ISSN 1808-057X
DOI: 10.1590/1808-057x20241979.en

ORIGINAL ARTICLE

Leverage, entrenched managers, and moderating effect of main shareholder's influence

Bruno José Canassa[1]
https://orcid.org/0000-0001-8060-6894
Email: bjcanassa@fearp.usp.br

Lucas Allan Diniz Schwarz[2]
https://orcid.org/0000-0003-3854-513X
Email: ladschwarz@gmail.com

Maurício Ribeiro do Valle[1]
https://orcid.org/0000-0003-2439-3526
Email: marvalle@usp.br

[1] Universidade de São Paulo, Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Departamento de Contabilidade, Ribeirão Preto, SP, Brazil
[2] Universidade Federal do Rio Grande do Norte, Departamento de Contabilidade, Natal, RN, Brazil

Received on 08/14/2023 – Desk acceptance on 10/20/2023 – 3rd version approved on 04/23/2024
Editor-in-Chief: Andson Braga de Aguiar
Associate Editor: Andrea Maria Accioly Fonseca Minardi

ABSTRACT

This study associated the leverage of Brazilian listed companies with their managers' search for protection against the risk of main shareholder's intervention. Although the literature has pointed out that managers might increase leverage in order to protect themselves against takeovers, it had not yet investigated the use of debt as a defense against the risk of intervention by the company's main shareholder. This research addresses the main issue of corporate governance, i.e. entrenchment resulting from manager's strengthening and excessive protection. The importance of considering the agency relationship when explaining the capital structure observed in Brazilian companies is reinforced, especially when considering the existence of optimal leverage that might maximize value for shareholders. Panel regressions tested the association of leverage with managerial strengthening and the risk of main shareholder's intervention for a sample of Brazilian listed companies. Specifically, an interaction model was used in which the observed leverage is a function of strengthened managers, those whose compensation is always higher than expected, given company characteristics and performance, who sought protection against large shareholders who have great influence on the decisions of their companies. The results suggest that, although they have a potential interest in reducing debt discipline, entrenched managers increase debt level in the presence of a large influential shareholder, demonstrating commitment to shareholders. These results highlight the importance of Agency Theory in explaining the capital structure of Brazilian companies, and highlight similarities in the approach to leverage by managers in markets with different characteristics, such as Brazil and the United States of America (USA).

Keywords: leverage, Agency Theory, Trade-Off Theory, managerial entrenchment.

Correspondence address

Bruno José Canassa
Universidade de São Paulo, Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Departamento de Contabilidade
Avenida Bandeirantes, 3900 – CEP: 14040-905
Monte Alegre – Ribeirão Preto – SP – Brazil

This is a bilingual text. This article was originally written in Portuguese and published under the DOI https://doi.org/10.1590/1808-057x20241979.pt
Paper presented at the 22nd USP International Conference in Accounting, São Paulo, SP, Brazil, July 2022.

Alavancagem, gestores entrincheirados e o efeito moderador da influência do principal acionista

RESUMO

Este estudo associou a alavancagem das empresas listadas brasileiras à busca de seus gestores por proteção contra o risco de intervenções do principal acionista. Embora a literatura tenha apontado que gestores aumentariam a alavancagem com o intuito de protegerem-se contra tomadas de controle, ainda não havia investigado o uso da dívida como defesa contra o risco de intervenções pelo principal acionista da empresa. Esta pesquisa aborda o principal problema da governança corporativa, que é o entrincheiramento decorrente do fortalecimento e da proteção excessiva dos gestores. Reforça-se a importância de considerar a relação de agência ao explicar a estrutura de capital observada nas empresas brasileiras, especialmente quando se considera a existência de alavancagens ótimas que maximizariam o valor para os acionistas. Regressões em painel testaram a associação da alavancagem ao fortalecimento gerencial e o risco de intervenção pelo principal acionista para uma amostra de empresas listadas brasileiras. Especificamente, utilizou-se um modelo de interação no qual a alavancagem observada é função de gestores fortalecidos, aqueles cuja remuneração sempre é maior do que o esperado, dadas as características e o desempenho da empresa, que buscaram proteção contra grandes acionistas muito influentes nas decisões em suas empresas. Os resultados sugerem que, embora tenham um potencial interesse em diminuir a disciplina da dívida, gestores entrincheirados aumentam o nível de endividamento na presença de um grande acionista influente, demonstrando comprometimento aos acionistas. Esses resultados destacam a importância da Teoria da Agência para explicar a estrutura de capital das empresas brasileiras, e ressaltam semelhanças na abordagem à alavancagem por gestores em mercados de características diferentes, como o brasileiro e o norte-americano.

Palavras-chave: *alavancagem, Teoria da Agência, Teoria do Trade-Off, entrincheiramento gerencial.*

1. INTRODUCTION

Agency Theory predicts that managers make decisions in their own interests if they do not receive sufficient incentives to meet shareholders' expectations. This may include, for instance, setting leverage levels that do not aim to maximize firm value so that the consumption of private benefits is not limited by debt (Jensen, 1986; Jensen & Meckling, 1976; Stulz, 1990). Due to agency conflict, corporate governance and control mechanisms seek to align managerial decisions with shareholders' interests, disciplining managers. However, it is worth noticing that the effectiveness of these mechanisms is not guaranteed, since managers themselves can use the authority of their positions to make decisions that protect them from the discipline they are subject to (Berger et al., 1997; Morellec, 2003; Shleifer & Vishny, 1989).

As it is known that the capital structure exerts discipline on management (Shleifer & Vishny, 1997), the following question arises:

- How is manager's protection, or search for protection, associated with the leverage observed in companies?

By assumption, in addition to the limitations imposed by debt, managers are disciplined by the risk of intervention in their positions by new shareholders after taking control of the company or by large shareholders with sufficient interest and power to influence all others (Tayachi et al., 2021).

The literature has identified that managers who are strengthened within their companies reduce leverage to avoid debt discipline (Jiraporn & Liu, 2008; Li et al., 2017; Tosun, 2015). Furthermore, when the probability of intervention in their positions is high, managers respond by increasing leverage (Berger et al., 1997). Therefore, there would be debt levels that optimize managers' security in their positions. So much so that, when protected from takeovers, managers reduce debt to further reduce the discipline applied (Garvey & Hanka, 1999). However, the effect of protection, or the search for protection, before large influential shareholders has not yet been investigated, and that is the focus of this study.

Thus, the objective of this study was to verify whether strengthened managers increase leverage level in the presence of a large influential shareholder. The research hypothesis is that strengthened managers, who might avoid debt discipline, would protect themselves against interventions by influential shareholders by increasing leverage.

Using a sample of 81 Brazilian listed companies, it was verified whether main shareholder's influence affected manager's leverage decisions. The results of random panel estimation effects and stacked least squares support the hypothesis, showing that strengthened managers leverage their companies more in the presence of a large influential shareholder. Leverage practiced by protected managers can be up to 38% higher when large shareholder's influence is high. Therefore, the results suggest that when main shareholder's influence is high, their discipline over management outweighs even manager's interest in avoiding debt risks. This conclusion is reinforced by Brazilian market characteristics, where discipline in the rare takeovers has little or no effect on management decisions (Mello & Carvalho, 2014), unlike debt and the main shareholder against which management seeks protection.

In this way, we bring relevant contributions, such as considering conflict between managers and shareholders in the study of capital structure in Brazilian companies. This study differs from national investigations, which have addressed the effect of governance indices and bodies such as the Board of Directors on leverage, often with inconclusive results. According to Bebchuk et al. (2009), these factors are secondary to corporate governance, whose main issue, considered in this research, is manager's entrenchment through strengthening and excessive protection of their positions. Investigating the influence of large shareholders also innovates in relation to studies on conflict between majoritarian and minoritarian shareholders, which focus only on share concentration.

2. THEORETICAL FRAMEWORK

Agency conflicts and capital structure have been associated since Jensen and Meckling (1976). Conflicts can involve both managers and shareholders, as well as managers (who are often shareholders themselves) and creditors. These conflicts may explain why optimal leverage, which would maximize company value for shareholders by generating tax benefits greater than the cost of financial difficulties, is rarely observed in practice. However, managers often have real authority to define company leverage, and can make decisions that diverge from what would be optimal for shareholders. That is, managers may define leverage that is favorable to them, but not to shareholders (Hart, 1996; Morellec, 2003).

However, managers are not completely free to define capital structure in their companies. Corporate governance mechanisms exist to discipline management to make decisions in line with investors' expectations (Berger et al., 1997; Shleifer & Vishny, 1997). Examples include monitoring by the Board of Directors and compensation and promotion plans, as well as punishment mechanisms, notably dismissal risk if a manager does not deliver satisfactory results (Hermalin & Weisbach, 1998; Jensen & Murphy, 1990). These mechanisms aim to ensure that investors are adequately compensated for their investment, giving management the authority to encourage them, while at the same time controlling them from using company resources for private gain (Aghion & Tirole, 1997).

If corporate governance is flawed, management becomes empowered to define leverage for its own benefit, expropriating value from shareholders. It is understood that managers seek private goals, but to do so they need security in their positions. Thus, they might determine leverage that is lower than optimal, but that would guarantee them even more protection (Jensen & Meckling, 1976; Morellec, 2003; Shleifer & Vishny, 1989). Taking on highly leveraged positions increases the likelihood of financial difficulties and bankruptcy, in addition to increasing the risk of losing reputation and position (Grossman & Hart, 1982). Even if these risks are small, debt service reduces the free cash flow available to consume perks and make personal investments (Jensen, 1986; Stulz, 1990).

So, it is possible to suggest that strengthened managers determine lower leverage than optimal to avoid risks debt limitations. Although Jensen and Meckling's (1976) suggestion that managers increase debt to pass on investment risk to creditors seems to be a counterpoint to this study's suggestion, such a possibility is conditioned by the shareholding and consequent liability of managers in the event of bankruptcy. In fact, they are more likely to prefer resources generated internally by company operations than leverage to make investments without return (Jensen, 1986).

Even when strengthened, managers are still under shareholder's control. In fact, it is recognized that the possibility of shareholder intervention is the main discipline management is subject to (Bebchuk et al., 2009; Gompers et al., 2003). Intervention may occur after takeovers, when new investors buy stocks to increase their value and resell them after making changes to the company, usually by changing management. Intervention may also come from large shareholders, who have enough influence to make changes to the company when needed. Shleifer and Vishny

(1997) point out that large shareholders do not necessarily need to have a majoritarian stake; they just need to have enough votes to influence decisions. Grossman and Hart (1980) also indicate that when ownership structure consists of numerous atomistic shareholders, they tend to follow main shareholder's decisions, even when the latter does not hold a large shareholding.

Therefore, managers would be expected to adjust company leverage according to the risk of shareholder intervention. Zwiebel (1996) adds that managers, seeking to protect themselves in their positions, might increase leverage above what would be advantageous to them in order to signal their commitment to value creation and to restricting their own consumption of private benefits. Novaes (2003) and Novaes and Zingales (1995) also propose that managers might increase leverage to attribute risk to the company and reduce the probability of a takeover when the cost of new investors entering is low. According to Novaes (2003), Novaes and Zingales (1995) and Zwiebel (1996), it would be preferable for the manager to comply with debt limitations rather than lose their position after shareholder intervention; increasing leverage may promote managerial entrenchment. On the other hand, if shareholder intervention discipline is low, there will be less need to leverage the company.

As shown in the next section, empirical studies highlight that managers who are strengthened within their companies reduce leverage when they are also protected from takeovers. However, the effect of large shareholder's influence discipline on others has not yet been investigated, and it is analyzed in this study.

2.1 Related Empirical Literature

The results of some empirical studies corroborate the previous discussion. It is worth noticing Berger et al. (1997), who investigated leverage under managers strengthened by corporate governance in large listed U.S. companies. Their evidence indicates that entrenched managers, i.e. managers protected from corporate governance and control mechanisms, and strengthened in their companies, given their high compensations not justified by recent performance, reduce leverage. On the other hand, it has also been observed that managers increase leverage after events that reduce or suggest protection decrease in their positions, such as unexpected dismissals in senior management.

In turn, Garvey and Hanka (1999) found lower leverage in U.S. companies that include clauses in their bylaws that increase the cost of new shareholders taking control, reducing risk to managers in their position. Both Berger et al. (1997) and Garvey and Hanka (1999) reinforce the rationale that strengthened and protected managers can reduce leverage, as proposed by Novaes (2003) and Zwiebel (1996).

Studies linking corporate governance to leverage in listed companies include Agha (2011), who suggests that leverage decreases when corporate governance is weak but increases when performance bonuses are high, as they benefit from value optimization via capital structure. However, it is worth noticing that the literature is inconclusive on the positive effect of management bonuses, as Tosun (2015) identified a negative impact of excessive bonuses on leverage, while Jiraporn and Liu (2008) point out lower leverage in companies with staggered Boards of Directors, seen as ineffective.

There are also studies associating leverage with manager dominance. Jiraporn et al. (2011) pointed out that companies with a top manager who is authoritarian in relation to others have lower leverage. A similar result was found by Chintrakarn et al. (2014), who measured top manager's dominance as the percentage of their compensation within overall management compensation; the higher the percentage, the lower the leverage. Li et al. (2017) examined Chinese companies and found that empowered managers decrease leverage. Therefore, dominant managers in their companies seek to protect themselves from debt discipline.

In general, the empirical literature is based, except for Li et al. (2017), on manager strengthening in listed companies in markets where takeovers are usual and pose real risks to management, notably in the U.S. case. In these studies, the main discipline on strengthened managers comes from takeovers, with large shareholders playing a secondary role. Furthermore, since both disciplines exist in these markets, it is hard to isolate the effect of each when investigating managerial decisions.

The literature on large shareholders and leverage is extensive and has varied results, reflecting multiple factors related to shareholder structure and existing incentives for shareholders. According to Agency Theory, the effects depend on large shareholder's size and role in a company. When a large shareholder is not the manager, studies point out a concave relationship between shareholder concentration and leverage (Boateng et al., 2017; Feng et al., 2020; La Bruslerie & Latrous, 2012; Tayachi et al., 2021). Risk taken in the investment might encourage a large shareholder to intervene in management when needed, pressuring managers to define leverages that are beneficial to shareholders. However, as shareholder concentration increases, becoming majoritarian, they would prefer to reduce leverage to preserve the free cash flow at their disposal and avoid bankruptcy risk. The behavior

might be more acute when a large shareholder is also the manager, anticipating the curve's inflection point (Brailsford et al., 2002; Pindado & De La Torre, 2011).

Studies associating large shareholders with leverage were based on ownership concentration, considering non-majoritarian shareholders to be of little relevance, even though they often have significant influence in the company (Shleifer & Vishny, 1997). It is key to emphasize that majoritarian shareholders may have incentives to expropriate minoritarian shareholders, and this makes shareholder concentration, per se, reflect more their own interest in private benefits than the risk exerted on management. When investigated, managerial strengthening was linked to concentration of stocks by the manager, making the leverage decision their position as a shareholder. If the manager is the large shareholder, they would naturally be protected and inclined to define leverage to seek private benefits.

Brazilian studies include Silveira et al. (2008), who found a positive association between ownership structure and leverage, as well as with composition of the Board of Directors, although they recognized a possible simultaneity in the results. The results were inconclusive for other corporate governance variables investigated, which also occurred for Vieira et al. (2011). However, it is noteworthy that many of the variables without significance do not reflect manager's strengthening or entrenchment, which are the determining factors for effective corporate governance (Bebchuk et al., 2009).

Finally, as in the international literature, research on large shareholders focused on shareholding concentration. The concave relationship between the percentage of stocks held by large shareholders and leverage is reinforced by Procianoy and Schnorrenberger (2004), who found a negative association between these variables for high levels of shareholding concentration. Crisóstomo and Pinheiro (2015) and Sampaio (2022) also found positive and negative quadratic relationships between the summed percentages of major shareholders and leverage. Sampaio (2022) associated leverage with corporate governance indexes. Like Silveira et al. (2008) and Vieira et al. (2011), they obtained inconclusive results.

3. MATERIAL AND METHODS

3.1 Data and Sample

This study used three data sources. Financial data, such as that used to calculate company leverage, were obtained from the Thomson Reuters database (557 companies). Governance data, such as management compensation and some controls, came from the Brazilian Securities and Exchange Commission's (Comissão de Valores Imobiliários [CVM]) database (1,071 companies). Data on the percentage of stocks held by main shareholders, as well as company stock returns, came from Economatica (402 companies). Annual data were collected from the period between 2010 and 2021, and the financial data were adjusted for December 2022 by the General Price Index – Market (*Índice Geral de Preços – Mercado* [IGP-M]). For the percentage of stocks held by the main shareholders in each company, the latest data available for each year in Economatica was considered.

Companies from the financial and utilities sectors were removed, as usual in this type of research, as well as investment funds (Frank & Goyal, 2009; Rajan & Zingales, 1995). Since not all companies had all the data needed for this research, with many missing data, cross-referencing of databases generated a preliminary sample of 721 observations for 118 companies, from which 13 observations from years without revenues in the company were removed, assuming that they were not in operation, and another 7 observations for companies with negative equity. Thirty-five companies (51 observations) with less than 4 years of data were also removed, since according to Berger et al. (1997), they would not have enough data to suggest strengthening management. To replicate the study including companies with 3 years of data generates similar results. Thus, the final sample has 650 annual observations for 81 companies.

3.2 Leverage

Following Berger et al. (1997), Frank and Goyal (2009), and Rajan and Zingales (1995), market leverage was calculated as in (1) and book leverage as in (2).

$$MarkLev_{it} = \frac{Total\ Debt\left(\text{Book Value}\right)_{it}}{Total\ Debt\left(\text{Book Value}\right)_{it} + Equity\left(\text{Market Value}\right)_{it}} \quad (1)$$

$$BookLev_{it} = \frac{Total\ Debt\left(\text{Book Value}\right)_{it}}{Total\ Assets\left(\text{Book Value}\right)_{it}} \quad (2)$$

In (1), market leverage (*MarkLev*) in company *i* in year *t* is the total debt at book value divided by the sum of debt at book value and equity at market value. In (2), book leverage (*BookLev*) of *i* in *t* is the total debt divided by assets, both at book values. Notice that there is no distinction between short-term and long-term debt; this is the total debt. Since observations with negative equity were previously removed, it was not needed to truncate the leverages calculated between 0 or -1 and 1, as Rajan and Zingales (1995) did, since they all belong to the range from 0 to 1.

3.3 Main Shareholder's Influence

Shleifer and Vishny (1997) point out that large shareholders have sufficient incentive and control to monitor and pressure managers to make decisions in line with investor's expectations, and can foster changes in the company, such as changing management, when needed. They also indicate that this large shareholder does not necessarily need to be a majoritarian shareholder. They just need to have enough shares to influence other shareholders' decisions. Sampaio (2022) describes that, between 2010 and 2019, the main shareholder of Brazilian listed companies held, on average, 42% of the voting shares; the top 2 shareholders held 54% of these shares, on average; and the top 3 shareholders held 60% of these shares, on average. After the 3 largest shareholders, the ownership structure dilutes considerably, with the others having very small, or atomistic, participation.

As Shleifer and Vishny (1997) point out that the main shareholder does not need to be a majoritarian shareholder for their discipline to be effective and Grossman and Hart (1980) suggest that small shareholders tend to follow the decisions of large shareholders, an index of influence of the largest shareholder on company decisions, such as the decision to intervene in management, was built. The index is the ratio between the percentages of voting shares (common shares) of the largest shareholder and the three largest shareholders of the company, as calculated in (3).

$$Influence_{it} = \frac{\%of\ main\ shareholder\ ordinary\ shares_{it}}{\%of\ the\ three\ main\ shareholders\ ordinary\ shares_{it}} \quad (3)$$

Influence ranges from 0 to 1 and reflects main shareholder's influence on decisions in company *i* in year *t*. The index rationale follows Aghion and Tirole (1997), who indicate that agent protection is greater when there are many principals, and that only one large influential shareholder tends to discipline management more than 2 or 3 less influential ones. The use of 3 largest shareholders in the denominator is due to the fact that they dominate the ownership structure of Brazilian listed companies (Sampaio, 2022); it is assumed that the others follow their decisions. Managers need to adjust the leverage of companies to protect themselves from large shareholder's interventions. The greater the *Influence*, the greater the need for a manager to leverage the company to demonstrate commitment to the large influential shareholder (Zwiebel, 1996).

Using the index instead of the percentage of stocks held by the largest shareholder avoids measurement errors regarding this shareholder's influence if their stake is not very large. For instance, if the percentage of stocks was used, a shareholder with 25% of stocks, with the others being atomistic, would be considered less important than a shareholder with 40%, but with the second largest having 35%. Also, the index only attributes as a discipline large shareholder's power to influence company decisions. Using the percentage of stocks could bring to the proxy the incentive that this shareholder has to seek private benefits by expropriating the others. Finally, it is worth noticing that the agreements or the type (individual or institutional) of shareholders were not considered due to the difficulty of identification.

3.4 Strengthened Managers

Jensen and Murphy (1990) point out 3 main corporate governance mechanisms to discipline manager's decisions: (i) partial allocation of company ownership; (ii) possibility of intervention by shareholders; and (iii) compensation policies. They indicate that compensation tends to be little sensitive to performance, higher or lower than expected by having company, manager, and sector characteristics as a basis. If manager compensation is always higher than expected, i.e. not justified by characteristics such as company size, managerial ability, and sector complexity, they might be strengthened in their position, with excessive authority and protection to define leverage levels that are only beneficial to them (Berger et al., 1997). The other mechanisms, such as the Board of Directors, tend to be dominated by strengthened managers (Hermalin & Weisbach, 1998).

Following Berger et al. (1997), unexpected managerial compensation was identified as the error terms ε in a regression that estimated (4).

$$\ln(Comp)_{it} = \alpha + \beta_1 \text{med}(\ln[Comp])_{(j \ni i)t} + \beta_2 \ln(Mand)_{it} + \beta_3 ROA_{it} + \beta_2 \ln(Sales)_{it} + \beta_4 (Ret_{it} - Ret[\text{Mark}]_t) + \theta_t + \varepsilon_{it} \quad (4)$$

In (4), ln(*Comp*) is total compensation, in natural logarithm, of the CEO of company *i* in year *t*. Even when the company's top manager is not the CEO, the correlation between their wages is usually high (Murphy, 1985). med(ln[*Comp*]) is the median compensation, in natural logarithm, of managers in sector *j* (to which *i* belongs) in year *t*, to control for the sector. ln(*Mand*) is the natural logarithm of the number of consecutive years the individual has been the company's top manager. ROA is return on assets of *i* in year *t*, in this case EBITDA weighted by the company's total assets. ln(*Sales*) is the natural logarithm of the total sales revenue of *i* in year *t*. *Ret* is return on stocks of company *i* in *t* and *Ret*[*Mark*] is market return in *t*. θ are year dummies to control for unobservable time effects.

Error terms in parametric regressions follow a normal distribution around the mean zero (Cameron & Trivedi, 2005). Since it is of interest in this study to identify managers who always receive excessive compensation, as shown below, (4) was estimated by ordinary least squares (OLS) to verify which companies pay unexpected compensation greater than zero every year to their top manager.

An identifying variable *Entrenched*, was built over the error term ε, with value 1 if company *i* had $\varepsilon > 0$ in all its years; 0 otherwise. For instance, if *i* has 4 years of observations and in the 4 years $\varepsilon > 0$, *Entrenched* = 1 was assigned in all these years. If there was at least one $\varepsilon \leq 0$ in these 4 years, then *Entrenched* = 0 for all years of *i*. This specification aimed to address managerial compensation as an intrinsic characteristic of the company, i.e. wages are higher than expected due to strengthening and protection, and not cases of excessive compensation due only to coincidences in some years.

Thus, if *Entrenched* = 1, the manager is strengthened in the face of corporate governance and can reduce leverage to also protect themselves from debt (Berger et al., 1997). Negative association between *Entrenched* and leverage is a necessary condition to validate the results of this study, as it reflects the rationale of managers who are already strengthened in their positions seeking to mitigate risks arising from debt. If *Entrenched* = 0, it is assumed that corporate governance is effective in controlling manager's decisions, who cannot even adjust leverage for protection.

3.5 Econometric Model and Procedures

The effect of manager protection on firm leverage was tested in (5).

$$Lev(\cdot)_{it} = \varphi Entrenched_i + \sigma DiscPrAc_{it} + \gamma(Entr_i \times DiscPrAc_{it}) + \tau' C_{it} + \theta_t + \mu + v_{it} \quad \boxed{5}$$

In (5), the leverage of firm *i* in year *t*, with (·) being either market or book value, is a function of the manager's entrenchment in firm *i* (*Entrenched*), the interaction between the manager's entrenchment and the influence of *i*'s largest shareholder in year *t* (*Entrenched* × *Influence*), and the shareholder's own influence, in addition to controls *C* on characteristics of *i* and dummies θ for the year of observation to control for time specificities.

This study investigated the effect of managerial entrenchment on corporate leverage; therefore, the 2 coefficients of interest in (5) are γ and φ. As the hypothesis of this research is that entrenched (and consequently strengthened) managers have leveraged their companies in search of protection against main shareholder's influence, achieving this strengthening through leverage (Zwibel, 1996), a positive sign is expected for γ. The greater the principal's influence, the greater the need for management to protect itself through leverage. In turn, a negative sign is expected for φ, since, once strengthened and having achieved protection in their position, a manager can attenuate leverage by seeking to protect themselves from debt (Berger et al., 1997).

The coefficient σ for main shareholder's influence alone was not of interest, since it is based on the premise that leverage is determined by management. There would be no direct effect of this shareholder on leverage, but rather an indirect effect through the discipline exercised over managers. In fact, even the suggested sign for σ might not be clear, since it would depend on incentives that this shareholder would have to expropriate minoritarian shareholders, which depends on their shareholding concentration, for instance (Tayachi et al., 2021). To validate the results, additional analyses were performed, including squared *Influence*. The aim was to control for a potential concave relationship to leverage, with results similar to those in the next section.

C controls contain variables from Berger et al. (1997). The independence of the Board of Directors is the ratio between the number of directors without executive functions and the total number of directors; the more independent the Board of Directors, the better the management monitoring. Size of the Board of Directors, which is the natural logarithm of the number of directors, sought to control the scope of monitoring. It is worth noticing that, due to the study's rationale, the directors may have been captured by the manager.

Four other *C* variables from Berger et al. (1997) sought to control for operating characteristics that determine

leverage. Return on assets (ROA), calculated as earnings before interest, taxes, depreciation and amortization (EBITDA) divided by the company's total assets, measures company capability to generate cash for reinvestment without the need to raise funding. The tax benefit from depreciation, estimated as 34% of depreciation and amortization expense weighted by total assets, and potential guarantees to creditors, estimated as net property, plant, and equipment plus inventories divided by the company's total assets, may encourage greater use of debt. Also, the natural logarithm of the company's total assets controlled for size.

Finally, companies within a given sector tend to follow leverage levels guided by sector characteristics, whether observable or not. Therefore, following Frank and Goyal (2009), the median leverage of sector *j*, to which *i* belongs, in year *t*, was included.

As it is known that leverage is mainly determined by intrinsic characteristics of companies (Lemmon et al., 2008), (5) was estimated using panel data with random effects (RE) specification and, as a complement, by stacked OLS. Regressions with fixed effects specification were not conducted, as they would omit the variable *Entrenched*, which, due to variable building, in this study does not vary between years in each company. The results of RE and stacked OLS complement each other, as both estimations have advantages and disadvantages when applied in this study. The problem of omitted variables is mitigated in RE, as μ in (5) becomes an error term specific to *i* (μ_i). However, as RE assumes that μ_i is not correlated with independent variables, μ_i can capture part of the effect of management strengthening on leverage. In OLS, the effect of protection and authority is not captured by μ. However, in this research, OLS is under possible autocorrelation of residuals because it uses stacked data from companies (Cameron & Trivedi, 2005).

Some preliminary analyses were performed to validate the results of estimates in (5). A correlation analysis between independent variables pointed out that the only variables with high correlations between them are company size and size of the Board of Directors. Therefore, the possibility of multicollinearity in the model is mitigated. Also, preliminary regressions in (5) were conducted to analyze the association of observed and predicted leverage values with the error terms *v* through scatter plots. There is only a suggestion of heteroscedasticity for stacked OLS regressions. Thus, the results for OLS employ robust standard errors (Cameron & Trivedi, 2005).

4. RESULTS

Table 1 contains mean values and standard deviations (in parentheses) of the variables in this study, for the overall sample and groups with *Entrenched* = 1 (29 companies) or *Entrenched* = 0 (52 companies). To calculate these statistics, each company was represented by a single observation consisting of the mean value of its variables. Results of tests of mean values (*t*-statistics) between the groups *Entrenched* = 1 and *Entrenched* = 0 are also shown. To facilitate the description, some variables are in percentages and the natural logarithms have their original values.

Table 1
Description of sample companies in general and by groups classified by Entrenched

	General	Maximum	Minimum	Entrenched = 1	Entrenched = 0	t (d.f.)
MarkLev	0.305	0.905	0.000	0.310	0.302	0.156
	(0.217)			(0.224)	(0.215)	(79)
BookLev	0.257	0.710	0.000	0.270	0.250	0.539
	(0.165)			(0.142)	(0.177)	(79)
Influence	0.634	0.999	0.354	0.605	0.650	-1.033
	(0.186)			(0.160)	(0.199)	(79)
BD independence	0.747	1.000	0.000	0.569	0.846	-1.311
	(0.918)			(0.609)	(1.044)	(79)
BD size	6.638	16.003	3.600	6.727	6.588	0.485
	(2.381)			(2.081)	(2.551)	(79)
ROA (%)	5.48	23.68	-13.75	4.72	5.90	-0.765
	(6.66)			(6.74)	(6.63)	(79)
Tax benefit (%)	0.43	2.73	0.01	0.41	0.45	-0.264
	(0.54)			(0.47)	(0.58)	(79)

Table 1
Cont.

	General	Maximum	Minimum	Entrenched = 1	Entrenched = 0	t (d.f.)
Guarantees (%)	20.06	63.22	0.05	13.39	23.78	-2.584**
	(17.95)			(17.15)	(17.46)	(79)
Assets (in millions of R$)	23,138.89	574,234.00	36.56	12,588.95	29,022.52	-0.208
	(70,448.48)			(27,964.86)	(85,188.87)	(79)
Largest shareholder (%)	37.60	99.99	13.89	32.21	40.61	-1.625
	(22.54)			(21.18)	(22.91)	(79)
Three largest shareholders (%)	56.18	100.00	16.08	50.67	59.25	-1.714*
	(21.84)			(23.63)	(20.37)	(79)
Sector's mode	Non-cyclical consumption			Civil construction	Non-cyclical consumption	
	(20; 24.69%)			(9; 31.03%)	(12; 23.08%)	
Companies	81			29	52	

Note: *MarkLev and BookLev are the market and book value leverage. Influence is the discipline of the company's main shareholder. In the columns containing mean values, the standard deviations are in parentheses. In the last column, where the results of mean tests are shown, the degrees of freedom (d.f.) of t-statistics are in parentheses. BD stands for Board of Directors. ROA, tax benefit, and guarantees are shown as percentages, although they were not used as such in regressions. BD size and assets size are shown in their original values, but their natural logarithms are used in regressions.*
*** P value < 0.05, * P value < 0.10.*
Source: *Prepared by the authors.*

Company average leverage was 0.305 at market value and 0.257 at book value, suggesting that they have market-to-book ratios lower than 1. When comparing the groups, leverages are very similar, with mean tests not rejecting statistical equality (t[79] = 0.156 for leverage at market value and t[79] = 0.539 for leverage at book value, *p* values > 0.10). The average leverage at market value for companies with *Entrenched* = 1 was 0.310, against 0.302 for companies with *Entrenched* = 0, and at book value it was 0.270 and 0.250, respectively. However, greater inferences about leverages in each group depend on controlling for company characteristics (Lemmon et al., 2008).

The index of main shareholder's influence was, on average, 0.634. The index is slightly higher in the group of companies with *Entrenched* = 0, being 0.650 against 0.605 in companies with *Entrenched* = 1. This difference may signal that the presence of the large shareholder can inhibit manager's authority (Shleifer & Vishny, 1997). In turn, if size of the Boards of Directors is similar between the groups (on average, 6.727 members for *Entrenched* = 1 and 6.588 for *Entrenched* = 0), the directors have greater independence from management in companies with *Entrenched* = 0 (average of 0.846, against 0.569 for *Entrenched* = 1). In theory, greater independence of directors may limit manager strengthening in these companies (Hermalin & Weisbach, 1998). However, it is necessary to be cautious with these preliminary analyses, since, as in the case of leverage, for the three variables mean tests did not reject statistical equality between groups.

Table 1 suggests that there are few differences in the characteristics of companies with *Entrenched* = 1 and *Entrenched* = 0. The only statistical differences between mean values were found for guarantees, which are higher in companies with *Entrenched* = 0 (on average 23.78%, compared to 13.39% for *Entrenched* = 1) and for participation of the 3 largest shareholders, used to calculate main shareholder's influence (59.25% on average for *Entrenched* = 0, compared to 50.67% for *Entrenched* = 1), in this case with a *p* value only lower than 0.10. Furthermore, the sector's mode is also different, however, with little difference between the pairs of sectors in *Entrenched* = 1 and *Entrenched* = 0. If civil construction was the most common sector in *Entrenched* = 1, with 9 companies, there are 7 companies in *Entrenched* = 0. The 12 companies constitute the non-cyclical consumption sector the most common in *Entrenched* = 0, with 8 companies in *Entrenched* = 1. Distinction in the sectoral composition is small.

Table 2 shows the results for estimation of (5). Below the coefficients there are the respective standard errors, robust to heteroscedasticity in OLS regressions.

Table 2
Results of regressions of (5)

	MarkLev		BookLev	
	RE (1)	**OLS (2)**	**RE (3)**	**OLS (4)**
Entrenched	-0.155**	-0.246***	-0.098*	-0.124***
	(0.076)	(0.061)	(0.054)	(0.043)
Influence	-0.115*	0.061	-0.066	-0.051
	(0.065)	(0.057)	(0.046)	(0.044)
Entrenched × *Influence*	0.258***	0.361***	0.214***	0.234***
	(0.098)	(0.097)	(0.069)	(0.068)
BD independence	0.003	-0.028***	0.003	-0.017***
	(0.008)	(0.006)	(0.006)	(0.005)
BD size (in ln)	0.094**	0.031	0.087***	0.045*
	(0.039)	(0.032)	(0.028)	(0.024)
ROA	-0.460***	-0.860***	-0.157***	-0.317***
	(0.077)	(0.108)	(0.054)	(0.082)
Tax benefit	-0.955	-4.422**	1.060	-0.809
	(1.868)	(1.716)	(1.321)	(1.001)
Guarantees	0.112*	-0.056	0.138***	0.059*
	(0.067)	(0.048)	(0.048)	(0.035)
Assets (in ln)	0.045***	0.050***	0.036***	0.042***
	(0.010)	(0.006)	(0.007)	(0.005)
Sector leverage (median)[a]	0.330***	0.448***	0.385***	0.525***
	(0.064)	(0.081)	(0.061)	(0.087)
Year dummies	Yes	Yes	Yes	Yes
Constant	-0.945***	-0.927***	-0.820***	-0.826***
	(0.211)	(0.126)	(0.153)	(0.110)
Observations	650	650	650	650
Number of companies	81		81	
R^2	0.237	0.337	0.271	0.309
χ^2 or F (d.f.)	215.39***	16.34***	186.82***	10.01***
	(21)	(21.628)	(21)	(21. 28)
Breusch-Pagan LM (χ^2[d.f.])	825.90***		950.74***	
	(1)		(1)	
Variation due to μi	0.670		0.706	

Note: *MarkLev and BookLev are market and book value leverages. Entrenched is the variable that represents manager's entrenchment and Influence is the influence of the company's main shareholder. RE indicates random effects panel regression and OLS indicates stacked ordinary least squares regression. Below the coefficients, in parentheses, there are their standard errors (robust in OLS). BD is the acronym for Board of Directors, and LM is the Lagrangian multiplier, a test of validity of RE coefficients against stacked OLS.*
[a] *Annual medians of market or book value leverage for each sector, depending on the regression.*
**** P value < 0.01, ** P value < 0.05, * P value < 0.10.*
Source: *Prepared by the authors.*

All χ^2 and F indicate global significance, validating the model in all regressions (χ^2[21] = 215.39 for RE [1] and χ^2[21] = 186.82 for RE [3], and F[21.628] = 16.34 for OLS [2] and F[21.628] = 10.01 for OLS [4], p values < 0.01). In turn, Breusch-Pagan tests indicate a preference for RE over OLS (χ^2[1] = 825.90 for market value leverage, and χ^2[1] = 950.74 for book leverage, p values < 0.01). Although the RE and OLS regressions are complementary, the test reinforces that intrinsic characteristics of companies are major factors for leverage (Lemmon et al., 2008). In fact, the term μ_i represents 0.670 of variation in market leverage between companies, and 0.706 of book leverage.

The interaction of *Entrenched* and *Influence* has a positive association with leverage in all 4 regressions (0.258 in RE [1], 0.361 in OLS [2], 0.214 in RE [3], and 0.234 in OLS [4]; all values p < 0.01). That is, the

results suggest that entrenched managers have increased leverage in the presence of greater influence from the main shareholder (Zwiebel, 1996). The results complement Novaes (2003) and Novaes and Zingales (1995), who propose that managers prefer debt discipline over the threat of takeover. It is worth noticing that the estimation results remain similar when Tobin's Q is included as a control variable to control for growth opportunities, or when sector dummy variables are added to control for sector specificities that do not vary over time. The results also remain similar if companies with less than 3 years of data are removed.

A negative sign was found for *Entrenched* coefficients in all regressions (-0.155 in RE [1], p value < 0.05; -0.246 in OLS [2], p value < 0.01; -0.098 in RE [3], p value < 0.10; and -0.124 in OLS [4], p value < 0.10). The result indicates that, when managers are strengthened, they can reduce company leverage, aiming to mitigate risk in their positions. The result is in line with the proposal of Jensen (1986) and Morellec (2003), which suggest the disciplining role of debt; strengthened managers seek to avoid this discipline, if possible. It is also in line with empirical studies lower leverage in companies with dominant managers, such as Jiraporn et al. (2011), and this reinforces Agha (2011), who found a positive association between performance-sensitive compensation and leverage, in this case, pointing out that compensation that is not very sensitive to performance is negatively associated with leverage. In this study, the compensation policy of many Brazilian companies may not be aligning leverage decisions with what is optimal for shareholders.

Since it is recognized that company capital structure is persistent over time (Lemmon et al., 2008), the leverage level observed at a given moment tends to reflect management decisions prior to that moment. Thus, following the rationale proposed by Zwiebel (1996), it is possible to infer from the results that strengthened managers (when *Entrenched* = 1) may have achieved such strengthening and obtained greater protection in their positions, having historically increased leverage in the companies they manage. Once strengthened, they can reduce leverage to reduce debt discipline, given the *Entrenched* coefficient. The results also contrast with studies that investigated shareholder concentration, such as La Bruslerie and Latrous (2012) and, in Brazil, Crisóstomo and Pinheiro (2015). The concentration of shares of majoritarian shareholders may have reflected more the incentive for this shareholder to seek private benefits than the discipline they exert over managers.

It is also worth highlighting that the similarity between characteristics of companies in *Entrenched* = 1 and *Entrenched* = 0, as observed in Table 1, reinforces that differences in leverage are attributed to what the companies effectively differ in, such as presence or absence of strengthened managers, whose historical use of leverage allowed them to protect themselves from main shareholder's influence. Furthermore, *Entrenched* and *Influence* were significant even in the RE regressions, where the intrinsic error terms μ_i may have captured part of the effect of manager's protection and authority on leverage.

In practical terms, an exercise to verify the leverage adjustment by managers involves calculating marginal effects of *Entrenched* combined with various levels of *Influence* of the main shareholder. Using the coefficients of RE regressions, due to the results of the Breusch-Pagan tests and the other variables in their mean values, with the year in its mode (2018), Table 3 was built, which displays the levels of *Influence* in 5 percentiles and the respective leverages calculated under *Entrenched* = 1 and *Entrenched* = 0 in these percentiles, allowing their values to be compared.

Table 3
Marginal effects of Entrenched on leverage under percentiles of Influence

Percentile	Influence	MarkLev			BookLev		
		Entrenched = 1	Entrenched = 0	Difference	Entrenched = 1	Entrenched = 0	Difference
10	0.379	0.249	0.305	-0.056***	0.219	0.235	-0.016***
25	0.452	0.257	0.298	-0.041***	0.227	0.231	-0.003***
50	0.595	0.273	0.285	-0.013***	0.244	0.224	0.020***
75	0.807	0.303	0.261	0.042***	0.275	0.210	0.065***
90	0.957	0.330	0.239	0.092***	0.304	0.197	0.107***

Note: *The simulations were performed using the software Stata 14, so their calculation was not limited to the use of 3 decimal places, as shown in the table. The coefficients come from RE (1) and RE (3). The columns under MarkLev contain market value leverages calculated by using the regression parameters and controls at their mean values (year mode), and in BookLev there are book leverages. Entrenched is the variable that represents manager's entrenchment and Influence is the influence of the company's main shareholder. The asterisks indicate the statistical difference between leverages of Entrenched = 1 and Entrenched = 0, with standard errors of the delta method.*
**** = P value < 0.01.*
Source: *Prepared by the authors.*

All differences within the percentiles are significant (p values < 0.01), highlighting that leverage when the manager is strengthened (*Entrenched* = 1) is different from when they are not (*Entrenched* = 0). It is noticed that in cases where a manager is not strengthened, predicted leverage decreases as Influence increases. For instance, considering it in market value, leverage decreases from 0.305 in companies in the percentile 10 of *Influence* to 0.239 in companies in the percentile 90. However, the opposite occurs in cases where the manager is strengthened, in which leverage increases from 0.249 to 0.330 between the same percentiles. This suggests that strengthened managers leveraged their companies seeking protection, possibly to demonstrate commitment to shareholders (Zwiebel, 1996).

The results also reinforce manager's tendency to avoid debt, since leverage is higher for *Entrenched* = 0 than for *Entrenched* = 1 at the lower percentiles of *Influence*. Under lower risk of main shareholder's intervention, managers chose to avoid debt risks and still strengthened their positions. However, when main shareholder's influence is high, its discipline overrides manager interest in reducing debt, resulting in higher leverage levels.

A derivative analysis concerns the economic effect of *Influence* and *Entrenched* on corporate leverage. That is, to verify how leverage in the 'average company,' since the values in Table 3 were calculated by considering the other model variables at their average values, responds to various *Influence* and *Entrenched*. It is observed in companies with protected managers (*Entrenched* = 1) that leverage at market value is around 32.53% higher (≈ [0.330 ÷ 0.249] – 1) when main shareholder's influence is high (percentile 90; *Influence* = 0.957) compared to when this influence is low (percentile 10; *Influence* = 0.379). When analyzing book leverage, leverage under higher levels of *Influence* is around 38.81% higher (≈ [0.304 ÷ 0.219] – 1).

On the other hand, the opposite occurs in companies with an unprotected manager (*Entrenched* = 0), where market value leverage is around 21.63% higher under high levels of *Influence* (≈ [0.239 ÷ 0.305] – 1), being 16.17% higher in book leverage (≈ [0.197 ÷ 0.235] – 1). The results of this analysis reinforce previous inferences and also highlight that leverage adjustment in relation to main large shareholder's influence is more sensitive when a manager is strengthened, possibly due to company discretion.

Furthermore, it is worth considering the differences between market value and book value leverage. While the first considers future expectations reflected in equity's market value, book values reflect past events and decisions. The smaller negative differences in book leverage, and the positive ones at the percentile 50, reinforce that these managers have historically used leverage for protection purposes, without necessarily converting it into future value creation for company shareholders.

Additionally, although one might suggest that the main shareholder may seek private benefits as their influence increases, given the decrease in leverage between percentiles under *Entrenched* = 0, following La Bruslerie & Latrous (2012), it is worth noticing that *Influence* coefficients were only significant in RE (1), being inconclusive for inferences of this type. Analyzing this coefficient, however, was not the objective of this study, which investigated the effect on the leverage of managers strengthened in the face of corporate governance, given by *Entrenched* coefficients, and their search for protection against a large shareholder coming from coefficients of the interaction with *Influence*.

5. CONCLUSION

In this research, a sample of Brazilian listed companies has been investigated to associate leverage with manager's need to protect themselves against interventions by the main shareholder. The main results indicate that although managers seek to mitigate debt risks after becoming stronger, they increase company leverage when main shareholder's influence is high. This suggests that leverage has historically been used to demonstrate commitment to shareholders, ensuring managers remain in their positions even if the expectation of value creation does not become a reality. It is concluded that company leverage is used as a means of protection by managers.

Investigating the effect of manager's strengthening and seeking protection on leverage is unprecedented in Brazil and addresses a central issue of corporate governance. Thus, the results imply the importance of considering the agency relationship between managers and shareholders when investigating determinants of capital structure in Brazilian companies, especially when taking into account the existence of optimal leverage for value creation, complementing the Trade-Off Theory. They also add to the literature by indicating that managers define leverage levels based on the risk of being subject to intervention by large shareholders, and not only on the risk of takeovers as had been investigated until now. This implies similarity in the approach to leverage by management even in markets with distinct characteristics, such as Brazil and the United States of America (USA).

In practice, the results imply that companies should seek to calibrate their internal corporate governance, such as compensation policy, in order to grant managers authority without it being excessive. This suggestion is particularly valid when there is no shareholder with sufficient influence to discipline management. Also, it is worth noticing that although the existence of optimal leverage that maximizes shareholder value is assumed, excessive debt can lead to financial difficulties and bankruptcy. Therefore, managers should be prevented from leveraging companies excessively just to protect their positions.

The limitations of this study involve the use of a small sample compared to the population due to lack of data, something that also occurred in Berger et al (1997), and the difficulty in identifying agreements and the type (individual or institutional) of large shareholders. Furthermore, still due to lack of data, the study did not consider specific characteristics regarding company control. Finally, it was not possible to identify whether a given manager was unilaterally appointed to their position, which could happen in family businesses, for instance.

Despite the limitations, the results shown may pave the way for further studies on managerial leverage decisions. For instance, exploring the relationship between large shareholders, which may encourage peer monitoring or collusion with management against minoritarian shareholders. They may also deepen the dominance of managers over other internal corporate governance mechanisms, reinforcing contributions to practice.

REFERENCES

Agha, M. (2011). Leverage, executive incentives and corporate governance. *Accounting & Finance*, *53*(1), 1-30. https://doi.org/10.1111/j.1467-629X.2011.00450.x

Aghion, P., & Tirole, J. (1997). Formal and real authority in organizations. *Journal of Political Economy*, *105*(1), 1-29. https://doi.org/10.1086/262063

Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance? *The Review of Financial Studies*, *22*(2), 783-827. https://doi.org/10.1093/rfs/hhn099

Berger, P., Ofek, E., & Yermack, D. (1997). Managerial entrenchment and capital structure decisions. *The Journal of Finance*, *52*(4), 1411-1438. https://doi.org/10.1111/j.1540-6261.1997.tb01115.x

Boateng, A., Cai, H., Borgia, D., Bi, X., & Ngwu, F. (2017). The influence of internal corporate governance mechanisms on capital structure decisions of Chinese listed firms. *Review of Accounting and Finance*, *16*(4), 444-461. http://dx.doi.org/10.1108/RAF-12-2015-0193

Brailsford, T., Oliver, B., & Pua, S. (2002). On the relation betweer ownership structure and capital structure. *Accounting & Finance*, *42*(1), 1-26. https://doi.org/10.1111/1467-629X.00001

Cameron, A., & Trivedi, P. (2005). *Microeconometrics: Methods and applications*. Cambridge University Press.

Chintrakarn, P., Jiraporn, P., & Singh, M. (2014). Powerful CEOs and capital structure decisions: Evidence from the CEO pay slice (CPS). *Applied Economics Letters*, *21*(8), 564-568. https://doi.org/10.1080/13504851.2013.875102

Crisóstomo, V., & Pinheiro, B. (2015). Estrutura de capital e concentração de propriedade da empresa brasileira. *Revista de Finanças Aplicadas*, *4*(1), 1-30. https://ssrn.com/abstract=2912995

Feng, Y., Hassan, A., & Elamer, A. (2020). Corporate governance, ownership structure and capital structure: Evidence from Chinese real estate listed companies. *International Journal of Accounting & Information Management*, *28*(4), 759-783. http://dx.doi.org/10.1108/IJAIM-04-2020-0042

Frank, M., & Goyal, V. (2009). Capital structure decisions: Which factors are reliably important? *Financial Management*, *38*(1), 1-37. https://doi.org/10.1111/j.1755-053X.2009.01026.x

Garvey, G., & Hanka, G. (1999). Capital structure and corporate control: The effect of antitakeover statutes on firm leverage. *The Journal of Finance*, *54*(2), 519-546. https://doi.org/10.1111/0022-1082.00116

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, *118*(1), 107-156. https://doi.org/10.1162/00335530360535162

Grossman, S., & Hart, O. (1980). Takeover bids, the free-rider problem, and the theory of the corporation. *The Bell Journal of Economics*, *11*(1), 42-64. https://doi.org/10.2307/3003400

Grossman, S., & Hart, O. (1982). Corporate financial structure and managerial incentives. In J. McCall (Ed.), *The economics of information and uncertainty* (pp. 107-140). University of Chicago Press. http://www.nber.org/chapters/c4434

Hart, O. (1996). Theories of optimal capital structure: A managerial discretion perspective. In B. Allen (Ed.), *Economics in a changing world* (pp. 204-235). Palgrave Macmillan. https://doi.org/10.1007/978-1-349-25168-1_10

Hermalin, B., & Weisbach, M. (1998). Endogenously chosen boards of directors and their monitoring of the CEO. *The American Economic Review*, *88*(1), 96-118. https://www.jstor.org/stable/116820

Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, *76*, 323-329. https://www.jstor.org/stable/1818789

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

Jensen, M., & Murphy, K. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, *98*(2), 225-264. https://doi.org/10.1086/261677

Jiraporn, P., Chintrakarn, P., & Liu, Y. (2011). Capital structure, CEO dominance, and corporate performance. *Journal of Financial Services Research*, *42*(3), 139-158. https://doi.org/10.1007/s10693-011-0109-8

Jiraporn, P., & Liu, Y. (2008). Capital structure, staggered boards, and firm value. *Financial Analysts Journal*, *64*(1), 49–60. https://doi.org/10.2469/faj.v64.n1.7

La Bruslerie, H., & Latrous, I. (2012). Ownership structure and debt leverage: Empirical test of a trade-off hypothesis on French firms. *Journal of Multinational Financial Management*, *22*(4), 111-130. https://doi.org/10.1016/j.mulfin.2012.06.001

Lemmon, M., Roberts, M., & Zender, J. (2008). Back to the beginning: Persistence and the cross-section of corporate capital structure. *The Journal of Finance*, *63*(4), 1575-1608. https://doi.org/10.1111/j.1540-6261.2008.01369.x

Li, T., Munir, Q., & Karim, M. (2017). Nonlinear relationship between CEO power and capital structure: Evidence from China's listed SMEs. *International Review of Economics & Finance*, *47*, 1-21. https://doi.org/10.1016/j.iref.2016.09.005

Mello, C., & Carvalho, A. (2014). Considerações sobre o controle difuso, as "poison pills" e as "hostile take over bids" no mercado de capitais brasileiro. In M. Siqueira (Org.), *Brasil S/A: Guia de acesso ao mercado de capitais para companhias brasileiras* (pp. 157-170). Donnelley Financial Solutions. https://dx.doi.org/10.2139/ssrn.2578311

Morellec, E. (2003). Can managerial discretion explain observed leverage ratios? *Review of Financial Studies*, *17*(1), 257-294. https://doi.org/10.1093/rfs/hhg036

Murphy, K. (1985). Corporate performance and managerial remuneration. *Journal of Accounting and Economics*, *7*(1-3), 11-42. https://doi.org/10.1016/0165-4101(85)90026-6

Novaes, W. (2003). Capital structure choice when managers are in control: Entrenchment versus efficiency. *The Journal of Business*, *76*(1), 49-82. http://www.jstor.org/stable/10.1086/344113

Novaes, W., & Zingales, L. (1995). *Capital structure choice when managers are in control: Entrenchment versus efficiency* (NBER Working Paper 5384). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w5384/w5384.pdf

Pindado, J., & De La Torre, C. (2011). Capital structure: New evidence from the ownership structure. *International Review of Finance*, *11*(2), 213-226. https://doi.org/10.1111/j.1468-2443.2010.01115.x

Procianoy, J., & Schnorrenberger, A. (2004). A Influência da estrutura de controle nas decisões de estrutura de capital das companhias brasileiras. *Revista Brasileira de Economia*, *58*, 122-146. https://doi.org/10.1590/S0034-71402004000100006

Rajan, R. & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance*, *50*(5), 1421-1460. https://doi.org/10.1111/j.1540-6261.1995.tb05184.x

Sampaio, T. (2022). *Estrutura de capital, governança corporativa e concentração de propriedade das empresas brasileiras* (Dissertação de Mestrado). Universidade Federal do Ceará. http://www.repositorio.ufc.br/handle/riufc/66548

Shleifer, A., & Vishny, R. (1989). Management entrenchment: The case of manager-specific investments. *Journal of Financial Economics*, *25*(1), 123-139. https://doi.org/10.1016/0304-405X(89)90099-8

Shleifer, A., & Vishny, R. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737-783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Silveira, A., Perobelli, F., & Barros, L. (2008). Governança corporativa e os determinantes da estrutura de capital: Evidências empíricas no Brasil. *Revista de Administração Contemporânea*, *12*, 763-788. https://doi.org/10.1590/S1415-65552008000300008

Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics*, *26*(1), 3-27. https://doi.org/10.1016/0304-405X(90)90011-N

Tayachi, T., Hunjra, A., Jones, K., Mehmood, R., & Al-Faryan, M. (2021). How does ownership structure affect the financing and dividend decisions of firm? *Journal of Financial Reporting and Accounting*, *21*(3), 729-746. http://dx.doi.org/10.1108/JFRA-09-2021-0291

Tosun, O. (2015). The effect of CEO option compensation on the capital structure: A natural experiment. *Financial Management*, *45*(4), 953-979. https://doi.org/10.1111/fima.12116

Vieira, K., Velasquez, M., Losekann, V., & Ceretta, P. (2011). A Influence da governança corporativa no desempenho e na estrutura de capital das empresas listadas na Bovespa. *Revista Universo Contábil*, *7*(1), 46-67. http://dx.doi.org/10.4270/ruc.20117

Zwiebel, J. (1996). Dynamic capital structure under managerial entrenchment. *The American Economic Review*, *86*(5), 1197-1215. https://www.jstor.org/stable/2118286