REVISTA AMBIENTE CONTÁBIL
Universidade Federal do Rio Grande do Norte
ISSN 2176-9036
Vol. 18, n. 1, Jan./Jun., 2026
Sítios: https://periodicos.ufrn.br/index.php/ambiente
http://www.atena.org.br/revista/ojs-2.2.3-06/index.php/Ambiente
Article received in: November, 12th, 2024. Reviewed by pairs in: March, 11th, 2025. Reformulated in: April, 15th, 2025. Evaluated by the system double blind review.

DOI: 10.21680/2176-9036.2026v18n1ID42506

Capital structure strategies through the lens of ESG: assessing trends between Brazil and China

Estrategias de estructura de capital desde la perspectiva ESG: evaluación de tendencias entre Brasil y China

Estratégias de estrutura de capital sob as lentes do ESG: avaliando as tendências entre Brasil e China

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Abstract

Objective: This paper aims to analyze, in a comparative way, whether the adoption of Environmental, Social and Corporate Governance (ESG) practices by Brazilian and Chinese companies influences the choice of a capital structure in accordance with the precepts of the Pecking Order Theory.

Methodology: Descriptive research with a quantitative approach, utilizing data collected from the Refinitiv database on 210 companies between 2018 and 2022. Descriptive analyses and balanced panel data models were applied to obtain the results.

Results: The paper revealed that among the companies analyzed with complete ESG data and that were segmented according to their score levels, both those with robust practices and those with lower scores showed behaviors aligned with the Pecking Order Theory, suggesting a general preference for internal financing. In addition, no significant differences were identified in the capital structure approaches between Brazilian and Chinese companies, which indicates a uniform impact of ESG practices.

Study Contributions: The study contributes to the understanding of sustainable finance by demonstrating the effect of ESG practices on capital structure decisions in emerging markets. It highlights the centrality of sustainability in financing strategies, making it relevant for academics, managers, investors, and policymakers. The research underscores the importance of integrating sustainable factors into financial decisions by comparing companies with varying ESG scores.

Keywords: Capital Structure. Pecking Order Theory. ESG.

Resumen

Objetivo: Este estudio tiene como objetivo analizar, de forma comparativa, si la adopción de prácticas Ambientales, Sociales y de Gobernanza Corporativa (ESG) por empresas brasileñas y chinas influye en la elección de una estructura de capital de acuerdo con los preceptos de la Teoría Pecking Order.

Metodología: Investigación de carácter descriptivo con enfoque cuantitativo, utilizando datos recopilados de la base de datos Refinitiv de 210 empresas entre 2018 y 2022. Se realizaron análisis descriptivos y se aplicaron modelos de datos en panel balanceado para obtener los resultados.

Resultados: El estudio reveló que, entre las empresas analizadas con datos ESG completos y que fueron segmentadas según sus niveles de puntuación, tanto aquellas con prácticas robustas como aquellas con puntuaciones más bajas presentaron comportamientos alineados con la Teoría del Orden Pecking, lo que sugiere una preferencia general por el financiamiento interno. Además, no se identificaron diferencias significativas en los enfoques de estructura de capital entre las empresas brasileñas y chinas, lo que indica un impacto uniforme de las prácticas ESG.

Contribuciones del Estudio: El estudio contribuye a la comprensión de las finanzas sostenibles al demostrar el efecto de las prácticas ESG en las decisiones de estructura de capital en mercados emergentes. Destaca la centralidad de la sostenibilidad en las estrategias de financiamiento, siendo relevante para académicos, gestores, inversores y formuladores de políticas corporativas. La investigación subraya la importancia de integrar factores sostenibles en las decisiones financieras al comparar empresas con diferentes índices ESG.

Palabras clave: Estructura de capital. Teoría Pecking Order. ESG.

Resumo

Objetivo: Este estudo tem como objetivo analisar, de forma comparativa, se a adoção de práticas de Governança Ambiental, Social e Corporativa (ESG) por empresas brasileiras e chinesas influencia a escolha de uma estrutura de capital em conformidade com os preceitos da Teoria da Pecking Order.

Metodologia: Pesquisa de natureza descritiva com abordagem quantitativa, utilizando dados coletados do banco de dados Refinitiv de 210 empresas entre 2018 e 2022. Foram realizadas análises descritivas e aplicação de modelos de dados em painel balanceado para obter os resultados.

Resultados: O estudo revelou que, entre as empresas analisadas com dados completos de ESG e que foram segmentadas conforme seus níveis de pontuação, tanto aquelas com práticas robustas quanto aquelas com pontuações menores apresentaram comportamentos alinhados à Teoria do Pecking Order, sugerindo uma preferência geral pelo financiamento interno. Além disso, não foram identificadas diferenças significativas nas abordagens de estrutura de capital entre empresas brasileiras e chinesas, o que indica um impacto uniforme das práticas de ESG.

Contribuições do Estudo: O estudo contribui para a compreensão das finanças sustentáveis ao demonstrar o efeito das práticas ESG nas decisões de estrutura de capital em mercados emergentes. Revela a centralidade da sustentabilidade nas estratégias de financiamento, sendo relevante para acadêmicos, gestores, investidores e formuladores de políticas corporativas. A pesquisa destaca a importância de integrar fatores sustentáveis nas decisões financeiras ao comparar empresas com diferentes índices ESG.

Palavras-chave: Estrutura de Capital. Teoria Pecking Order. ESG

1 Introduction

Studies about capital structure became prominent with Modigliani and Miller (1958) and in the last few decades it is one of the topics that has most demanded efforts in research in the area of corporate finances (Rosa, Rocha, Vendruscolo, & Victor, 2024). Among these studies, two significant theoretical contributions stand out: Trade-Off and Pecking Order (David, Nakamura & Bastos, 2009). The Pecking Order Theory is an influential theory on the capital structure of organizations and suggests that companies tend to prioritize the use of internal financing instead of looking for external financing and, when they do need to resort to outside resources, they prefer debt to assets due to lower information costs associated to debt issuance (Myers, 1984, apud Frank & Goyal, 2008). As for the Trade-Off Theory, it defends the use of debt to build a financial structure, assuming advantages in using loans and external financing, in which the ideal level of debt is reached by balancing the benefits of interest payments with the cost of obtaining the debt (Modigliani & Miller, 1958).

Studying the choice of capital structure is relevant since the decision of adopting one structure or another may allow for a reduction or increase in the company's capital cost, besides sending a message to the market of how a company is choosing to fund its investments (Santos, Soares, Machado, Panhoca, & Souza, 2008). In addition, keeping a balance among the sources of funding through debt represents one of the most important challenges for management since this structure impacts the operability of the company and, consequently, its market strategies (Bajaj, Kashiramka & Singh, 2020).

Further, environmental, social and governance issues (known as ESG) are considered relevant factors for corporate strategies in obtaining a competitive advantage (Menicucci & Paolucci, 2023). Additionally, Asimakopoulos, Asimakopoulos and Li (2024) state that companies that are able to achieve a high ESG classification can reduce their level of debt. In other words, the literature has already highlighted that ESG has an effect on company capital structure (Gillan, Koch & Starks, 2021; Al Amosh, Khatib, Alkurdi, & Bazhair, 2022; Zhao & Zhang, 2024).

In this sense, Santos, Pain, Fávero, & Marques (2022) identify a positive association between the ESG index and the capital structure in the long run. Although part of the literature links ESG to a reduction in capital cost, Macedo, Rocha, Rocha, Tavares, & Jucá (2022) found the opposite effect, with an increase in cost as ESG scores increase. Hence, ESG is a determinant factor in decisions related to corporate funding.

Furthermore, the number of indexes related to sustainability, such as ESG scores, has risen significantly in the last few years, especially in emerging countries (Fernandes & Linhares, 2017). A comparative study between companies in Brazil and China is relevant in this sense since both are emerging countries that have extended the use of complementary sources of funding, especially towards sustainable actions (Deus, Crocco & Silva, 2022). Additionally, both are founding members of BRICS, a formal economic group that started in 2009 between Russia, India and China; South Africa having joined in 2011. Currently, the BRICS has six more allied members: Saudi Arabia, Egypt, United Arab Emirates, Ethiopia and Indonesia. The relation of these countries is based on three main pillars: cooperation in politics and safety, financial and economic cooperation, cultural and personal cooperation (Brazil, 2023).

Therefore, taking into account that Brazil and China have maintained diplomatic relations for 50 years (Castelli & Oliveira, 2023) and that since 2009 China became Brazil's most important economic partner, surpassing the United States (Oliveira, 2016), the importance of analyzing these countries comparatively is evident, especially in terms of the capital structure

of its companies, since Brazil has significant investments in Chinese industrial companies and China also has a significant share of its external investment in Brazil (Hiratuka & Sarti, 2016).

With this in mind, emerging markets are different from developed markets in many of their characteristics, which includes their preference for capital structures (Yıldırım & Çelik, 2021). A study by Seifer& Gonenc (2010) presents a premise which states that emerging markets predominantly adopt the Pecking Order since in these contexts there is a greater problem in asymmetrical information and/or agency costs. This issue had already been raised in a study by Tong and Green (2005) which detected that the Pecking Order in the Chinese context would best explain the behavior of capital structure of companies. This was also seen in studies by Bhama, Jain & Yadav (2017) who analyzed the capital structure of Chinese industries and corroborate the Pecking Order as a preference by Chinese companies. The same behavior was also confirmed in the Brazilian context both in general analyses and in a study by Correa, Basso & Nakamura (2013), as well as in specific sectorial analyses such as startups (Colombo, Gomes, Eça, & Valle, 2021), companies in the agribusiness sector (Kaveski, Zittei, & Scarpin, 2014), the financial sector (Guimarães & Sena, 2024) and the construction sector (Santos, Silva, Vieira, & Silva, 2022).

Hence, there is a gap in the verification of whether this behavior continues in cases in which companies have adopted ESG practices. Therefore, the research question that guides this study is: **do companies in emerging markets such as Brazil and China, and who have ESG practices, have a capital structure behavior more aligned with the precepts of the Pecking Order Theory?**

With this in mind, to find answers to the proposed problem, the aim of this study is to comparatively analyze whether embracing Environmental, Social and Corporate Governance (ESG) practices on the part of Brazilian and Chinese companies influences the choice of a capital structure in conformity to the precepts of the Pecking Order Theory.

This object of study is justified since previous research identified that ESG practices can influence the choice of a specific capital structure (G. C. Santos et al., 2022; Al Amosh et al., 2022), although the analysis of emerging markets such as Brazil and China has not been identified in the literature. Hence, this study aims to contribute in filling in this theoretical gap by providing analyses that can broaden the literature related to the impact of ESG practices on the capital structure of the stock market. Furthermore, the study contributes by providing empirical results on the determinant variables of capital structure in conformity with studies by Bastos & Nakamura (2009), Kaveski et al. (2014), Rabelo, Braz, Alves and Silva (2018), corroborating the idea that these variables are adequate proxies in the context under study as well.

This study is also socially relevant since its results have practical and social contributions aligned to the UN's Sustainable Development Goals, especially Goal 8 (Good Jobs and Economic Growth) in the sense that, by observing stock markets and emerging countries in an ESG context, it is also aligned to the SDG. Lastly, a practical contribution is clear since the results presented here can help both management and investors analyze ESG strategies aligned with company capital structure which may help in decision making both in the stock market and in the strategic organizational scenario

2 Review of the Literature

2.1 The choice of capital structure by companies and its connections to ESG

In academic literature, there is still no established consensus about the nature of the

association between ESG practices and corporate debt (G. C. Santos et al., 2022), although there are empirical studies that have recognized that the adoption of ESG practices is connected to a reduction in the capital cost of companies (Balassiano, Ikeda & Jucá, 2023; Cantino, Devalle & Fiandrino, 2017), besides which G. C. Santos et al. (2022) demonstrate there is a positive association between the index of ESG practices and the total and long-term capital structure.

It is also clear that the ESG score has a positive relation with financial leverage which suggests that ESG practices can increase the borrowed capital of organizations (Adeneye, Kammoun & Ab Wahab, 2023), since they protect companies against risks and increase their capacity to maintain their value (Huang & Ye, 2021). In this case, decisions concerning capital structure may be based on company policies regarding ESG as these activities are adopted and they offer a viable perceived benefit (Al Amosh et al., 2022).

Furthermore, research shows that companies with better indexes of ESG practices have a higher participation of third-party capital in their funding sources (G. C. Santos et al., 2022). Jang, Kang, Lee and Bae (2020) demonstrate that companies with high ESG scores have a lower debt funding cost for bond issuers. Surprisingly, in a study by Aouadi and Marsat (2018), an analysis demonstrated that ESG controversies are associated to higher company value. Hence, empirical studies in this field present a broad variety of approaches and frequently studies find different results (S. G. Santos et al., 2022; Tanjung, 2023), therefore requiring more investigation.

In the Brazilian context, Marques, Peixoto, Bicalho and Amaral (2019) observed that transparent companies have greater access to lines of credit and hence their capital structure would tend to be formed by external capital. In China, the higher quality in ESG practices contributed positively for companies to have access to debt (Liao, Luo & Tang, 2015), and the ESG information released by Chinese companies is relevant for funding decisions since those with a higher ESG performance have lower debt financing (Zahid, Saleem & Masqsood, 2023)..

2.2 A Teoria Trade-Off e Teoria Pecking Order

According to Brito, Corrar and Batistella (2007), for decades the study of capital structure has been one of the most important topics in the science of finances. Kaveski et al. (2014) state that this structure refers to a company's funding sources, in other words, the manner in which a company uses its own capital and that of a third-party to finance its assets. Additionally, how management combines these funding sources is an important decision not only in a financial context but strategically since it can directly impact company goals and aims (Camilo, Xavier, Bandeira-de-Mello, & Marcon, 2010; Rabelo et al., 2018).

Therefore, an optimal level of debt is reached when the gains obtained by increasing debt equal the costs that this debt can bring, such as the risk of bankruptcy or problems in the relationship between creditors and shareholders. This balance defines the point in which the company uses the debt advantageously, without compromising its financial health and yet maximizing its market value (Abel, 2015). Thus, it is crucial to identify the main factors that explain how companies structure their capital (Correa et al., 2013). Since the modern theory of capital structure was proposed, the main theoretical currents that have been the focus of the literature are the Trade-Off Theory and the Pecking Order Theory (Medeiros & Daher 2008; Camfield, Freitas, Correia, & Serrasqueiro, 2018).

The Trade-Off Theory posits that companies have an optimum capital structure by combining equity and third party capital with the purpose of maximizing company value (David et al., 2009). To do this, companies aim for the optimum point of debt through tax benefits and

the cost of financial difficulty. Adding to this, Rabelo et al. (2018) explains that Trade-Off is founded on tax economy related to the use of debt. Hence, this theory was established on the combination of tax economy derived from the use of debt and expected bankruptcy costs due to the excess of debt (Nakamura, Martin, Forte, Carvalho Filho, Costa, & Amaral, 2007). Trade-Off demonstrates that the more a company increases its debt, the higher the tax benefit, which possibly increases the value of the company. However, the optimum level of debt must be confirmed so the company is not affected by the costs of this debt (Colombo et al., 2021).

The Pecking Order Theory, on the other hand, suggests that the proportion of a company's debt is just the cumulative result of the order of funding sources through time; hence, tax benefits and the balance between risk and return are not as important (Shyam-Sunder & Myers, 1999). In other words, the Pecking Order Theory is based on the influence of asymmetrical information on an organization's decision-making combined with the existence – or not – of accumulated profit that can meet the need for external funding. These would be determining factors in making decisions about the origin of the resources that will make up the company's capital structure (Myers & Majluf, 1984).

These two theories have been amply used by the literature to understand the different ways capital structure is formed (Tong & Green, 2005; Serrasqueiro & Caetano, 2015; Correa et al., 2013; Henrique, Silva, Soares, & Silva, 2018). Nevertheless, there is no easy answer as to what the best or most adequate capital structure for an organization (Bastos & Nakamura, 2009) is.

2.3 Environmental, Social and Governance (ESG) Practices and the Pecking Order Theory

In the last decade, environmental, social and governance (ESG) practices have become central to corporate decision-making (Martins, 2022). ESG, according to Menicucci and Paolucci (2023), is a fundamental factor in corporate strategies to obtain a competitive advantage, promote innovation and take advantage of opportunities, thus becoming a key indicator of management competence.

According to the literature, ESG is a term that was first presented by the United Nations in its report "Who Cares Wins", in 2004 to encourage more ethical investment practices (Saharti, Chaudhry, Pekar, & Bajoori, 2024) and has been advocated by countries around the world throughout the years with the aim of attaining a more sustainable economy and society (Li, Wang, Sueyoshi, & Wang, 2021).

Currently, there is no clear, academic definition of ESG (Wan, Dawod, Chanaim, & Ramasamy, 2023). It is commonly seen as a score or classification that reflects the sustainable performance of companies (Fu, Ren, Tian, Narayan, & Weber, 2024), in other words, it can be understood as a classification system that presents a broad pattern of evaluation of the sustainable development of organizations (Feng & Yuan, 2024).

The environmental aspect of ESG covers everything related to environmental protection which companies use with the aim of creating environmental influence (Singhania & Saini, 2022). The social factor is related to a company's human resource policies, both those within and outside the company, mainly in terms of human rights protection (De Lucia, Pazienza & Bartlett, 2020). Lastly, the governance aspect is related to the company's mechanisms of institutionalized governance, such as property structure, the independence of the administrative council, and others (Albitar, Hussainey, Kolade, & Gerged, 2020).

As part of their strategies, and due to market and stakeholder pressure, many companies are rigorously adopting environmental, social and local guidelines, presenting a clear vision of

their practices in corporate responsibility to all those involved, and highlighting this issue (Alareeni & Hamdan, 2020). This endorsement is not restricted to normative demands but also associated with strategic objectives such as risk reduction, an improvement in institutional reputation and strengthening a company's appeal with investors (Park & Jang, 2021; Meng, Yahya, Ashhari, & Yu, 2023; Ma, 2024).

According to Kahn (2022), businesses adopt ESG practices with the aim of reaching greater financial return and to demonstrate conformity to the market. This situation is especially true for emerging markets such as Brazil and China where the integration of ESG factors and corporate strategies is clearly relevant to guarantee sustainable business environments, better governance, the reduction in information asymmetry and the low cost of capital (Raimo, Caragnano, Zito, Vitolla, & Mariani, 2021). Added to this, understanding these relations is fundamental to predicting the impact of ESG in future economic growth due to the role these countries play in the world economy and the increase of investments of emerging companies in sustainability (Martins, 2022).

With this in mind, as well as the study by Seifert and Gonenc (2010), there is evidence that emerging markets predominantly adopt the Pecking Order Theory since they have greater agency costs due to information asymmetry. Tong and Green (2005) tested the Trade-Off and Pecking Order theories in decisions regarding company funding in the largest Chinese companies and observed that that the Pecking Order explained the behavior of the Chinese companies more effectively. In the Brazilian context, Correa et al., (2013) carried out a study in which results suggest that the Pecking Order is more consistent than Trade-Off to explain the capital structure of the largest open companies. Furthermore, in specific sectors in Brazil, several studies also report that the Pecking Order is the predominant approach (Colombo et al., 2021; Kaveski et al., 2014; Guimarães, et al., 2024; S. G. Santos et al., 2022).

Therefore, studies have shown that ESG can reduce information asymmetry and, consequently, reduce equity cost (Cirne, 2023; Nabila, Saraswati & Prastiwi, 2024). In emerging countries, information asymmetry is one of the reasons which lead companies to first choose internal sources of funding since investors in emerging markets receive less information than those in developed markets (Seifert & Gonenc, 2010). Hence, in this context, considering that capital structure is the combination between the debt and the equity that a company uses to fund its assets (Brito et al., 2007), as well as the similarity between the countries analyzed – emerging and developing, with an important commercial and diplomatic partnership – and, furthermore, that ESG practices can influence in adopting a specific capital structure, the following hypotheses guiding this research are presented:

H1: Companies that adopt ESG practices tend to follow the Pecking Order Theory, prioritizing internal financing over external financing to avoid information asymmetry and the potential negative impact on the image and credit of the company.

H2: The influence of ESG practices in choosing capital structure varies among companies in Brazil and China due to different business environments, regulations and corporate culture..

3 Methodological Procedures

This research is descriptive, documentary with secondary data, and, in relation to the approach to the issue, quantitative. The population of the research is a group of Brazilian and Chinese companies with open capital, from several sectors, found in the Refinitiv database. Initially, indices from 3,913 companies between 2018 and 2022 were collected.

We would like to point out that the years between 2019 and 2022 were affected by the

Covid-19 pandemic and, although this event was not the focus of this research, a parallel control of the critical period (2020-2021) was carried out. However, the results of the tests presented a similar behavior to those of normal periods and hence we chose to disregard the specific control variable for the critical period in the final equations.

The sample was refined to 547 companies with available ESG indicators and subsequently reduced to 210 companies after the exclusion of companies with missing data or a negative PL. This research used a data model for data on a balanced panel since each unit of temporal data presents the same number of observations throughout the period under analysis. Therefore, considering a high balanced level, the winsorization procedure was not applied since it does not consider extreme data in analyzed variables which may contain relevant information about the behavior of variables (Duarte, Girão & Paulo, 2017).

In addition, for a comparative analysis, the sample was segmented for each country into two groups: companies with an ESG score over 50 (ESG > 50) and those with an ESG under 50 (ESG < 50) based on the available data.

3.1 Defining the variables

A dependent variable was used, subsidized by previous studies, which can be found in Table 1, represented by the debt indicator, and which aims to analyze the level of book value of total debt of the companies analyzed. The independent variables, also found in Table 1, are aligned to previous studies and represent the determinant economic-financial factors of capital structure and are used as explicative variables, possibly pointing out the existence of a positive or negative correlation.

Table 1
Description of variables

Type of Variable	Description of Variable	Abbreviation	Formula	References
Dependent	Book Value of Total Debt	BVTD	(Current Liability + Long Term Liability) / Total Assets	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018);
Independent	Current Liquidity Ratio	LIQ	Current Assets / Current Liability	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018);
	Tangibility	TANG	(Fixed Asset + Stock) / Total Assets	
	Asset Return	ROA	Net Profit / Total Assets	
	Opportunity for Growth	OPPORT	(Gross Revenue in period 1 – Gross Revenue in period 0) / Gross Revenue in period 0	
	Size of the Company	SIZ	Log (Net Operating Revenue)	

Source: *Research data.*

In this research, a qualitative dummy variable was also used, representing the sector in

which the companies operate. The sector of activities was divided according to the classification made in the Refinitiv database. Thus, the following values were attributed to activity sectors: 1 for Communication Services, 2 for Non-Essential Consumer Goods, 3 for Essential Consumer Goods, 4 for Energy, 5 for Industrial, 6 for Information Technology, 7 for Real Estate and 8 for Public Services. After collecting and tabulating the data, the analysis of results was done based on the following procedures: Descriptive Analysis and panel data. For this stage, the following software was used: Microsoft Office Excel and Statistical Software for Data Science (STATA).

In addition, this study tested the relations between variables through multiple linear regressions, with the econometric model presented below being adopted, after testing the data of Brazilian and Chinese companies with higher and lower ESG scores, in which, in four equations, the dependent variable Book Value of Debt (BVTD) was verified as to whether it was affected by the explanatory variables Current Liquidity Ratio (LIQ), Tangibility (TANG), Asset Return (ROA), Opportunity for Growth (OPPORT), and Size of the Company (SIZ), also observing the effects of the qualitative variable Sector (SET):

$$\mathrm{BVTDi,t} = \alpha\,\mathrm{i,t} + \beta 1\,\mathrm{LIQi,t} + \beta 2\,\mathrm{TANG\,i,t} + \beta 3\,\mathrm{ROA\,i,t} + \beta 4\,\mathrm{OPPORT\,i,t} + \beta 4\,\mathrm{SIZ\,i,t} + \beta 5\,\mathrm{SET\,i,t} + \varepsilon\,\mathrm{i,t}$$

Where:
$\mathrm{BVTDi,t}$ = Book Value of Total Debt i in year t.
i = company analyzed.
t= year of data.
α i,t = constant of model.
ε = stochastic error of the model.
β1to β5= angular coefficients of the independent and control variables.
LIQ = liquidity.
TANG = tangibility.
ROA = asset return.
OPPORT = opportunity for growth.
SIZ = size of the company.
SECT = sector of the company.

The formulation of the variables was based on the theoretical references mentioned in the previous section, as well as empirical studies already carried out. Hence, in Table 2, we can see the expected relation regarding the level of debt of the companies and whether the Trade-Off Theory or the Pecking Order Theory predominates, measured by the variables Current Liquidity, Tangibility, Asset Return, Size and Opportunity for Growth.

Table 2
Effects of the level of debt, according to the theoretical references

Determinants	(Trade-Off TTheory)	(Pecking Order TTheory)	References
LIQ	-	Negative	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018);

TANG	Positive	Negative	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018); Zou, & Xiao (2006), Gaud, Jani, E., Hoesli, M., & Bender. (2005)
ROA	Positive	Negative	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018);
SIZ	Positive	Positive / Negative	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018);
OPPORT	Negative	Positive / Negative	Bastos & Nakamura (2009); Kaveski et al. (2014); Rabelo et al. (2018).

Source: *Research Data*.

4 Presentation and Data Analysis
4.1 Sample Analysis

Among the companies analyzed, 49 are Brazilian and 161 are Chinese, and the distribution by sectors reveals a contrast between the two countries. In Brazil, there is a significant concentration of businesses in the sector of Public Services, corresponding to 26.53% of Brazilian companies analyzed, followed by Non-Essential Consumer Goods, corresponding to 18.36% of the sample. On the other hand, in China, there is a predominance of companies in the Industrial sector, reflecting the country's robust manufacturing sector, with 31.67%, followed by the sector of Information Technology, with 15.52%, as can be seen in Table 3.

Table 3
Companies by Country and Sector

Sector	Brazil	China	% Total
Communication Services	03	13	7.62%
Non-Essential Consumer Goods	11	18	13.81%
Essential Consumer Goods	09	15	11.43%
Energy	04	12	7.62%
Industrial	07	51	27.62%
Information Technology	01	25	12.38%
Real Estate	01	14	7.14%
Public Services	13	13	12.38%
Total	49	161	100.00%

Source: Research Data.

The average of ESG scores by sector reveal that, in general, Brazilian companies have higher scores in comparison with the Chinese. This may indicate a greater adherence or emphasis of ESG practices in Brazil. Sectors such as Information Technology and Communication Services present particularly high scores in Brazil, which suggests a significant commitment to sustainable, social and governance corporate practices, as can be seen in Table 4.

Table 4
Average ESG Score by Sector

Sector	Brasil	China	General Average

Communication Services	70,00	31,62	38,82
Non-Essential Consumer Goods	47,45	36,15	40,44
Essential Consumer Goods	63,03	33,03	44,28
Energy	50,03	49,32	49,49
Industrial	54,46	40,02	41,76
Information Technology	72,98	42,32	43,50
Real Estate	54,02	37,68	38,77
Public Services	56,79	32,54	44,67
Total	56,04	38,50	42,59

Source: *Research Data.*

When analyzing the ESG averages separately by each component (environmental, social and governance) and by country in Table 5, it is clear that Brazil presents a variation on average ESG scores among the different sectors, as was also identified by Schleich, (2022). Some sectors, such as Information Technology, present particularly high scores in governance, while other sectors have a balanced distribution among the three components. This variation suggests that there is a different approach to ESG practices in each sector.

In China, although the Energy sector presents high scores, especially in the environmental component, perhaps reflecting efforts directed towards sustainability in this sector, ESG scores tend to be balanced among the three components. This is evident in sectors such as Energy and Information Technology, where the scores are not extremely high in one category alone, but are distributed uniformly among the environmental, social and governance aspects. The pattern of balanced scores may indicate a holistic and integrated approach to ESG practices, which demonstrates a concern on the part of industry with the formation of ESG scores (Chen, Cheng, Luo, & Tsang, 2024).

Table 5

Average ESG Score by Sector – Brazil and China

Brasil			
Sector	**E**	**S**	**G**
Communication Services	59,48	70,43	77,22
Non-Essential Consumer Goods	42,48	46,14	55,14
Essential Consumer Goods	66,51	59,86	64,19
Energy	36,34	55,21	60,85
Industrial	46,57	57,86	57,85
Information Technology	35,80	71,51	85,40
Real Estate	59,88	53,99	48,40
Public Services	53,88	60,72	56,77
Total	51,26	57,11	59,92
China			
Sector	**E**	**S**	**G**
Communication Services	15,07	27,13	43,61
Non-Essential Consumer Goods	36,83	24,79	50,74
Essential Consumer Goods	31,97	26,50	45,33
Energy	55,77	36,79	54,36
Industrial	39,57	30,31	53,94
Information Technology	38,56	40,36	45,97
Real Estate	33,05	36,68	43,93
Public Services	33,06	25,01	41,55
Total	36,54	31,25	48,87

Source: *Research Data*.

When observing the companies with the best ESG scores in their respective sectors, we can see that, in Brazil, companies like Tim S/A, Telefônica Brasil S/A and Oi S/A lead the sector of Communication Services, indicating a strong commitment to ESG practices. On the other hand, Chinese companies like Zhejiang, Century and Huatong Group have low scores in this same sector. In Consumer Goods, both in essential and non-essential segments, companies such as Lojas Renner S/A, BRF S/A and JBS S/A in Brazil demonstrate a high level of commitment to ESG. This reflects a tendency of solid ESG practices in several Brazilian sectors, while in China, the distribution of scores suggests a varied approach (Fedato, Pires & Trez, 2017).

China stands out in the Industrial, Real Estate and Information Technology sectors in terms of ESG practices. Chinese companies such as COSCO Shipping Holdings in the Industrial sector, China Vanke Co Ltd in the real estate sector, and ZTE Corp in the Technology sector, demonstrate high ESG scores, indicating a strong commitment to these practices and attempting to reach higher financial return (Khan, 2022).

Table 6 presents companies with the highest ESG scores, regardless of the sector. Brazilian companies appear among the first positions, demonstrating a high level of adherence to ESG practices. Chinese companies also appear in high positions showing that companies in China are pursuing excellence in ESG which when reached can generate a reduction in information asymmetry and low capital cost (Raimo et al., 2021).

Table 6
General ESG Ranking – Best positions

Companies	Country	Sector	Average ESG Score	Ranking
Lojas Renner SA	Brazil	Non-Essential Consumer Goods	89.92	1st
ENGIE Brazil Energia SA	Brazil	Public Services	85.35	2nd
Tim SA	Brazil	Communication Services	83.92	3rd
ZTE Corp	China	Information Technology	88.18	4th
COSCO Shipping Holdings Co Ltda	China	Industrial	75.25	5th
BRF SA	Brazil	Essential Consumer Goods	79.90	6th
Companhia Paranaense de Energia	Brazil	Public Services	76.49	7th
Brazilian Electric Power Co	Brazil	Public Services	82.93	8th
Petroleo Brazileiro SA Petrobras	Brazil	Energy	76.83	9th
China Shenhua Energy Co Ltd	China	Energy	81.69	10th

Source: *Research Data*.

From the data of the sample, it is evident that both countries have demonstrated a concern with ESG practices, corroborating studies that posit that this is a direction taken by developing countries such as Brazil and China (Raimo et al., 2021). Another noticeable aspect is that there is no predominance of one specific sector with higher or lower scores which suggests that interest in ESG is not connected directly to the activity carried out but to other factors that have not featured in the analyzed sample.

Table 7
General ESG Ranking – Worst positions

Companies	Country	Sector	Average ESG Score	Ranking
Avic Shenyang Aircraft Co Ltda	China	Industrial	17,10	201º
Shenergy Co Ltda	China	Public Services	16,62	202º

AVIC Airborne Systems Co Ltda	China	Industrial	15,68	203º
Sanan Optoelectronics Co Ltda	China	Information Technology	14,70	204º
Shanxi Xinghuacun Fen Wine Factory Co Ltda	China	Essential Consumer Goods	14,64	205º
Companhia de Saneamento de Minas Gerais COPASA MG	Brasil	Public Services	13,64	206º
Greenland Holdings Corp Ltda	China	Real Estate	12,66	207º
Zhejiang Zheneng Electric Power Co Ltda	China	Public Services	11,39	208º
Yantai Changyu Pioneer Wine Co Ltda	China	Essential Consumer Goods	9,16	209º
Wanxiang Qianchao Co Ltda	China	Non-Essential Consumer Goods	5,58	210º

Source: *Research Data*.

The sample data also indicate that both countries have shown a growing concern with ESG practices, corroborating previous studies that highlight ESG as a trend increasingly adopted by developing nations such as Brazil and China (Raimo et al., 2021). Moreover, the absence of a specific sector exhibiting consistently higher or lower scores suggests that the level of commitment to ESG practices is not directly related to the type of activity performed, but rather to other factors not detailed within the analyzed sample.

4.2 Statistical Treatment

The analysis and discussion of the results were organized to answer the research question, meet the general objective and test the hypotheses raised. Thus, Tables 8 and 9 were created with the aim of demonstrating the results of the regressions estimated in Equations 1, 2, 3 and 4 of the respective contexts analyzed (Brazil-China).

Table 8
Behavior of Capital Structure - Brazil

BRAZIL		**Equation 1 Brazil Sample ESG>50**			**Equation 2 Brazil Sample ESG <50**		
R2		0.4467			0.5882		
Sig. of Model		0.0000			0.0001		
D.W.		1.17			1.54		
Mean VIF		3.14			2.51		
BP/CW Test		0.0000			0.0000		
White Test		1.2e-05			.0126		
B.P. Test		0.0000			0.0000		
Chow F		0.0000			0.0000		
Hausman Test		0.5658			0.0002		
R2		155			90		
Dependent Variables		**ETC**			**ETC**		
INDEP. V.		**Random Effect**			**Fixed Effect**		
		Coef.	**p- value**	**VIF**	**Coef.**	**p- value**	**VIF**
Explanatory Variables	**LIQ**	-.141815	0.000***	1.27	-.1306231	0.000***	1.27
	TANG	.114077	0.043**	1.48	.3353942	0.022**	1.38
	ROA	-.4288359	0.001***	1.20	-.086447	0.267 (NS)	1.74
	SIZ	-.1068424	0.025**	2.29	-.0974142	0.064*	2.06
	OPPORT	-.2870154	0.038**	1.12	.1704048	0.088*	1.47
	SECTOR	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**

CONST	1.927398	------	0.000	1.797816	0.002

Nota: *** Significância ao nível de 0,01 – ** Significância ao nível de 0,05 – * Significância ao nível de 0,10 – (NS) Não significante

Note: *** Significance at 0.01 level – ** Significance at 0.05 level – * Significance at 0.10 level – (NS) Not significant.

Source: *Research Data*

Table 9

Behavior of Capital Structure – China

CHINA		**Equação 03 Amostra China ESG>50**			**Equação 04 Amostra China ESG<50**		
R2		0.6828			0.6365		
Sig. of Model		0.0000			0.0000		
D.W.		1.58			1.52		
Mean VIF		3.12			1.96		
BP/CW Test		0.6608			0.0000		
White Test		2.8e-05			2.7e-42		
B.P. Test		0.0000			0.0000		
Chow F		0.0000			0.0000		
Hausman Test		0.0005			0.0000		
No. Obs.		295			510		
Dependent Variables		**ETC**			**ETC**		
INDEP. V.		**Random Effect**			**Fixed Effect**		
		Coef.	**p- value**	**VIF**	**Coef.**	**p- value**	**VIF**
Explanatory Variables	**LIQ**	-.1385743	0.000***	1.55	-.0557872	0.000***	1.41
	TANG	-.0663928	0.020**	1.61	.0654744	0.186 (NS)	1.77
	ROA	-.1533044	0.012**	1.29	-.1606449	0.005***	1.46
	SIZE	.045076	0.000***	1.36	.0983508	0.000***	1.42
	OPPORT	.069729	0.004***	1.14	.0513394	0.055**	1.04
	SECTOR	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
	CONST	.1408788	------	0.289	-.4216207	0.001	

Note: *** Significance at 0.01 level – ** Significance at 0.05 level – * Significance at 0.10 level – (NS) Not significant

Legend: **R2:** explanatory power of model; **DW:** Durbin Watson– autocorrelation; **Mean VIF:** average of Variance Inflation Factor; **BP/CW Test:** Breuch-Pagan/Cook-Weisberg– heteroscedasticity of residue test; **White Test:** heteroscedasticity of residue test; **B.P. Test:** Breusch-Pagan Test – verification of panel modeling adequacy; **Chow F:** verification of panel modeling adequacy; **Hausman Test:** verification of panel modeling adequacy; **CONST:** Constant.

Source: *Research Data*

The results of the Breusch-Pagan, Chow F and Hausman tests, presented in Tables 8 and 9, with the exception of equation 1, which presented random effects, indicated, in all the other equations (2, 3 and 4), that the appropriate modeling to analyze the samples being studied in terms of panel data is that of fixed effects. Considering that the Breusch-Pagan test is lower than 0.05, we directed our attention to the Hausman test which was lower than 0.05 hence leading us to accept the fixed effect modeling.

In Table 8, it is observed that the modelling used to verify the determinants of capital structure adopted by Brazilian (Equations 1 and 2) and, in Table 9, Chinese (Equations 3 and 4) organizations are consistent since the models composed by (155/90 Brazil and 295/510 China) observations were significant at a 1% level in all cases. The R2, which corresponds to

the explanatory power of the model, was 44%, 58%, 68% and 63%, respectively, demonstrating that the explanatory/determinant variables already established by the financial literature (LIQ, TANG, ROA, SIZ, OPPORT) can explain Capital Structure (CS) in the different contexts (Brazil and China).

Observa-se, na Tabela 8, que a modelagem utilizada a fim de verificar os determinantes da estrutura de capital adotados pelas organizações brasileiras (Equações 01, 02) e chinesas na Tabela 09 (Equações 03 e 04) mostraram-se consistente, uma vez que os modelos compostos por (155/90 Brasil e 295/510 China) observações apresentaram-se significante ao nível de 1% para todos os casos. O R2, que corresponde ao poder explicativo do modelo, foi de 44%, 58%, 68% e 63% para as Equações 01, 02, 03 e 04, respectivamente, o que demonstra que as variáveis explicativas/determinantes já consagradas na literatura de finanças (LIQ, TANG, ROA, TAM, OPORT) são capazes de explicar a Estrutura de Capital (ETC) nos diferentes contextos (Brasil e China).

The model does not present autocorrection issues since the Durbin-Watson for all the equations is close to 2; and there are no multicollinearity issues either according to the VIF test (below 5) for the countries analyzed. The Breusch-Pagan/Cook-Weisberg and White test for all cases indicate problems in heteroscedasticity for residue. For this reason, White's robust correction was applied to correct and make this residue homoscedastic. With the premises verified in Equations 1, 2, 3 and 4, considering they do not violate the regressions models, the analysis of the capital structure determinants for each context proceeded.

In Equation 1, which aims to test the sample with Brazilian companies with an ESG higher than 50 points, the determinants (LIQ, TANG, ROA, SIZ, OPPORT) were all significant between levels 1% and 5%. In Equation 2, which aims to test the sample of Brazilian companies with an ESG lower than 50 points, the determinant LIQ was significant at 1%, the determinant TANG was significant at 5%, the determinants SIZ and OPPORT at 10% and the determinant ROA did not obtain significance. In Equation 3 and Equation 1, all determinants were significant between levels 1% and 5%. In Equation 4, LIQ, ROA and SIZ achieved significance at 1%, OPPORT at 5% and TANG did not reach significance.

4.3 Discussion of Hypotheses

The empirical results indicate that in both countries studied (Brazil and China), both companies with higher ESG scores and those with a lower score have a capital structure predominantly aligned with the Pecking Order Theory. This result was measured by the proxies used in this study (LIQ, TANG, ROA, SIZ, OPPORT) since in the 4 equations used, the behavior of the beta followed the expected results, according to previous studies, presented in Table 2 in the methods and procedures section of this research, condensed in Table 10.

Table 10
Summary of results by country

			Brazil		
Explanator variable	**Indep. Variable (CS) - EQ1**	**p-Value EQ1**	**Indep. Variable. (CS) - EQ2**	**p-Value EQ02**	**Predominant Theory**
LIQ	NEG	0.000***	NEG	0.000***	Pecking Order
TANG	POS	0.043**	POS	0.022**	Trade-Off
ROA	NEG	0.001***	NEG	0.267 (NS)	Pecking Order
SIZ	NEG	0.025**	NEG	0.064*	Pecking Order

OPPORT	NEG	0.038**	POS	0.088*	Pecking Order/Trade-Off

CHINA

Explanator variable	Indep. Variable (CS) - EQ1	p-Value EQ1	Indep. Variable. (CS) - EQ2	p-Value EQ02	Predominant Theory
LIQ	NEG	0.000***	NEG	0.000***	Pecking Order
TANG	NEG	0.020**	POS	0.186 (NS)	Pecking Order
ROA	NEG	0.012**	NEG	0.005***	Pecking Order
SIZ	POS	0.000***	POS	0.000***	Pecking Order/Trade-Off
OPPORT	POS	0.004***	POS	0.055**	Pecking Order

Source: *Research Data.*

With the results obtained, aligned with what was predicted by Myers and Majluf (1984), it is clear that both Brazilian and Chinese companies that have a high ESG score prefer to use a hierarchy of funding sources based on the availability of information, prioritizing a smaller informational asymmetry. It is also evident that the companies analyzed do not present a direct interest in the tax benefits derived from debt, a characteristic of the Trade-Off theory.

According to the literature revision and in alignment with the Pecking Order theory, a positive relation between the companies' opportunity of growth and debt is expected (Leal & Gomes, 2001), since there is an assumption that companies that plan to grow need financial resources which will increase debt (Correa et al., 2013). Therefore, considering that an increase in debt can come from either internal or external sources, this positive relation would corroborate both the Trade-Off Theory and the Pecking Order Theory. In this sense, the present study is aligned with the prevailing trend since, as observed, the determinant opportunity of growth presented a positive behavior in the 4 equations carried out.

In relation to company tangibility, Titman and Wessels (1988) posit that tangible assets tend to raise company debt since they lead to the incurrence of debt and these assets can be offered as a guarantee. Hence, previous studies indicate a common positive relation between tangibility and external debt which was also confirmed in this study by equations 1, 2, 3 and 4. This relation favors a tendency towards the Trade-Off Theory in that the use of tangible assets to capture resources with creditors is observed (Zou, & Xiao, 2006).

As for Equation 3, carried out with the Chinese companies with the highest ESG scores, the reaction observed was negative, contrary to the predominant literature. In this sense, Gaud et al. (2005) explain that the negative relation can be justified because companies with fewer tangible assets would be subject to problems with information asymmetry. This is also in alignment with the conventional idea that long-term assets, which is the case of tangibles, are generally funded with long-term debt. This suggests that these Chinese companies tend to incur in short-term debt (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001).

In relation to profitability, it is expected that profitable companies, i.e., with high return indices, tend to have less debt (Huang & Song, 2006). Hence, what is most common in the literature is the occurrence of a negative relation between profitability and debt. It is here that the results taken from this research correspond to the literature, since in all the equations a negative relation between debt and profitability was identified, measured by the determinant ROA, with only Equation 2 not presenting significance.

The Trade-Off Theory suggests a positive relation between a company's level of debt and its profitability (Brito & Lima, 2005). The Pecking Order Theory, on the other hand, postulates there is a hierarchy that administrators prefer when funding company investments so as to maintain profit within the organization as a source for new investments (Myers & Majluf,

1984). In this sense, there seems to be a clear alignment between the samples analyzed and the Pecking Order Theory.

The independent variable Size presented a different behavior between the countries analyzed. In Brazil, in both formalized equations, a negative relation was obtained between size and debt. In China, this relation was positive. The positive relation can be interpreted according to what is postulated by both the Pecking Order Theory and the Trade-Off Theory because larger companies usually accumulate retained earnings and therefore debt would be less necessary (Serrasqueiro & Caetano, 2015), which agrees with the Pecking Order. However, large companies also easily obtain external financial resources since they present a lower risk of bankruptcy and default, which reinforces Trade-Off (Correa et al., 2013). The negative relation seen in Brazil indicates a consonance with the Pecking Order since smaller-sized companies tend to increase their assets instead of debt, which may lead to the negative relation (Adair & Adaskou, 2015).

As for the current liquidity index, previous studies have presented a strong negative relation with debt (Bastos & Nakamura, 2009), since companies that have greater liquidity commonly present financial slack in retaining internally-generated funds, positively impacting current liquidity and negatively impacting debt. This is in alignment with the Pecking Order Theory (Ozkan, 2001), confirmed by this study with the negative relation obtained in all the equations.

Therefore, the guiding hypothesis H1 was accepted and H2, refuted. When considering the determinants analyzed for companies in Brazil and in China as a whole, it is clear that companies that have investments in ESG, both those with initial scores and those that are advanced in this area, tend to adopt a capital structure leaning towards the Pecking Order Theory and not the Trade-Off Theory since they are concerned about the risks related to ESG and prioritize internal funding over external funding to avoid information asymmetry and potential negative impacts on the company's image.

The result obtained is in alignment with previous studies by Tong and Green (2005) who investigated the Trade-Off and the Pecking Order theories in the funding decisions of large Chinese companies and concluded that the Pecking Order offers an adequate explanation for these companies' behaviors. Similarly, Bastos and Nakamura (2009) examined the factors that influence the capital structure of companies listed in Brazil, Mexico and Chile and found that the Pecking Order is efficient in explaining the data observed in Brazil and Mexico. Correa et al. (2013) also conducted a study whose results indicate a greater consistency of the Pecking Order in comparison with Trade-Off in explaining the capital structure of the most important companies listed on the stock market in Brazil.

In relation to H2, which was refuted, the analyses did not show any significant differences in the strategies of capital structure between Brazilian and Chinese companies. This indicates that, despite the benefits associated with ESG practices in the context of capital structure (Huang & Ye, 2021; Al Amosh et al., 2022) in emerging markets, companies tend to adopt similar patterns even in the face of cultural, governmental and sectorial differences (Yıldırım & Çelik, 2021; Seifert & Gonenc, 2010). In the case of the present study, it was observed that in both countries analyzed an approach aligned with the Pecking Order Theory predominates which is in accordance with the results found by Tong and Green (2005), Bastos and Nakamura (2009) and Kaveski et al. (2014).

This result can be confirmed since, in spite of the differences in the political systems, Brazil and China present similarities in some economic points. Both countries have expanded very quickly in the last few years and created new spaces for products and services (Fedato et al. 2017), even with frequent governmental interferences in both countries: hence, although

companies want to grow, they tend to avoid the risks stemming from debt, prioritizing the use of their own capital to guarantee greater corporate sustainability. Furthermore, the commitment of the company to ESG tends to decrease uncertainty which may lead to the reduction of the risk and cost of equity and the choice of not having debt on the part of companies (Ma, 2024).

In addition, companies with lower ESG scores are mostly found in China, and those with better scores are in Brazil although the evolution of the index did not have an effect on the approach to capital structure. Therefore, these results suggest that companies that are attentive to ESG, whether in a simplified way or exponentially, tend to have a greater concern with information asymmetry and hence incur in less external debt, which is in agreement with a study by Huang and Ye (2021), since ESG tends to protect companies against risk, increasing their capacity to maintain their value and leading organizations towards a capital structure that aims at minimizing information asymmetry, which corroborates the Pecking Order Theory.

5 Final Considerations

Based on the fundamental theories of Modigliani and Miller (1958) and advanced studies on capital structures by David et al. (2009), this research explored the connection between ESG practices and decisions concerning asset funding. The discussion that began with G.C. Santos et al. (2022) about the positive influence of ESG on capital structure was expanded, along with the importance of the environmental, social and governance dimensions, as highlighted by Menicucci and Paolucci (2023).

The aim of this study was to analyze comparatively if the adoption of Environmental, Social and Corporate Governance (ESG) practices by Brazilian and Chinese companies influence the choice of capital structure according to the precepts of the Pecking Order Theory.

This focus expands our understanding of the impact of environmental, social and governance initiatives on financial strategies, guiding businesses in emerging economies in the adoption of a capital structure that support both sustainable growth and financial resilience as an answer to the central issue concerning how embracing ESG practices shape the funding preferences of companies. We found that, regardless of the ESG level, both countries tend to prefer the Pecking Order Theory. This reinforces Myers and Majluf's (1984) idea of the choice of internal funding to minimize informational asymmetry.

Studies such as those by Tong and Green (2005) in China, Bastos and Nakamura (2009) in Brazil, and Correa et al. (2013) in Brazil, Mexico and Chile, reinforce the applicability of the Pecking Order to explain the funding strategies adopted by the listed companies, highlighting the consistency of this model in several markets. The choice of the Brazilian and Chinese business context in this study reveals the need to understand ESG practices in different economic conditions. Following Deus et al. (2022), analyzing these emerging markets explains how sustainable funding strategies are adopted globally, increasing communication about finances and capital structure.

Additionally, analyzing companies with different ESG scores led to a more complete panorama regarding how sustainability affects capital structure, demonstrating that ESG practices affect financial decisions by directing companies to avoid external funding sources due to the search for less informational asymmetry (Myers & Majluf, 1984) and reputation protection, as predicted by the Pecking Order Theory. Even if companies with a high ESG have easier access to credit and lower capital cost, factors that might favor the use of debt, as the Trade-Off Theory suggests, it is observed that these organizations still prefer internal financing, reinforcing the use of the Pecking Order logic.

This study contributed to the literature about sustainable finances by analyzing the

influence of ESG practices on the preferences of capital structure in the organizations of emerging markets. By integrating the analysis of companies with high and low ESG scores, it offers a unique view on the choice for the Trade-Off or Pecking Order Theories, suggesting that ESG can be a determinant factor for funding strategies. This contribution is important for scholars, management and investors interested in understanding the financial implications of corporate sustainability.

As for the limitations of this study, we must mention that the analysis concentrated exclusively on two countries that, although sharing certain similarities, present significant differences in political, economic and cultural terms. The investigation focused on only the last five years, which limits the understanding of long-term tendencies on capital structure. The selection of variables also represents a limitation since other determinant factors for capital structure that are potentially influential in debt and on the impact of ESG practices were not explored.

In relation to suggestions for future research, in light of the limitations identified, it is recommended that the period analyzed be extended to include a broader view of the tendencies through time. It would also be recommended that studies with a larger number of countries be carried out, or that a more detailed analysis be carried out in one country alone hence allowing for a deeper comparison among different contexts. In addition, we suggest the inclusion of additional variables that influence capital structure to explore how different factors and levels of ESG practices can impact debt differently, expanding in this manner an understanding about the dynamics of corporate funding.

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