <https://doi.org/10.1080/00036846.2019.1693019>
- Dang, V. A. (2013). An empirical analysis of zero-leverage firms: New evidence from the UK. *International Review of Financial Analysis*, 30, 189–202. <https://doi.org/10.1016/j.irfa.2013.08.007>



- DeAngelo, H., & Roll, R. (2015). How stable are corporate capital structures? *The Journal of Finance*, 70(1), 373–418. <https://doi.org/10.1111/jofi.12163>
- Devos, E., Dhillon, U., Jagannathan, M., & Krishnamurthy, S. (2012). Why are firms unlevered? *Journal of Corporate Finance*, 18(3), 664–682. <https://doi.org/10.1016/j.jcorpfin.2012.03.003>
- El Ghouli, S., Guedhami, O., Kwok, C., & Zheng, X. (2018). Zero-leverage puzzle: An international comparison. *Review of Finance*, 22(3), 1063–1120. <https://doi.org/10.1093/rof/rfw065>
- Fávero, L. P., Belfiore, P., Silva, F. L., & Chan, B. L. (2009). *Análise de dados: Modelagem multivariada para tomar decisões*. Elsevier.
- Ghose, B., & Kabra, K. C. (2016). What determines firms' zero-leverage policy in India? *Managerial Finance*, 42(12), 1138–1158. <https://doi.org/10.1108/MF-01-2016-0029>
- Graham, J. R. (2000). How big are the tax benefits of debt? *Journal of Finance*, 55(5), 1901–1941. <https://doi.org/10.1111/0022-1082.00277>
- Haddad, K., & Lotfaliei, B. (2019). Trade-off theory and zero leverage. *Finance Research Letters*, 31, 165–170. <https://doi.org/10.1016/j.frl.2019.04.011>
- Huang, Z., Li, W., & Gao, W. (2017). Why do firms choose zero-leverage policy? Evidence from China. *Applied Economics*, 49(28), 2736–2748. <https://doi.org/10.1080/00036846.2016.1245845>
- Iliasov, D. V., & Kokoreva, M. S. (2018). Financial constraints versus financial flexibility: What drives zero-debt puzzle in emerging markets? *Russian Management Journal*, 16(3), 407–434. <https://doi.org/10.21638/spbu18.2018.305>
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jermias, J., & Yigit, F. (2019). Factors affecting leverage during a financial crisis: Evidence from Turkey. *Borsa Istanbul Review*, 19(2), 171–185. <https://doi.org/10.1016/j.bir.2018.07.002>
- Lotfaliei, B. (2018). Zero leverage and the value in waiting to have debt. *Journal of Banking & Finance*, 97, 335–349. <https://doi.org/10.1016/j.jbankfin.2018.09.010>
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261–297. <http://www.jstor.org/stable/1809766>





- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review*, 53(3), 433–443. <https://www.jstor.org/stable/1809167>
- Moon, G., Lee, H., & Waggle, D. (2015). The effect of debt capacity on the long-term stock returns of debt-free firms. *Applied Economics*, 47(4), 333–345. <https://doi.org/10.1080/00036846.2014.959655>
- Morais, F., Serrasqueiro, Z., & Ramalho, J. J. S. (2020). The zero-leverage phenomenon: A bivariate probit with partial observability approach. *Research in International Business and Finance*, 53, 101201. <https://doi.org/10.1016/j.ribaf.2020.101201>
- Morais, F., Serrasqueiro, Z., & Ramalho, J. J. S. (2021). The zero-leverage phenomenon in European listed firms: A financing decision or an imposition of the financial market? *Business Research Quarterly*, 1–23. <https://doi.org/10.1177/23409444211024653>
- Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), 575–592. <https://doi.org/10.2307/2327916>
- Strebulaev, I. A., & Yang, B. (2013). The mystery of zero-leverage firms. *Journal of Financial Economics*, 109(1), 1–23. <https://doi.org/10.1016/j.jfineco.2013.02.001>
- Takami, S. (2016). Factors inhibiting Japanese firms from zero leverage: Financial constraints and bank relationships. *Asia-Pacific Journal of Accounting & Economics*, 23(2), 161–176. <https://doi.org/10.1080/16081625.2015.1012089>
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choices. *Journal of Finance*, 43(1), 1–19. <https://doi.org/10.1111/j.1540-6261.1988.tb02585.x>
- Wei, S. X., & Zhang, C. (2006). Why did individual stocks become more volatile? *The Journal of Business*, 79(1), 259–292. <https://doi.org/10.1086/497411>
- Wong, K. P. (2015). A regret theory of capital structure. *Finance Research Letters*, 12, 48–57. <https://doi.org/10.1016/j.frl.2014.12.001>
- Yasmin, A., & Rashid, A. (2019). On the mystery of financial conservatism: Insights from Pakistan. *Emerging Markets Finance and Trade*, 55(12), 2904–2927. <https://doi.org/10.1080/1540496X.2018.1553158>
- Zhang, S., & Gregoriou, A. (2019). The price behavior around initial loan announcements: Evidence from zero-leverage firms in the UK. *Research International Business and Finance*, 50, 191–200. <https://doi.org/10.1016/j.ribaf.2019.05.004>



EDITORIAL BOARD

Editor-in-chief
Gilberto Perez

Associated editor
David Ferreira Lopes Santos

Technical support
Gabriel Henrique Carille

EDITORIAL PRODUCTION

Publishing coordination
Jéssica Dametta

Editorial intern
Victória Andrade Rocha

Language editor
Bardo Editorial
(Andrew Benson & Irina Migliari)

Layout designer
Emap

Graphic designer
Libro

