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A RELAÇÃO ENTRE GOVERNANÇA CORPORATIVA E DESEMPENHO FINANCEIRO DAS EMPRESAS INTEGRANTES DOS SEGMENTOS CÍCLICO E NÃO CÍCLICO NO NOVO MERCADO DA B3-BRASIL, BOLSA, BALCÃO

THE RELATION BETWEEN CORPORATE GOVERNANCE AND FINANCIAL DEVELOPMENT OF THE MEMBER COMPANIES OF CYCLICAL AND NON-CYCLICAL SEGMENTS IN THE *NOVO MERCADO* OF B3 - BRAZIL STOCK EXCHANGE AND OVER-THE-COUNTER MARKET

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CASCAVEL

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FRANÇOIS FABIANE TRENTO

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"We ourselves feel that what we are doing is just a drop in the ocean. But the ocean would be less because of that missing drop."
(Mother Teresa)

"Amélie, my girl, you don't have glass bones like me.
You can knock against life. If you let this opportunity slip away, then,
as time go by, it's your heart that will become as dry and fragile as
my bones. So, go for it, for Christ's sake!"
(The Fabulous Destiny of Ámelie Poulain)

RESUMO

Trento, F. F. (2022). ***A relação entre governança corporativa e desempenho financeiro das empresas integrantes dos segmentos cíclico e não cíclico no novo mercado da B3-Brasil, Bolsa, Balcão***. Dissertação (Mestrado Profissional em Administração - Programa de Pós-Graduação em Administração), Universidade Estadual do Oeste do Paraná, Cascavel-PR, Brasil.

A governança corporativa é um mecanismo de controle, no qual conecta acionistas e a gestão da companhia, além disso, pode ser entendida como uma ferramenta capaz de mitigar os problemas da agência, proporcionando maiores mecanismos para a promoção da sustentabilidade empresarial. Assim, esta pesquisa tem como objetivo analisar a relação entre governança corporativa e desempenho financeiro das empresas integrantes dos segmentos cíclico e não cíclico no Novo Mercado da B3-Brasil, Bolsa, Balcão. O estudo se classifica majoritariamente como quantitativo e documental, recorrendo a dados disponibilizados no site da B3, site corporativo das empresas e programa Economática para o levantamento de dados. O método utilizado para atingir o objetivo proposto se embasa em um índice de governança corporativa desenvolvido, o qual é dividido em cinco dimensões: diretoria, conselho de administração, auditoria, reuniões do conselho e princípios da governança corporativa. O corte temporal é de 2018 a 2020, totalizando 178 observações. Para análise dos dados foi utilizada a correlação de *Pearson* e regressão linear múltipla com o auxílio do sistema SPSS. Os resultados apontam que a maioria das empresas apresentam as informações referentes à governança corporativa de forma clara e objetiva, no entanto, são poucas as que divulgam tais informações no seu Relatório da Administração disponibilizado no site da B3. Além disso, constata-se que a dualidade continua a ser uma prática comum nas empresas de capital aberto do Brasil, bem como não é costumeiro informar se possuem ou não comitês de assessoramento. Constatou-se ainda que o tamanho do conselho de administração e o fato de a empresa ser auditada por uma *Big Four* tem relação positiva com o desempenho financeiro das empresas. Em relação aos membros independentes do conselho de administração, a dualidade da diretoria e quantidade de reuniões anuais apresentam uma relação negativa com o desempenho financeiro. Todavia, a diversidade de gênero em grupos estratégicos não apresentou resultados conclusivos. Com tais achados, nota-se que a governança corporativa no Brasil evoluiu consideravelmente nas últimas décadas, mas ainda existem aspectos que podem ser aprimorados, ainda há lições a se aprender para desenvolver melhores mecanismos, sob a intenção de se posicionar como empresas mais seguras, fortes e transparentes. Visto isso, é perceptível que há aspectos da governança corporativa que exercem influência significativa no desempenho financeiro das empresas. A contribuição da pesquisa se volta para maior compreensão da estrutura de governança das empresas brasileiras que estão inseridas no nível mais elevado do mercado acionário brasileiro, sob a análise aprimorada de como está fundamentado este arranjo corporativo. Contribui também com a prática, onde apresenta-se um método de quantificação da governança corporativa aplicável às empresas brasileiras após as alterações dos órgãos de regulamentação.

Palavras-chave: Sustentabilidade financeira. Estrutura de governança. Estratégia. Competitividade.

ABSTRACT

Trento, F. F. (2022). ***The relation between corporate governance and financial development of the member companies of cyclical and non-cyclical segments in the Novo Mercado of B3 - Brazil stock exchange and over-the-counter market***. Dissertation (Graduate Program in Administration – Professional Master's Degree), Western Paraná State University, Cascavel-PR, Brazil.

Corporate governance is a control mechanism that connects investors and the company management. Furthermore, it can be understood as a tool capable of mitigating agency problems, providing more considerable mechanisms to promote business sustainability. Thus, this research aims to analyze the relationship between corporate governance and financial performance of the companies of cyclical and non-cyclical segments in the *Novo Mercado* (New Market) of B3 - Brazil stock exchange and over-the-counter market. This study is mainly classified as quantitative and documental, using data available on B3's website, a company corporative website, and the Economatica program for data survey. The method used to reach the proposed objective is based on a corporate governance index, which is divided into five dimensions: executive officers, board of directors, audit, board meetings, and the principles of corporate governance. The period of analysis ranges from 2018 to 2020, totalizing 178 observations. Pearson's correlation and multiple linear regression through SPSS system were used for the years analyzed. Results have shown that most companies present information related to corporate governance clearly and objectively. However, only some present the same information on their Management Report, available on B3's website. Moreover, it is noted that duality is still a usual practice in publicly traded companies in Brazil, as well as it is not common to report if they have or not advisories committees. It was also found that the size of the administrative council and the company audited by a Big Four has positively affected the companies' financial performance. Regarding the executive board's independent members, the officers' duality and the number of board meetings have negatively affected the financial performance. However, gender diversity in strategic groups has not shown conclusive results. With those discoveries, it can be seen that corporate governance in Brazil evolved considerably in the past decades. Still, some aspects can be improved, and there are still lessons to be learned to develop better mechanisms to position a safe, robust, and transparent company. Hence, it is noticeable that some aspects of corporate governance significantly influence the financial performance of the companies. The contribution of the research leads to a greater comprehension of the structure of governance in Brazilian companies at the highest level of the Brazilian stock exchange, under the improved analysis of how this corporate arrangement is reasoned. It also contributes to the practice, presenting a quantification method of corporate governance applicable to Brazilian companies after the changes in the regulatory bodies.

Keywords: Financial sustainability. Governance structure. Strategy. Competitiveness.

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1 Introduction

Companies must constantly improve and adapt their internal processes to provide more practical information and results to all their stakeholders. With the technological and financial evolution, the market has become very competitive; staying active and profitable in this scenario has become a challenge. Thus, the adaptation of internal processes occurs through the junction of laws, processes, and regulatory bodies, for the complete alignment of ideas between investors, shareholders, employees, partners, and directors. In this context, corporate governance (CG) aims to provide security to investors and creditors; it links these agents and the company's executives (Correa & Bortoluzzi, 2015).

Agency Theory is continuously connected to the theme of CG under the relationship between agency and ownership and control. The focus of this theory is to propose agreements that aim at investor protection and profitability, i.e., that defend the collective interests and not only the interests of some specific group of people (Jensen & Meckling, 1976; Eisenhardt, 1989; Magnanelli & Pirolo, 2021).

CG is formed by a set of persons: executive officers, board of directors, fiscal council, and advisory committees. There are high expectations of generating benefits when a set of good corporate governance practices is implemented in an organization, such as improved performance and value creation due to improved management. This occurs due to improved management processes and better business strategies. Thus, the more efficient the conduct of its governance mechanisms is, the greater the chances of better performance are (Crisóstomo & Girão, 2019; Pintea, Pop, Gavriletea &, Sechel, 2020).

CG has become a much-discussed subject both in academia and within organizations to elucidate its importance within the business environment. With such discussions, it is possible to promote suggestions for improvements in governance practices and examine its mechanisms' effectiveness within business strategies (Aguilera, Desender, Bednar & Lee, 2015; Gonzalez & Calluzzo, 2019).

B3 - *Brasil, Bolsa e Balcão* (in English, Brazil Stock Exchange, and Over-the-Counter Market) is the official capital market in Brazil. The stock market implemented corporate governance practices in the country in the year 2000, when it inserted several governance segments for companies that traded on the stock exchange. Such governance levels go beyond the corporate obligations required by Brazilian law (Law 6,404 of 1976). Its goal with such implementation is to praise companies that voluntarily adhere to a particular segment and, consequently, to encourage more investors to invest their resources in it (B3, 2017).

The most stringent level for organizations to enter B3 is the *Novo Mercado* (New Market, our translation). For an organization to enter this segment, it is necessary to adopt a series of corporate rules, in addition to the obligation to disclose its policy and prove that there is supervision and control in its processes (B3, 2021). Due to these demanding entry measures, companies on B3's Novo Mercado are seen as differentiated by shareholders and stakeholders. In addition, companies in this segment tend to be more extensive and transparent (Silva, Rosa, Soares Júnior & Lunardi, 2021).

Responsible CG establishes structures and procedures for solving the organization's significant challenges. A participatory governance performance is a key to efficiency and economic development (Scherer and Voegtlin, 2018). One of the most widely used metrics to analyze a company's economic representativeness is its financial performance. When the costs generated are lower than revenues, companies are seen as profitable, present less financial risk, and are considered more attractive in the market. Financial sustainability reflects the good management that the company performs, making it more competitive in the stock market (Bach, Kudlawicz, & Silva, 2015).

Given this, it is essential to study the subject of CG within organizations. Hence, it is relevant to relate the themes of corporate governance and financial performance from the perspective of the companies that make up the *Novo Mercado* segment of B3. Thus, the research gap commented on in the next session arises.

1.1 Research problem

The financial collapse of many companies in developed countries between 1990 and 2000 prompted several agencies and players to request the implementation of good CG practices, which include issues such as corporate transparency, accounting disclosure, corporate social responsibility, and business risk propensity practices. Thus, CG can be seen as a mechanism that protects the rights of shareholders and investors within the corporate environment. Good governance mitigates the company's problems and provides the best behavior of corporate agents (directors, board members, and auditors, among others) (Coleman & Wu, 2020).

It is one of the duties of a good CG to promote business performance and determine the company's direction, helping it run efficient management. CG defines the number of people that make up the board and issues related to the audit committee, directors, and elections (Napitupulu *et al*., 2020).

The adaptation of legislation and processes within business environments is one of the crucial keys to a company's economy. Good CG practices prevent corrupt actions and tax evasion, actions that directly influence their economic growth and environmental and social development (Coleman & Wu, 2020).

The larger the organization, the more likely it is to develop CG mechanisms. Thus, one can analyze that companies listed on the stock exchange are highly relevant to the country's economy (Ferreira, Freitas, & Silva, 2017). Due to their size and importance for developing the sectors in which they operate, they have a driving role over organizations not in the stock market regarding sustainability issues (Carvalho & Barieri, 2013).

A significant milestone for the financial market was the B3 dividing the market into segments - according to their level of corporate governance - which promoted greater robustness in the Brazilian capital market. This market provides all stakeholders with greater security, protection, and information transparency (Silva, Silveira, Corso, & Stadler, 2011). At B3, the most significant change that occurred in recent years was the change in the regulation for companies to be inserted in the *Novo Mercado* segment, a regulation that became effective in 2018 (B3, 2017).

Good CG practices converge with the institutional environment of the organization to which they are inserted (Rossoni & Machado-Da-Silva, 2010). In Brazil, the CG mechanisms are evolving gradually (Marques, Guimarães, & Peixoto, 2015), for the more the protective measures to investors are improved, the greater their motivation to continue allocating their resources in the Brazilian market is (Silveira, 2010). Thus, it is possible to identify that the economic development of companies facing shareholders' security, protection, and reliability is highly relevant in the domestic stock market (Fonseca & Silveira, 2016).

One way to measure a company's economic development in a given period is through its earnings. The ability to make a profit using all available resources is an efficient tool for measuring a company's financial performance because it is also one of the tools used for decision making. This is justified because if a company has profits, it can make more investments for it, and thus other investors will be interested in it (Napitupulu *et al.*, 2020).

Recent studies focused on the relationship between CG and financial performance are inconclusive. In some research, CG has not shown influence on the financial performance of companies (Barbosa, Cabral, & Nascimento, 2018; Freitas, Silva, Oliveira, Cabral, & Santos, 2018; Zambon, Diehl, Marquezan, & Zorzo, 2018), while in other research, CG has shown strong influence (Hermuningsih, Kusuma, & Cahyarifida, 2020). When addressing the issue of board independence in the face of performance, there are studies that state that there is influence

(Farooque, Buachoom, & Sun, 2020), but there are also studies that identified that this variable does not suffer influence on performance (Buallay, Hamdan &, Zureigat, 2017; Yasser, Mamun &, Seamer, 2017).

When addressing the board size construct, some studies claim there is an influence on performance (Malik, 2017), and other studies comment that there is no such relationship (Yasser, Mamun, & Seamer, 2017). Other CG mechanisms have been shown to positively link financial performance, such as the board of independent directors and the board of ethics (Al-Gamrh, Ismail, Ahsan, & Alquhaif, 2020; Farooque, Buachoom, & Sun, 2020; Napitupulu *et al*., 2020).

Given the above, it is inevitable that CG plays a fundamental role within companies. It is one of the critical pieces for developing strategies and, consequently, financial performance. Therefore, it is relevant to question how efficient these CG mechanisms are in the companies of the B3's *Novo Mercado* segment, a segment with the highest CG level in the country. Thus, the research gap commented on in the next session arises.

1.1.1 Research question

What is the relationship between corporate governance and the financial performance of companies in the cyclical and non-cyclical segments of the B3 – *Brasil, Bolsa, Balcão Novo Mercado*?

1.2 Objectives

1.2.1 General Objective

To analyze the relationship between corporate governance and financial performance of companies in the cyclical and non-cyclical segments of the B3 - *Brasil, Bolsa, Balcão Novo Mercado*.

1.2.2 Specific Objectives

- To identify in the literature the variables that relate corporate governance to company performance;

•To develop a corporate governance model and relate it to the financial performance variables found in the literature;
•To test the proposed model on companies in the cyclical and non-cyclical segments of B3's *Novo Mercado*.

1.3 Justification and contribution of the technical production

CG has a tangible effect on the organization's bottom line (Jiraporn, Lee, Park, & Song, 2017). The global financial crisis has demonstrated that weak CG can have macroeconomic, long-lasting effects with untold consequences for countries. It is because the strategies developed and conducted by CG can influence the firm's internal and external environment (Al-Gamrh *et al*., 2020).

CG arose from the idea of integration among stakeholders in the search to incorporate each one's objectives before the organization's objectives. However, over time, it has become synonymous with greater control and transparency. Therefore, companies with higher CG content (more organized and transparent) are more likely to develop their performance (Moreira, Freire, & Silva, 2018).

The subject of CG has been highlighted in the business environment since the various agents of the company (directors, managers, shareholders, and investors) have focused on efficient, effective, and ethical business management. Regulatory bodies have been implementing standards and laws that lead to this CG development process to attract foreign capital and then promote economic development (Bach, Kudlawicz, & Silva, 2015).

In this economic context, CG plays a vital role within companies. Companies that are inserted in the *Novo Mercado* and that aim to continue trading their shares in this segment need to disclose as much information as possible to their stakeholders, and such an act may bring more people interested in making their investments therein (Santos, Costa, Tavares, and Soares, 2020). With this information transparency, ensured by CG regulations, stakeholders have more confidence in the company (Visconti, 2011; Clemente, Antonelli, Scherer, & Cherobim, 2014).

1.4 Dissertation Structure

This dissertation is structured into five chapters: introduction, literature review, methodology, analysis and discussion of results, and conclusion. The first chapter begins the discussion of the theme that provides the initial contextualization for the discussion of the following sections. The literature review focuses on Agency Theory, as well as CG and its constructs (Executive Officers, Board of Directors, Audit, Board Meetings, and CG Principles), in addition to the literature approach to the influence of CG on the financial performance of companies. The methodology consists of this study's classification and which metrics and analysis techniques were used to achieve the set objectives. The fourth chapter presents and discusses the data collection results of the companies' CG structure, Pearson correlation, and linear regression based on the proposed model. The last section presents the study's conclusions, which recall the research problem, the main results, limitations, and suggestions for future work.

2 Literature Review

This chapter covers the literature review on corporate governance and some of the most used metrics to measure the financial performance of publicly traded companies from B3's *Novo Mercado* segment. To support the corporate governance construct, this dissertation has the Agency Theory as a theoretical approach, which interweaves the themes of corporate governance and financial performance. Three indexes are presented to measure the financial performance (ROE, ROA, and EBITDA), while the statistical technique used to analyze the relationship between such magnitudes was the Pearson correlation and linear regression.

2.1 Agency Theory

The Agency Theory (AT) is widely used to address the CG issue due to the agency relationship between ownership and control. Thus, this theory can be understood as a contractual pact signed between two parties, whereby the top commissions another person - the agent - to act on his behalf, which involves the transfer of decision-making authority (Jensen & Meckling, 1976; Magnanelli & Pirolo, 2021).

One of the most relevant issues elucidated by the AT is that the agents that form the CG must protect and satisfy the interests of shareholders and investors, especially from the standpoint of increasing their profits (Magnanelli & Pirolo, 2021). Hence, the focus of AT is to propose the most efficient contract for managing the relationship between principal and agent, highlighting that each individual has his or her interests, goals, and risk aversion towards the company. As a consequence of this - collective interests versus personal interests - when many agents of both parties are involved, the so-called agency conflict may occur. These problems arise from two situations: when there are high costs and difficulty for the principal to analyze the agent's performance or when there is a conflict of interests between the principal and the agent (Jensen & Meckling, 1976; Eisenhardt, 1989).

The ownership concentration is one of the control mechanisms used to solve agency conflicts, in which the interests of managers and shareholders are aligned, considering that, theoretically, when the ownership concentration increases, the company tends to become more efficient (Hawas & Tse, 2016). Therefore, agency conflicts, performance, and financial sustainability of companies are directly linked, and it is in this scenario that an efficient CG management makes the difference, in the sense of minimizing these conflicts and guiding the company to more ethical and transparent management (Azevedo, Luca, Holanda, Ponte, &

Santos, 2014). For a better understanding of the AT, Table 01 demonstrates its main premises and scope.

Table 01
Assumptions and scope of the Agency Theory

Assumptions	Scope
Principle	The relationship between principal and agent should reflect in more effective management, with accurate information and business risks
Analysis Focus	Interaction between agent and principal
Human Basis	Risk aversion, individual interests, and different perceptions of each agent
Conflict	Divergence of interests between the parties
Problem Understanding	Complete understanding that these conflicts exist for specific reasons, such as management and risk aversion

Source: Adapted from Jensen & Meckling (1976), Eisenhardt (1989), and Melo (2017).

Therefore, this study is based on the AT, to the extent that CG plays a vital role within the company, softening the conflict and defending the interests of investors. Given this principle, efficient CG management can significantly influence the company's results, promoting its financial sustainability.

2.2 Corporate Governance

CG initially emerged as a means of interconnection between the company and investors, ensuring that their wishes and interests were closer and aligned with the company's market strategies. However, over the years, CG has taken on a more representative and strategic role due to its process control and improvement positioning, in which it implements more effective and transparent management for all involved (Correa & Bortoluzzi, 2015; Crisóstomo & Girão, 2019; Pintea *et al.*, 2020).

Given this, it is possible to identify that the foundation of CG is to reduce the risks of inadequate management that may somehow harm the financial return of investors. The function then of this group of agents is to ensure the full development of activities and the outlining of good strategies so that, at the end of the period, the company can return the capital invested to its investors in the form of dividends. It is also the function of this group to monitor that the best possible allocation of available resources is carried out so that there are no unnecessary costs (Shleifer & Vishny, 1997; Chong & López-de-Silanes, 2007).

CG practices transform the principles that govern a company into a focused direction, considering the propensities of stakeholders to defend and preserve the company's economic value. They are also intended to collaborate with its good management to perpetuate it in the marketplace. To this end, there are four basic principles of CG: transparency, fairness, accountability, and corporate responsibility (Chong & López-de-Silanes, 2007; IBGC - Brazilian Institute of Corporate Governance, 2015).

The transparency principle comprises making relevant information available to those interested in the company, not restricted only to the information required by law. Fairness comprises the fair and equal treatment of all partners and other stakeholders, taking into account their rights, duties, and interests, among others. Accountability consists in the presentation of the actions of the CG agents - whether they are directors, partners, administrators, fiscal council, board of directors, or others - clearly and concisely so that all stakeholders understand the passing on of such information and that these agents take responsibility for their actions within that corporate environment. Finally, corporate responsibility is about caring about the economic and financial viability of the company, reducing its threats, and increasing its opportunities, always within its business model and strategy (IBGC, 2015).

Extolling these four principles, Lin, Ma, and Su (2009) list four behaviors for proper CG: a) to ensure and protect the interests of stakeholders; b) to soften the agency conflicts that arise from the ownership and control; c) to focus on continuous improvement of performance and efficiency; and d) to ensure the monetary return of the company's investors. Hence, with a focus on controlling the company's processes and management, CG seeks to ensure benefits to all involved, guaranteeing their rights and minimizing possible fraud (Coleman & Wu, 2020).

CG strategies are highly relevant devices used by companies to contain agency problems. Such strategies include exercising investors' rights in developing activities within the business environment. Consequently, CG has three primary objectives: ensuring that accounting information is correct, reviewing accounting and financial reporting, and generating value. The first two are directly related to the quality and transparency of information directed to the company's stakeholders, providing more significant asymmetry between the parties. The third focuses on the investors' financial gains and benefits (Farooque, Buachoom, & Sun, 2020). Thus, CG is a mechanism that helps to provide that people who put resources into the company will receive a return on their investment (Shleifer & Vishny, 1997).

CG can be divided into two major control areas, the internal and the external. While the internal one is focused on executive officers and the other committees that watch over the company's actions and behavior, the external one is related to the monitoring of external issues, such as country legislation and market issues (Cremers & Nair, 2005; Farooque, Buachoom & Sun, 2020). This study focuses on the internal control area of the company.

Given the above, it is noted that CG and financial growth are directly linked. Thus, higher levels of CG provide more excellent investor protection mechanisms, especially regarding possible market risks; the higher the CG practices are, the greater the tendency of company valuation in the market. Therefore, it is a fundamental tool in building an attractive market for investors based on transparency and ethical principles. In addition, it helps in the process of raising the level of confidence among investors, a pillar that is essential for fundraising and company growth, given that investor protection has a substantial weight in the decision process to invest in a particular company (Chong & López-de-Silanes, 2007; Álvares, Giacometti, & Gusso, 2008; Buallay, Hamdan, & Zureigat, 2017).

Discussions concerning CG are relatively new in Brazil. This terminology was introduced in the country in the mid to late 1990s, a period in which the country experienced a remarkable moment for its economy, with the privatization of companies, economic opening, and greater interest from foreign investors in Brazilian companies. With such factors involving the economy at the time, there was a need to expend more tremendous efforts regarding adopting best practices in CG, which increased the debate on the subject. Moreover, with the increased interest in capital market investments and investors' performance, such practices were improved to keep the market safe and attract more investors to the country. Thus, investor protection and information transparency in Brazil come from two primary sources: the Corporations Act and the Securities and Exchange Commission of Brazil (CVM) (Álvares, Giacometti, & Gusso, 2008; Silveira, Leal, Barros, & Carvalhal-da-silva, 2009; Coletta, 2019).

Constant interaction within these structured groups of agents forms CG (executive officers, board of directors, fiscal council, and advisory committees). For example, the actions of a particular group, such as the board of directors, ultimately impact other areas of the company, such as management. Therefore, it is necessary to understand that CG is composed of groups constantly interacting (Bushman & Smith, 2001). The core CG issues selected for this research are executive officers, board of directors, audit, and board meetings.

2.2.1 Executive Officers

The executive officers are a group of agents directly concerned with managing and coordinating business activities; it can be characterized as a decision-making group that faces highly complex tasks concerning process and strategy issues. It is seen as a link between a company's shareholders, managers, and officers (Forbes & Milliken, 1999). Because of these factors, this group plays an important role within the CG framework (Kyere & Ausloos, 2020).

One of the best CG mechanisms to promote harmonization among all agents involved with the company is the executive officers. This strategic figure enables the surveillance of the decisions made and the actions of managers for the benefit of investors. In the course of the appointments, as the composition mixes with shareholders or people linked to these agents, there is a tendency for more excellent monitoring of the activities and alignment of interests (Fama, 1980).

Being responsible for the management of the company's business, the executive officers play a fundamental role within the CG structure, given that it is their responsibility to put into practice the strategies defined by the board of directors, in addition to overseeing the progress of the controls and processes within this business system. Moreover, some of its most relevant attributions are the execution of risk management policies and ensuring the precise and objective disclosure of the company's performance through accounting and financial reports. It is worth noting that the executive officers must have their bylaws to clarify each member's responsibilities, how they are structured, and how they work (Chong & López-de-Silanes, 2007; Silveira, 2010; IBGC, 2016).

It is emphasized that the executive officers take full responsibility for managing the company and its interests. It is also this group’s responsibility to analyze and keep the company within the legal forms of the country. Each member has their duties and must perform their decisions according to their specific area (Napitupulu *et al.*, 2020).

Since the executive officers represent the top of the company's decision-making, the number of agents that compose it can be considered an essential factor in achieving the company's results (Mishra, Jain, and Manogna, 2020). It is recommended that the number of people composing this board be a minimum of three officers for a publicly traded company and two for a privately held company; the maximum number of officers indicated is 15 members (Mishra & Kapil, 2018).

This group of agents has a range of obligations, which include promoting the legitimacy of the company, acting as a link to the company's stakeholders, facilitating access to resources for the entire course of activities to increase and monetize its results, and promoting external market relations (Silveira, 2010; Barroso, Villegas, & Pérez-Calero, 2011; Mishra & Kapil, 2018).

2.2.2 Board of Directors

The board of directors is the leading group within CG, given that while executives spend their efforts on short-term decision making, it is up to the board of directors to take a holistic view of the market and develop strategies for the long term. It is also on this group of agents the responsibility to act so that the right questions are raised and, therefore, if the company's management develops its activities within the parameters of the law, to avoid unforeseen events in the future. This committee has an additional duty in publicly traded companies: to monitor management to avoid stakeholder conflicts (Silveira, 2014).

Thus, the board of directors has a primary function to examine the decision making so that they are under the company's strategy (Fama, 1980). Given this, it is of utmost importance that the board of directors has independence and capacity to defend the company's objectives, thus, an effective CG mechanism. Notably, an active, well-informed and independent board is one of the essential elements for effective governance, which directly influences best management practices (Silveira, 2010; Al-Malkawi, Pillai & Bhatti, 2014).

It is recommended that the board of directors be diversified, with knowledge in several areas (including the company's line of business) and adequate size so that ideas can be debated and a consensus can be reached on the best market strategies. It is worth noting that the board must be based on a document that dictates its rules, obligations, and structure (IBGC, 2016).

Three classes of directors make up a company's board of directors: internal, external, and independent. Internal directors are those officers of the company itself who hold some position. External directors are those without employment, business, or management links with the company, such as ex-employee or former directors. As for the independent ones, they do not have any business relationship, family, or any other kind of link, which improves the board's effectiveness, thus making it act as expected (Silveira, 2010; IBGC, 2015).

There are conflicting authors in the literature regarding the ideal size of a board. Monks and Minow (1995) comment that the ideal number for a board would be, on average, 13 members, Eisenhardt and Bourgeois (1988) state that the ideal would be, on average, 5 to 9 members, Gersick (1988) comments that it would be on average 5 to 6 members, Jehn (1995) considers that the ideal size of a board would be 5 to 9 members, and, finally, the IBGC (2015) recommends an odd number of board members, between 5 and 11 people. This size may vary according to the industry in which the company operates, the complexity of the industry, the company's age, and its size.

The size of these boards can directly impact the results achieved by the company due to the policies they can implement and the way they architect the market strategies, both in the short and long term (Forbes & Milliken, 1999; Melawati & Wahyuningsih, 2016). Therefore, the size of the board can affect the agility of decision-making due to this group's good coordination and asymmetry of ideas (Hermuningsih, Kusuma, & Cahyarifida, 2020).

2.2.3 Audit Committee

An audit committee is a group of CG agents formed to advise the board of directors regarding accounting issues, which should preferably be formed by only directors, one of them being an independent director. It is imperative and necessary that at least one of the members of this group has a complete understanding and experience in accounting issues and practices. It should be noted that the tasks of this committee should be specified in the company's bylaws (IBGC, 2015).

When there is a failure to implement suitable governance mechanisms, it is suggestible that it may be directly linked to weak internal controls, causing inadequate risk strategies. This demonstrates the relevance of internal and external auditing in a publicly traded company, which, in addition to ensuring the veracity of the data, reduces the risk for investors. The greater the security and protection for stakeholders is, the greater the propensity to invest in the company is (Fahy, Roche & Weiner, 2005).

The debate as to the importance of this type of committee in companies was raised after fraud scandals in large corporations in countries such as the United States, where it became evident the relevance of having within the company a group of agents designated to observe and correct procedures and reports (Adestian, 2015; Napitupulu *et al*., 2020). It is worth noting that the company when structuring this committee, must do so in a manner consistent with its size, business model, and risks involved in the industry, and it is up to the board to safeguard the independence and professional quality of the agents that compose it before the executive officers (IBGC, 2015; IBGC, 2016).

An audit committee that works independently can significantly affect the behavior of the other agents of the board. This is because independence results in better monitoring of the activities of the CG agents and consequently leads the company to better performance indicators and lower fraud rates (Farooque, Buachoom & Sun, 2020).

Therefore, the audit committee ensures that the company issues its accounting and financial reports according to the country's legislation and accounting standards. This group of CG agents can directly influence the company's financial performance since it monitors the accounting/financial information disclosure process and reports that potential investors highly target for analysis. Moreover, the size of this committee can also influence the financial performance, provided that all members analyze and review the accounting reports based on the accounting policies and current legislations, in addition to analyzing the whole context of compliance regulations (Tornyeva & Wereko, 2012; Hermuningsih, Kusuma, & Cahyarifida, 2020).

2.2.4 Board Meeting

The board meeting can be understood as a meeting that takes place periodically to check policy and management issues of the company, as well as solve any problems. Such meetings can influence performance due to collective responsibility around business (Arora & Sharma, 2016).

To be effective, board meetings require a mix of behaviors to benefit the participation of CG members, improving the quality of strategy discussions and, thus, leading to better decision-making. Some of these behaviors are the frequency of meetings, the definition of the agenda, and the determination of the agenda of the days in which the availability of materials with information necessary for the proper conduct of the meeting will occur (IBGC, 2016).

However, the company should pay attention to balancing the frequency of these meetings, as a high frequency spends unnecessary financial expenditures such as travel costs and directors' time. Moreover, many board meetings may indicate potential problems that need urgent solutions, whereas a low frequency of meetings may lead to overly long and tiring meetings (Farooque, Buachoom, & Sun, 2020). Nevertheless, it is normal for larger companies to have more meetings than smaller ones due to several factors, such as the number of issues to be resolved (Mishra & Kapil, 2018).

The board members' commitment to the meetings will depend on their involvement in the meetings, enhancing the discussion of the agenda items, promoting dialogue, and then entering into the decision-making process. Such involvement also refers to the ability to question and intervene constructively in the issues being discussed. Accordingly, board members need to be prepared for these meetings, becoming aware of all the topics that will be addressed at the meeting to better prepare for discussions and inquiries (Forbes & Milliken, 1999; Mishra & Kapil, 2018).

2.3 Financial performance

The concept of financial performance (FP) comes to be the analysis conducted through various types of measurement, in which a company is compared to another or to itself under certain criteria, focusing on the results obtained in a given period. Because it is considered an issue that generates different interpretations, the FP may have different judgments before its stakeholders and other companies (Barbosa, 2018).

The FP of a company is not abstract and can be understood as dynamic, as it is a reality in constant change, being relative, given that it needs two comparative magnitudes, and multidimensional, as there are several ways of measuring it (Gama, 2011). These measurements are the act of collecting, classifying, and analyzing the collected data to obtain accurate information for decision making (Barbosa, 2018).

As for the concept of financial performance, there is a remarkable consensus in the literature. However, how it is measured is a much-debated issue, in which a set of indexes and values forms FP. Therefore, only one data cannot support the conclusion of whether or not a company has satisfactory financial performance. Thus, it is recommended that, for the study of a company's PF, two or more indexes or values are used to obtain more accurate conclusions and analyze a company's evolution and economic structure (Boaventura, Silva & Banderira-De-Melo, 2012).

The measurement of financial performance can be given by values extracted from the company's accounting and financial statements. Such values serve as guidelines for decision making by various agents linked to the company, such as managers, directors, shareholders, and investors. This measurement is usually done through values such as profit or through indicators in which formulas and statistical parameters are applied so that it is possible to verify the company's growth over the periods and its financial sustainability. It is important to emphasize that a company's financial performance is directly influenced by its goals and objectives, which reflect on the company's management (Hendriksen & Van Breda, 1999; Assaf Neto, 2012; Moretti, 2017, Barbosa, 2018).

In line with this, market performance occurs through indexes to evaluate the company before its shares in the stock market. Such indicators also provide essential information for investors in their decisions (Assaf Neto, 2012).

The monitoring of this performance must be constant, so that there is the correction of possible distortions regarding business strategies. From this point of view, a company can be studied as a process transformation object, with incoming resources and outgoing results. Therefore, a company that is successful with good results (measured through profit or indexes) by allocating its resources can be considered efficient.

The literature has heavily investigated the relationship between financial performance and CG to confirm whether CG effectively plays its role in protecting investors as well as promoting the financial sustainability of the firm (Herdjiono & Sari, 2017; Farooque, Buachoom & Sun, 2019; Hermuningsih, Kusuma &, Cahyarifida, 2020; Pintea *et al*., 2020; Mishra, Jain &, Manogna, 2020). Authors use different aspects to measure such performance *vis-à-vis* CG, such as profitability and liquidity indicators, return on investment, return on assets (ROA), return on equity (ROE), EBITDA, Tobin's Q, and market-to-book (Vilhena & Camargos, 2015; Bussin & Ncube, 2017; Al-ahdal, Alsamhi, Tabash &, Farhan, 2019; Pintea *et al*., 2020; Shahwan & Habib, 2020).

Among the most widely used indicators in the literature cited in the previous paragraph, three indicators were selected for the development of this study: ROE, ROA, and EBITDA. ROE was chosen because it demonstrates the time in which investors will be able to recover their investments, as well as because it is a usual metric, both in the accounting area and in the relation of magnitudes to profit (Coleman & Wu, 2020; Pintea et al., 2020).

ROA was selected because it demonstrates how long the company obtains the return on its capital investments, i.e., it measures its ability to make profits. Therefore, it is one of the best indicators to measure the relationship between CG and financial performance, given that it is an indicator established in the accounting area and also because it does not change with financial leverage (Hermuningsih, Kusuma & Cahyarifida, 2020).

Finally, EBITDA was chosen because it is an indicator widely used by investors to decide which company to invest their funds in, aiming for a good return. This indicator is a metric traditionally used by this group of stakeholders, as it informs how much profit the company produced and whether it generated wealth in a given period because of its operational activities (Saini & Singhania, 2018).

2.4 Corporate governance in the *Novo Mercado* of B3 - *Brasil, Bolsa, Balcão*

A solid corporate governance system is a factor to be considered when an investor is researching companies to make his investments in the stock market. Therefore, shareholder protection is an important element in the decision to invest or not in a given business. Accordingly, the more secure a company is to its investors through its corporate governance mechanisms, the greater the probability of growth of investments in it, causing the Brazilian capital market to strengthen and develop (IBGC, 2015).

To promote greater competitiveness of the Brazilian stock market, greater security, and more significant attraction of investors to the country, the BM&FBovespa (currently B3) adopted more stringent CG rules in the year 2000. The proposal that had been in place until then was the *Mercado Tradicional* (Traditional Market), in which the companies that traded their shares on the Brazilian stock exchange were obliged only to comply with the Brazilian Corporations Act n. 6.404/76 (SAs Act). In that year, differentiated segments were created based on CG practices adopted voluntarily in addition to what is required by the Corporations Act, named Level 1, Level 2, and *Novo Mercado*. Later, two more market segments were created, *Bovespa Mais* and *Bovespa Mais* Level 2 (Santos *et al*., 2019; B3, 2021).

The requirement for best CG practices grows as the levels are established, as Level 1 represents companies with low CG criteria, Level 2 represents companies with medium CG criteria, and *Novo Mercado* represents companies with the highest CG practices in the Brazilian stock market. Such practices include a sum of corporate rules that aim to expand shareholders' rights and promote and disclose assertive and transparent information to their stakeholders (Tavares & Penedo, 2018).

Level 1 companies must adopt practices emphasizing transparency and access to information for stakeholders and keeping 25% of their shares in circulation in the market. Level 2 companies comply with the Level 1 rules, adding that partners who own preferred shares will only give their vote in specific cases, such as takeovers and mergers. Finally, companies in the *Novo Mercado*, besides adopting the practices of the previous levels, are obliged to issue all their shares as ordinary. Therefore, all shareholders are entitled to vote (Furtado, Guilherme, Santos, & Reis, 2020).

Bovespa Mais was designed for companies that intend to enter the stock market gradually, and its main objective is to stimulate the growth of small and medium-sized companies through the capital market. This strategy was adopted to gradually prepare companies for market segments with higher CG levels. *Bovespa Mais* Level 2 is similar to *Bovespa Mais*, except that the company has the right to keep its preferred shares (B3, 2021).

With the adhesion of such segments focused directly on CG, there has been a significant increase in initial public offerings, stabilization in the number of companies listed on the stock exchange, and growth in trading volume. In addition, greater transparency in company information has attracted more investors, whether from the country itself or foreigners (Tavares & Penedo, 2018; Furtado, Guilherme, Santos, & Reis, 2020).

Given the above, one must emphasize that the most demanding level of CG practices in the Brazilian capital market is the *Novo Mercado*. Since its first listing in 2002, it has become the standard for transparency before investors as to new capital openings, in which it is strongly recommended for companies that intend to make large offerings, serving all types of investors. It is worth noting that companies in this segment adhere to a group of rules that expand the rights of shareholders and the disclosure of existing policies regarding the structure of supervision and control. It should also be noted that this segment underwent several adjustments to its regulations in 2006, 2011, and 2017, intending to improve the governance structure and shareholders' rights (B3, 2021).

Thus, the main changes made to *Novo Mercado* in 2017, with application from 2018, are: 1) Share Capital must consist only of ordinary voting shares; 2) Same conditions provided to majority shareholders in the transfer of the Company's Control will have to be extended to all shareholders (100% Tag Along); 3) Setting up of Internal Auditing and Compliance department as well as an Audit Committee (Statutory or Non-statutory); 4) In case of delisting from *Novo Mercado*, holding of a Public Tender Offer (PTO) for a fair price, with minimum acceptance quorum of 1/3 of the free float shareholders; 5) Board of Directors must be composed of, at least, 2 or 20% of independent directors (whichever is greater), with unified term of office of at most 2 years; 6) Listed companies commit to maintain a free float of, at least, 25% or 15%, in case of ADTV (average daily trading volume) above R$25 million; 7) tructuring and disclosure of a process of assessment of the board of directors, its committees, and the executive officers; 8) Elaboration and disclosure of the following policies: (i) Compensation Policy; (ii) Nomination Policy of the Board of Directors, Advisory Committees and Executive Office Board; (iii) Risk Management Policy; (iv) Related Party Transaction Policy; and (v) Securities Trading Policy, with minimum requirements (except for the Compensation Policy); 9) Simultaneous disclosure, in Portuguese and English, of Material Information, benefit distribution information and results press releases; and 10) Monthly disclosure of the negotiations, by the controlling shareholders, with securities issued by the company (B3, 2021).

Therefore, due to the criteria of adoption of CG practices in the B3's *Novo Mercado*, for the sample composition of this study, it was chosen companies of this stock segment in Brazil. The number of studies that the literature presents on the theme of CG is growing; the scope and importance that the academy reports on the possible impacts and the relationship of good governance management in companies are of high relevance (Lima, Oliveira, Cabral, Santos, & Pessoa, 2015; Tavares & Penedo, 2018; Furtado *et al*., 2020).

2.5 Recent research

The literature is inconclusive on the relationship between financial performance and CG. If on the one hand, there are studies that point to a significant relationship between financial performance and corporate governance and that good CG practices tend to make better investments (Al-Gamrh et al, 2020; Coleman and Wu, 2020; Hermuningsih, Kusuma & Cahyarifida, 2020; Mishra, Jain and Manogna, 2020), on the other hand, there are studies that report on the importance of developing CG mechanisms. Nevertheless, it does not exert a significant and representative impact on the performance of companies (Buallay, Hamdan and Zureigat, 2017; Barbosa, Cabral and Nascimento, 2018; Zambon *et al*., 2018; Al-Gamrh *et al*., 2020).

The study by Barros, Santos, Orso and Sousa (2021) points out that the number of independent members on the board of directors and the participation of board supervisors positively influence the company's market performance. Pintea *et al*. (2020) evaluated the impact of adopting corporate governance practices with companies listed on the Romanian stock exchange. The authors found the absence of a significant impact of adopting these practices on performance measured through ROE, EVA (Economic Value Added), and TSR (Total Shareholder Return), but a significant and positive relationship with Tobin's Q.

Hermuningsih, Kusuma, and Cahyarifida (2020) studied Indonesian manufacturing companies listed on Indonesia's stock exchange from 2014 to 2016 and found that CG significantly promotes company performance. Furthermore, they state that this significant relationship between financial performance and CG suggests that companies should constantly implement and enhance their governance principles (transparency in accounting, accountability, independence, and fairness).

Mishra, Jain, and Manogna (2020) developed research with non-financial companies on the Indian stock exchange between 2010 and 2018, in which they examined the empirical relationship between a CG index and financial performance. The results indicated that CG was positively related to some performance indicators, such as ROA; however, a negative relationship was identified with Tobin's Q.

Coleman and Wu (2020), in their study of non-financial listed companies in Nigeria and Ghana between the years 2012 and 2016, report that the indexes of ownership structure, diligence, the board size, board disclosure, shareholder rights, and board compliance obtained a positive influence on ROE and ROA. In this case, the growth of Tobin's Q depended on board procedures, compliance, and diligence.

The study by Kyere and Ausloos (2021), which covers 252 non-financial companies on the UK stock exchange from 2014, highlighted that some CG mechanisms such as board size and board member independence exhibited a predictive financial power on ROA and Tobin's Q indicators. As for the mechanism of board meetings and audit committee, the results proved inconclusive. Another mechanism that showed no conclusive results was the duality of the company's CEO, thus finding that when the right CG mechanisms are chosen, the company's financial performance can be developed.

Napitupulu *et al.*'s (2020) research on Indonesian stock exchange manufacturing companies found that the board of directors and the independent commissioners influence the company's financial performance, while the audit committee and managerial properties do not affect performance. This performance is developed with the existence of an independent board that guides and directs the company's decisions, and it is possible to verify that if the CG mechanisms are well, then the company's performance will grow.

Al-Gamrh *et al*. (2020) conducted a study of 501 companies on the UAE stock exchange between 2008 and 2012, which analyzed the influence of investments on the performance of companies concerning CG practices. The results show that such investments have a negative influence on the performance of companies. In addition, they showed that the mechanisms of CG practiced in the country are weak. Therefore, strong CG improves the influence on these investments. In this study, the best CG mechanisms found were the board's functioning and ethics.

Yousaf, Khurshid, Ahmed, and Zulfiqar (2019) researched the intensity of research and development and financial performance of their CG structure in non-financial firms listed on the Pakistan Stock Exchange between 2009 to 2016. The results point out that ownership structure and board structure are negatively moderated towards the research and development and financial performance relationship.

Farooque, Buachoom, and Sun (2020) investigated the effects of board, audit committee characteristics, and ownership structures *vis-à-vis* the financial performance of 452 listed companies on the stock exchange in Thailand from 2000 to 2016. The results point out that ownership structures, shareholding concentration, and family participation in shareholding significantly influence firm performance. Moreover, CG mechanisms such as board size, independence, amount of meetings, and audit committee showed significant power on financial performance.

Malik's (2017) research involved companies on the Indian stock exchange from 2004 to 2014, which examines the effect of CG attributes on financial performance. The research findings are that foreign shareholder and investor participation have a significant and positive relationship with performance. Board size and the board directors' percentage have a negative and significant relationship with performance.

Yasser, Mamun, and Seamer (2017) analyzed board demographics and CG performance in their survey of companies listed on the Pakistan Stock Exchange in 2014. The results indicate a positive relationship between board size, minority representation, and family engagement on the executive board. However, board independence has a negative impact on the value creation of these companies.

Al-Ahdal *et al*. (2020) analyzed the impact of CG on the financial performance of 53 non-financial companies in India between the years 2009 to 2016. The results point out that the accounting council and audit committee do not provide any impact on firms' performance (using ROE and Tobin's Q as metrics). Transparency and disclosure have an insignificant negative impact on firms (measured by Tobin's Q).

The study by Buallay, Hamdan, and Zureigat (2017) measured the impact of CG on the financial performance of 171 companies listed on the Saudi Arabian stock exchange between the years 2012 to 2014. The results point out that there is no significant impact of CG on the financial performance of these companies. Tobin's Q in this study evidenced that there is no significant impact of shareholder ownership for large investors, and director independence has no influence on the performance of companies.

Barbosa, Cabral, and Nascimento (2018) empirically analyzed the dynamic relationships and CG in the performance of 195 companies listed on B3 between 2014 and 2016. The results highlight that, even with rigorous CG mechanisms, they do not present direct effects on performance, only indirectly affecting the company's dynamic capabilities. Therefore, when adopting CG practices, the company should not expect an impact on its economic performance.

Zambon *et al*. (2018) analyzed the relationship between the adoption of CG mechanisms and the economic efficiency of electric sector companies listed on B3 between 2010 and 2013. The results point out that there was no evolution among the CG levels and efficiency reduced the average score of these companies. No relationship was found between the two variables in general. However, when companies with good and weak CG levels were separated, a positive relationship was obtained with the first group and a negative one with the second.

Within the relationship of these two major constructs, some components are emphatically discussed. The executive board is extolled as one of the precursors to a company's financial success, in which an impact can be identified regarding the board's independence, size, and diversity (Herdjiono & Sari, 2016; Buallay, Hamdan, & Zureigat, 2017). The board of directors is also emphasized as a key mechanism for good governance as issues such as board size, and independence of its members are backed up in performance, as well as the number of times this group meets (Kyere and Ausloos, 2021; Farooque, Buachoom, & Sun, 2020; Coleman and Wu, 2020). The same occurs for the audit committee, as this group is tasked with ensuring the veracity of information (Farooque, Buachoom, and Sun, 2020). Moreover, clear and direct information contributes to the investor's access to the companies' results, contributing to their decision making about where to invest their resources (Al-ahdal *et al*., 2019).

2.6 Chapter considerations

CG is composed of several constructs; thus, it is possible to develop models that measure it for study purposes. Many researchers develop and replicate models to quantitatively measure CG (Barros *et al*., 2020; Camargo, 2018; Zambon *et al*., 2018; Bach, Kudlawicz & Silva, 2015). On the other hand, few measurement models apply to Brazilian stock market companies that are members of the *Novo Mercado*, especially after the changes made by B3 in 2018.

One of the most addressed constructs in this context is the executive office board, about which the literature presents interesting results. Napitupulu *et al*. (2020) and Phuong and Hung (2020) comment that the board of directors influences firm performance and value and that the duality of directors (holding positions in both the board of directors and the executive board) may be an impacting factor. Some studies consider it a criterion negatively associated with financial performance (Mishra & Kapil, 2018). However, other studies infer that such practice in companies is positive regarding financial performance (Boonlert-U-Thai & Pakdee, 2018; Saini & Singhania, 2018).

In addition to duality, when analyzing the issue of gender diversity in the board of executive officers, studies claim that it is positively associated with performance, in which it promotes more significant discussion of issues and greater clarity in the information provided, contributing to remit greater security to investors (Kaur & Vij, 2017; García-Sánchez, Suárez-Fernández & Martínez-Ferrero, 2018; Egerová & Nosková, 2019; Lim, Ma &, SU, 2019). In contrast, Wang's (2020) study comments that women on boards of directors do not provide significant influence on better financial and governance performance overall. Thus, the following hypotheses related to the board of directors follow.

H1. Board heterogeneity is positively related to financial performance.

H2. Duality on the board is negatively associated with financial performance.

Regarding the board of directors, heterogeneity is also a crucial topic in the literature, and, similar to the case of the board of directors, the results they present are relevant. The studies by Dal Magro, Dani, Vergini & Silva (2018) and Costa, Sampaio, and Flores (2019) report a positive relationship between corporate performance and the participation of women on the board of directors. The studies of Silva and Margem (2015) and Jesus, Souza, Pelucio-Grecco, and Silva (2020), on the other hand, report that, in Brazil, this issue has inconclusive results because the representativeness of women in this strategic group is not significant to the point of being able to make any inference.

Another much-debated variable within the board of directors is the independent members. Such members bring an outside view to the company, in which they suggest and examine issues with a different view. While there are studies that infer that such members do not have a representative impact on financial performance (Yasser, Al Mamun & Seamer, 2017), there are others that comment that such a variable can present itself as a significant factor in the financial result and that it is essential to promote greater adherence of independent directors due to their strategic position within CG (Kyere & Ausloos, 2019; Barros *et al.*, 2020; Handayani, Rohman, Chariri & Pamungkas, 2020; Napitupulu *et al.*, 2020).

In addition to the heterogeneity of gender and independent members on boards of directors, the literature contains research that comments on the relationship between the size of this board within CG and the company's financial performance. The studies by O'Connell and Cramer (2010), Gill and Mathur (2011), and Melawati and Wahyuningsih (2016) note that there is no influence or that board size is negatively associated with firm financial performance. However, the studies by Tornyeva and Wereko (2012), Mishra and Mohanty (2014), Herdjiono and Sari (2017), Farooque, Buachoom, and Sun (2020), and Hermuningsih, Kusuma, and Cahyarifida (2020) note that there is a relationship between these two constructs, as it directly influences the decision-making process, given the greater sharing of experiences among members, positively impacting performance. The following hypotheses pertinent to the board of directors arise through such findings in the literature.

H3. Board heterogeneity is positively related to financial performance.

H4. The existence of independent members above the percentage required by law is positively associated with performance.

H5. Board size is positively associated with financial performance.

Regarding the audit committee, some studies link it directly to the company's financial performance due to the power of the information audited by these agents on the company's stakeholders (Tornyeva & Wereko, 2012; Herdjiono & Sari, 2017; Hermuningsih, Kusuma, & Cahyarifida, 2020). However, there is also research that reports that the audit committee does not significantly influence financial performance, as is the case of the study by Napitupulu *et al*. (2020), which states that the audit committee is responsible for advising the board of directors in monitoring the information that makes up the reports, ensuring their credibility, and, because of this, does not directly influence the company's results.

Furthermore, some studies include external auditing as a variable to be measured, in view of the impact that auditing carried out by specialized companies can generate, and can range from issues related to the security of the information provided to the security of an investor in leaving his funds in a given company. Currently, four major companies provide this type of auditing consulting and are references when it comes to external auditing: Ernst & Young (EY), Deloitte, PricewaterhouseCoopers (PwC), and KPMG, also known as Big Four (Al-Gamrh *et al*., 2020; Al Farooque, Buachoom & Sun, 2019). Given this, it is pertinent to assess how auditing behavior is in Brazilian companies; hence, the following hypothesis arises.

H6. Companies audited by a Big Four are positively associated with financial performance.

Regarding board meetings, Kaur & Vij (2017) and Mishra & Kapil (2018) point out that they can send a positive signal to the market by demonstrating a commitment to solving problems, which generates value. Furthermore, boards that meet more often per year tend to be more efficient, as members can have more effective strategies. Nonetheless, Yousaf *et al*. (2019) note that meeting frequency has a moderate negative relationship with aspects of board structure. Given the above, the following hypothesis arises.

H7. The number of annual board meetings is positively associated with financial performance.

Finally, the CG principles are one of the factors that most impact the company's image, and, consequently, the investors' view of it is the transparency of information. The practice of disclosing information with quality and transparency tends to positively impact the company's performance (whether directly or indirectly), given that more accurate information can arouse the interest of investors and, therefore, raise more funds for investments. It is noteworthy that these principles of CG (transparency, fairness, accountability, and corporate responsibility) are directly linked to the agents that compose it, such as directors, board of directors, and audit committee (Silveira, 2015; Degenhart, Soares Casarin, Marquezan & Soares, 2021).

For that reason, the transparency of information, especially regarding CG, should be reviewed - to promote them - to present more transparent and more relevant information to investors. The disclosure of relevant information to investors assists in the process of investor confidence in the company, given the transparency in the information provided (Correa-Mejía, Castaño, Orozco & Castro, 2020; Kalash, 2020; Mishra, Jain & Manogna, 2020). Some studies, such as that of Hermuningsig, Kusuma, and Cahyarifida (2020), suggest considerably increasing the implementation of CG principles so that the company is in a more structured environment and thus further promotes its financial performance.

Additionally, the literature points out that when one turns one's gaze to companies in the Brazilian stock market on disclosing information pertinent to CG, one realizes that relevant information is made public to its stakeholders. However, it is possible to go even further to strengthen the market and become increasingly transparent, and consequently, transpire more security for its investors (Crisóstomo & Girão, 2019).

Thus, when addressing the topic of CG, the issues and metrics most commonly used in national and international literature are executive officers, board of directors, audit committee, board meetings, and CG principles. Similarly, when addressing the topic of financial performance, the most commonly used metrics are ROE, ROA, and EBITDA. As for the metric to quantify CG in this study, an index based on the variables found in the literature was developed, which will be addressed in more detail in the following chapter.

3 Research Method and Techniques

This chapter aims to present the main methodological steps used to answer the proposed objective, which is to analyze the impacts of CG on the financial performance of companies that are members of the *Novo Mercado* of B3 - *Brasil, Bolsa, Balcão*. For that reason, this chapter is divided into four subsections to present the procedures and methods adopted to fulfill the proposed objective and answer the research question. The first subsection presents the research design, which shows the study's methodological framework. Next, the data collection procedures are presented, in which the way the data was collected and its sources are informed. Subsequently, the data analysis procedures are commented on, which address how the data will be analyzed. Finally, the limitations of the method employed are presented.

3.1 Research design

Research classification varies as the focus of data, methods, objects of study, and interests change. Scientific research aims to explore one or more aspects of a particular subject to advance knowledge in some area. Therefore, the peculiarities involved in each research can be classified according to some requirements. Given the above, this study can be classified as to its nature as applied research, as to its objectives as descriptive research, and as to procedures as documentary and bibliographic research with a quantitative approach for data handling (Prodanov & Freitas, 2013).

Since this research relates the aspects of CG before the financially sustainable development of companies listed on the B3's *Novo Mercado*, this study is classified before its nature as applied. This type of research aims to promote knowledge through practical application to solve problems (Gil, 2008; Prodanov & Freitas, 2013).

Considering that this study sought to relate two magnitudes and describe how they behave, it is classified according to its objectives as descriptive research. This type of research describes the characteristics of a particular phenomenon or establishes the relationship between variables, which involves standardized techniques for data collection. Descriptive research assumes the compilation of data without manipulating them; therefore, the researcher interprets the collected data without making inferences about them (Prodanov & Freitas, 2013).

Technical procedures are how data for the preparation of the study is collected. It is vital to determine an operating model for the research containing the plan of action and outline of ideas. A key element in this design is the procedure adopted for data collection. This collection can be done through two primary sources, the bibliographic and the documental. The former is focused on already published documents, such as books, journals, and periodicals; the latter deals with documents that have not received any analytical treatment or that can be reworked according to the research objectives. Documentary research can also be subdivided into primary and secondary documents; primary documents are considered newspaper reports, letters, and recordings, and secondary documents are research reports, company reports, and statistical tables (Gil, 2008; Prodanov & Freitas, 2013).

Aiming to meet the objective of this research, which was to analyze the relationship between CG and the financial performance of companies belonging to the cyclical and non-cyclical segments in the B3's *Novo Mercado*, this study intended to compose a CG index through the variables identified in the national and international literature, collect the data that compose the index on B3's website and corporate website of the companies, calculate the financial performance indexes of this sample, and analyze their relationship through Pearson correlation and multiple regression. As for its technical procedures, this study is classified as bibliographical due to the survey of the existing literature for the index composition and documental from secondary sources and the use of accounting and administrative documents for data collection.

Given the approach to the problem, this study is classified as quantitative. This approach translates information into numbers using statistical techniques for data analysis, such as mean, median, standard deviation, and regression analysis. Thus, quantitative analysis transforms information into numbers through statistical techniques (Lakatos & Marconi, 2011; Prodanov & Freitas, 2013). For the development of this study, the statistical metrics used were mean, median, standard deviation (in order to obtain an overall parameter of the population's financial performance), and Pearson correlation and linear regression (to analyze the relationship of the variables of financial performance and CG).

3.2 Sampling

The sample of a study is a portion of the population/universe from which it is selected following some criterion (Martins & Theophilo, 2009). B3's *Novo Mercado* segment comprises 204 companies in nine sectors (2021). Cyclical and Non-Cyclical sectors were chosen for this research, totaling 53 companies in 2018, 57 companies in 2019, and 68 companies in 2020, according to Appendix A. The period used for data analysis corresponds to the years 2018 to 2020.

The sector chosen for the study represents approximately 39% of the total number of companies that make up B3's *Novo Mercado* in 2020. This segment was chosen because its areas of operation are distinct, providing greater breadth in the comparison between the companies.

3.3 Research variables

For the quantification of CG, an index was prepared, in which the Dummy method was chosen for the composition of the dimensions, where 1 was attributed if the company corresponded to the information from that item and 0 if not. For division 4, the number of meetings held annually was used. Therefore, the index was composed of five dimensions: Executive Officers, Board of Directors, Audit, Board Meetings, and CG Principles. Table 2 below presents the CG index formulated for this research and the studies that supported it.

Table 02
Variables and divisions that compose the Corporate Governance Index

Division	Study variables	Literature Background
D1-Executive Officers	Gender diversity in the executive board	Kaur & Vij (2017); Saini & Singhania (2018)
	The board is composed of 3 or more members	Malik (2017), Farooque, Buachoom & Sun (2019); Mishra, Jain & Manogna (2020)
	The executive board is composed of members other than the board of directors	Boonlert-U-Thai & Pakdee (2018, Mishra & Kapil (2018); Saini & Singhania (2018); Kyere & Ausloos (2019)
	Directors do not hold other positions in other companies	Saini & Singhania (2018); Zambon *et al.* (2018)
D2-Board of Directors	There is no accumulation of board functions	Saini & Singhania (2018)
	Gender diversity in the board of directors	Kaur & Vij (2017); Dal Magro, Dani, Vergini & Silva (2018); Saini & Singhania (2018); Costa, Sampaio and Flores (2019)
	At least 30% of the board is composed of independent directors	Yasser, Al Mamun & Seamer (2017), Mishra & Kapil (2018); Kyere & Ausloos (2019); Barros *et al*. (2020); Handayani *et al*. (2020); Suklev, Debarliev & Drakulevski (2020)

to be continue

to be continue

	The board consists of 5 to 9 members	Gill and Mathur (2011), Melawati *et al*. (2016); Malik (2017); Farooque, Buachoom & Sun (2019); Mishra, Jain & Manogna (2020)
	There is information about the composition of the board of directors in the Management Report submitted to the CVM	Bach, Kudlawicz & Silva (2015); Saini & Singhania (2018)
D3- Audit	The company provides information about its internal audit committee	Mishra & Kapil (2018); Zambon *et al*. (2018); Napitupulu *et al*. (2020)
	At least one member of the audit committee is external	Tornyeva & Wereko (2012); Napitupulu *et al*. (2020)
	The number of audit committee meetings is 3 or more per year	Farooque, Buachoom & Sun (2019)
	Company audited by a Big Four (PWC, KPMG, E&Y, or Deloitte)	Zambon *et al*. (2018), Al-Gamrh *et al*. (2020), Al Farooque, Buachoom & Sun (2019)
D4-Meetings	Number of board meetings	Suteja, Gunardi & Auristi (2017); Kaur & Vij (2017); Mishra& Kapil (2018); Saini & Singhania (2018); Al Farooque, Buachoom & Sun (2019); Yousaf *et al*. (2019); Mishra, Jain & Manogna (2020)
D5- Principles of CG: transparency, fairness, accountability, and corporate responsibility	The company informs the composition of the members of the board of directors in a document or website	Lima *et al*. (2015); IBGC (2016); Saini & Singhania (2018); García-Sánchez, Suárez-Fernández & Martínez-Ferrero (2018)
	The website has documents related to CG	Bach, Kudlawicz & Silva (2015); Lima *et al*. (2015); García-Sánchez, Suárez-Fernández & Martínez-Ferrero (2018)
	The company's website is translated into one or more languages	Bach, Kudlawicz & Silva (2015); Lima *et al*. (2015)
	The MR (Management Report) includes a section dedicated to the implementation of CG principles	Bach, Kudlawicz & Silva (2015); IBGC (2016); Saini & Singhania (2018); Al-ahdal *et al*. (2019); Degenhart *et al*. (2021)

Source: Research data (2021).

Three indexes widely used in studies related to CG were calculated to measure the financial performance of the chosen population. Table 3 shows these indexes and the literature background.

Table 03

Key figures used to measure financial performance

Index	Formula	Metric	Literature Background
ROE - Return on Equity	Net Profit / Shareholders' Equity	It is the owners' payback – it informs how long the investors/owners will recover their investment	Kaur & Vij (2017); Buallay, Hamdan & Zureigat (2017); Malik (2017); Usman & Yakubu (2018); Al-ahdal *et al.* (2019); Yousaf *et al.* (2019); Coleman & Wu (2020); Saleh, Abu Afifa & Alsufy (2020); Silva *et al.* (2020).

to be continue

to be continue

ROA - Return on Assets	Net Profit / Total Assets	It is the company's payback - It informs how long the company takes to obtain a return on the invested capital	Buallay, Hamdan & Zureigat (2017); Kaur & Vij (2017); Malik (2017); Yasser, Mamun & Rodrigs (2017); Mishra & Kapil (2018); Saini & Singhania (2018); Yousaf *et al.* (2019); Mishra, Jain & Manogna (2020).
EBITDA	Earnings before interest, taxes, depreciation and amortization	It informs you how much profit the company actually generated through its operating activities	Saini & Singhania (2018); Bussin & Ncube (2017); Ararat, Balc & Yurtoglu (2016); Vilhena & Camargos (2015).

Source: Research data (2021).

After the research variables, the following subchapter presents how the data was collected and analyzed to answer the research problem.

3.4 Data collection and analysis procedures

Data collection is the moment of the research that aims to seek the relevant information to obtain the results to perform the analysis and answer the research problem. At this stage, it is defined where and how the information will be collected (Martins & Theóphilo, 2009; Prodanov & Freitas, 2013). Therefore, for the CG index, the study data were collected in reports on B3's website and documents provided by the company on its corporate website. As for the calculation of financial ratios, the collection was with the financial statements available on the B3 website to compare with the value presented in the Economatica program.

Data analysis aims to organize and synthesize the results found to provide sufficient grounds to answer the research problem and meet the proposed objective (Lakatos & Marconi, 2011; Prodanov & Freitas, 2013). First, a descriptive analysis (mean, median, standard deviation, highest and lowest) of the financial data was performed, as well as the general analysis of the data pertinent to the CG of the population studied. Subsequently, the statistical analysis of the data was performed through Pearson's correlation and linear regression.

The correlation estimates the strength of the linear relationship between two variables, which can be positive, negative, or null. Hence, it is a metric used to characterize such a relationship in two directions (negative and positive), i.e., Pearson's correlation measures the degree and direction of the linear relationship between two quantitative variables. Pearson's correlation can range from -1 to 1; thus, the closer to 1, the greater the degree of linear statistical dependence between the variables, and the closer to -1, the lesser the statistical dependence (Moore, 2007; Martins & Theóphilo, 2009).

For Pearson's correlation analysis, some conditions need to be met: a) the value indicated in the correlation should not change if the unit of measurement of the variables is modified; b) the correlation coefficient does not differentiate between dependent and independent variables, in which the current correlation value between variable X and Y and that of variable Y and X is the same (it is emphasized that the correlation cannot be confused with effect/cause relationship, only confirming whether there is similarity or not in the distribution of the variables); c) Pearson's correlation has no physical unit that defines it, and a correlation of 0.4 cannot be interpreted as a 40% correlation between the variables, nor that a correlation of 0.8 is twice as high as one of 0.4 (Schield, 1995; Chen & Popovic, 2002).

In addition to the conditions mentioned above, some properties must also be met to perform the Pearson correlation analysis: a) there must be independence in the observations, b) the outliers must be examined since they significantly interfere in the correlation, c) the values to be studied need to be distributed in a normal way as normality tests are usually applied for this purpose, and d) the variables need to be quantifiable. Failure to observe such premises may compromise the research results (Schield, 1995; Figueiredo Filho & Silva Junior, 2010). Therefore, to analyze the existing relationship between CG and companies' financial performance, Pearson's correlation was employed using SPSS software. Next, bivariate linear regression was performed with each financial index (EBITDA, ROA, and ROE).

The linear regression model used in this research represents the linear relationship between the dependent variable and a set of independent variables. The reason for using this method is its property of predicting or estimating the average value that the dependent variable exerts on the independent variable. Therefore, such an analysis aims to predict possible changes in the dependent variable from the changes occurring with the independent variables (Gujarati, 2006). This statistical technique aimed to verify whether there is a positive relationship between CG constructs and financial performance. For this study, the dependent variables chosen were EBITDA, ROA, and ROE.

The VIF (Variance Inflator Factor) test was also performed with the intention of testing for the presence of multicollinearity for the variables. Multicollinearity correlates one predictor with another and thus points to possible problems (increased errors) for the adjustment of the proposed model. The increase in standard errors can point out that the coefficient of a variable may not be different from zero, with a certain level of significance. The ideal VIF values are those below 5 because values above this represent multicollinearity problems between variables (Fávero, Belfiore, Silva & Chan, 2009).

Furthermore, the Durbin-Watson test was performed to measure the autocorrelation between the residuals, that is, the dependence between the variables (Hoffmann, 2016). The Durbin-Watson statistic is in the range of 0 to 4, of which a value close to 2 indicates that the model has no autocorrelation. A positive autocorrelation indicates Durbin-Watson values below 2, and a negative autocorrelation indicates Durbin-Watson values above 2. Thus, the closer to 2 the Durbin-Watson test result, the better the correlation is (Cohen, Cohen, West & Aiken, 2003; Field, 2009; Cabral & Lin, 2011).

Another reference value used in this research is the coefficient of determination (R^2), which can range from 0 to 1, measuring how well the data line fits the model. Within this research, this value will inform how much of the variation of the CG indicators can be explained by the financial indicators. The adjusted R^2, also with reference values of 0 to 1, determines with additional predictors that end up causing a more accurate model fit. Evidently, this reference value cannot be used for casual relationships (cause *versus* variation) (Field, 2009).

The coefficient of determination has R^2 reference values for studies in the behavioral and social sciences; these are the following: R^2 equal to 2% is classified as a low effect, R^2 equal to 13% is considered as a medium effect, and R^2 with 26% or more is considered a large effect. Therefore, if a study model has an R^2 of 27, this indicates that the model has 27% variability in the dependent variable (Cohen, 1988; Ringle, Silva, & Bido, 2014).

Given all the above, Figure 01 presents the theoretical model of the research.

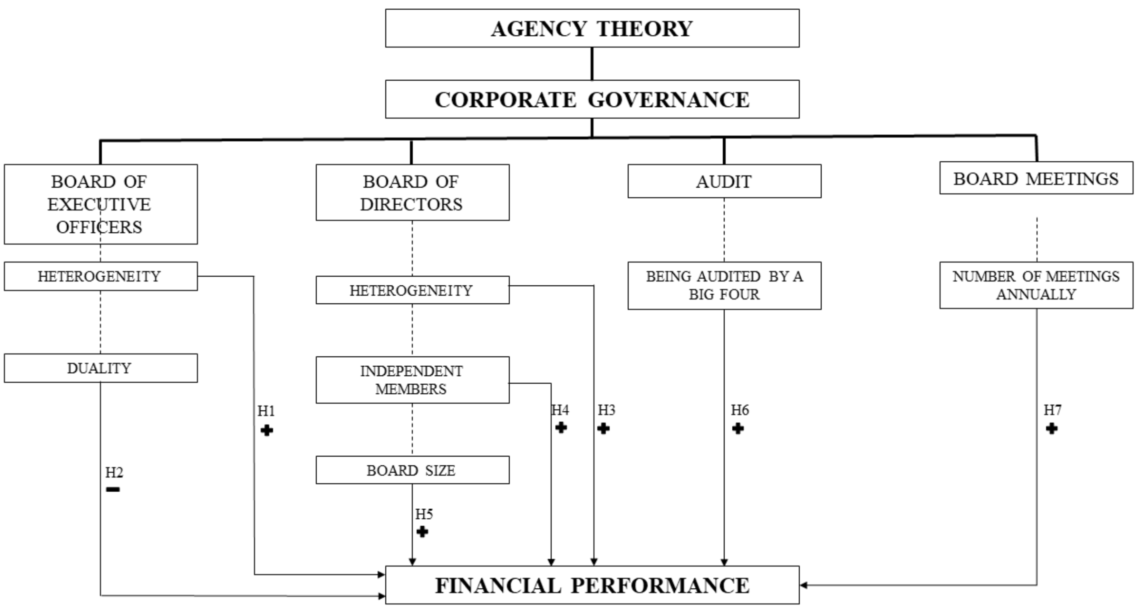

Figure 01. Theoretical Research Model
Source: Research data (2022).

In summary, this research sought to understand whether CG (through the variables of the index formed) can be related to the financial performance of the companies that comprise the chosen population from the Agency Theory perspective and focusing on financial sustainability. The following subchapter comments on the limitations of the study.

3.5 Limitations of the research method and techniques

The main limitation of this research is the number of companies since it does not include all the companies that make up the B3's *Novo Mercado*, and data cannot be generalized. Likewise, the data cannot be generalized to other segments since this research is segmented for cyclical and non-cyclical consumption.

The period studied is also a limiting factor, in which, if the research is applied to more or fewer periods, the results tend not to be the same. Regarding the financial indexes, the analyses are based on EBITDA, ROA, and ROE; therefore, other financial indexes may present results different from those obtained in this research.

Another limitation is the methods applied to achieve the proposed objective, in which different statistical tests can generate different results from those found in this research. The following chapter presents the data and discussion of the results of this research.

4 Analysis of the results

This chapter aims to present the research results, whose objective is to analyze the impacts of CG on the financial performance of companies belonging to the cyclical and non-cyclical segments in the *Novo Mercado* of B3 - *Brasil, Bolsa, Balcão*. To meet this objective, the descriptive statistical analysis of both the CG and performance indexes is presented.

4.1 Descriptive Analysis

The statistical analyses used for this research were mean, median, standard deviation, and highest and lowest values. Table 4 shows the statistical evolution over the years studied.

Table 04
Statistical Analysis

	ROA			ROE			EBITDA		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Mean	1.04	0.94	-1.85	-6.62	-1.17	-39.39	789.853	1,163,892	1,173,965
Median	3.39	3.00	2.73	8.50	8.66	4.82	350.601	391,176	264,211
Standard Dev	10.82	11.12	15.67	72.90	44.51	273.40	1,760,905	2,784,177	3,738,843
Highest	17.90	16.10	13.75	82.98	89.11	128.90	11,988,839	19,795,941	28,340,500
Lowest	-34.20	-47.00	-93.03	-430.55	-247.92	-2,127.61	-427,388	-452,802	-2,083,906

Source: Research data (2022).

Observing the ROA primarily, the standard deviation increases as the mean and median decrease over the three years. In general, it suggests that over time there has been a representative drop in net income and total assets in the population and a more significant disparity in results among the companies. As the data behave this way, the highest and lowest value results are predictable, with the lowest values increasing and the highest values decreasing, explaining why the standard deviation increases.

Regarding ROE, it is possible to identify a different behavior from ROA. ROE exhibited a noticeable significant improvement in the mean and median from 2018 to 2019, then a sharp deterioration in 2020. The standard deviation behaves inversely, exhibiting a slight decline in 2019 and sharply increasing in the following year, from 44.51 to 273.40. The data suggest that 2020 was an atypical year in which there was a greater difference in values of this indicator among the companies. This converges with the results of the lowest and highest value, which show that the highest value increases and the lowest value decreases over the years.

As mentioned earlier, EBITDA is one of the indicators that investors consider most in their analyses. As for the mean, it evolves throughout the periods, unlike the median, which in 2020 showed a considerable drop. This asymmetry suggests that the values found at the top of the sample are far from the center if compared to those found at the bottom of the distribution. The standard deviation increases substantially in all three years of the analysis, indicating greater disparity in the sample. Such a difference can be briefly justified when the highest and lowest values are analyzed; while the highest value increases representatively, the lowest decreases considerably.

Generally, one notices a disparity in the data found in the surveyed population, whose standard deviation increases in all three indicators. The greatest variation in the standard deviation occurs in ROE from 2019 to 2020. ROA and ROE behave differently; while the mean and median of ROA fall, the ROE values improve slightly in 2019 and subsequently fall. As for EBITDA, the last year analyzed was the most uneven, presenting a significant difference between the highest and lowest values and a significant standard deviation compared to its mean and median.

Economically, 2020 was a challenging year for companies, given the pandemic scenario caused by the Coronavirus (Covid-19), in which all companies had to adapt and reformulate their strategies to remain sustainable and competitive in the market. Based on that, CG plays a vital role in this scenario of constant changes. The following subchapter deals with brief reports on the CG mechanisms adopted by the companies in the chosen population.

4.2 Corporate Governance Structure of the companies in the Cyclical and Non-Cyclical Consumption segments

In view of the criteria adopted for this research (board of directors, executive board, audit, board meetings, and CG principles), some peculiarities of the companies that compose the chosen sample were noted. Thus, below is a brief report regarding this management mechanism of the companies in the cyclical and non-cyclical segments of the B3 during the years 2018 to 2020.

With regard to the board of directors, approximately 15% of the companies understand the importance of having independent members, in which more than half of their board consists of such members, such as BRF SA, Camil *Alimentos* SA, JBS SA, M Dias Branco SA, and Natura & Co Holding SA. The study by Hermuningsih, Kusuma & Cahyarifida (2020) points out that independent directors are positively associated with financial performance, given that they have no financial, organizational, or family ties with the company.

About 9% report on their website the alternate members of the board of directors. Such a finding can be corroborated with the study by Crisóstomo and Girão (2019), who also found companies that still have alternates on the board, confronting the international trend of abolishing such appointments.

In addition, 96% of the corporate websites inform who composes the board of directors, their education, the period they will be in that position, and their professional background, presenting to stakeholders the whole professional issue of who makes up this essential CG group. Moreover, about 20% of the companies, such as Americanas SA, Cogna SA, JHSF *Participações* SA, and Pomifrutas SA, inform in their management report, in the file made available at B3, the composition of their board in some or all of the analyzed periods.

Still, some issues considered negative about the board of directors were noted, such as the fact that the composition of this group in some companies is formed exclusively by one gender. In 2018, the survey pointed out that 53% of the companies did not have gender diversity; in 2019, this statistic fell to 45%, and, in 2020, these data increased again to 50% of the population. These numbers corroborate the findings of Crisóstomo and Girão (2019), who also report the lack of gender diversity in boards of directors in their study.

It should be noted that the proportion of companies with gender diversity on their boards is small. In fact, generally, in a board formed by up to nine members, women occupy one or two seats of this composition. The cases of companies that present a more egalitarian board formation are rare. Furthermore, it was possible to identify that about 90% of the companies have from 5 to 9 members.

Some companies do not have the view that the executive board plays one role within the company and the board of directors another, as commented in the literature. This is because there are directors who, in addition to performing their activities in the executive board, also perform functions within the board of directors. Around 15% of the companies understand that the person who determines the company's strategies and the person who questions them can be the same. This result corroborates the findings of Crisóstomo and Girão (2019), who also found duality in 25% of the companies in their study.

With regard to the executive board, it was possible to identify that, in the composition of some companies, there were directors without a specific area of activity or designation; therefore, they did not have an area under their responsibility. Also, it was noted that most financial directors also held the position of investor relations director. Regarding gender diversity in the executive board, the data collected shows that 64% of the companies in 2018 had a board with a composition of only one gender. In 2019, this figure decreased to 58%, and in 2020 it decreased again, to 53%.

These data reveal that, in general, as it happens in boards of directors, companies have not yet identified the benefits arising from gender diversity and the impact that this can generate within the company, especially concerning financial sustainability. The studies of Conyon and He (2017), Chen, Leung, and Evans (2018), and Prudêncio, Forte, Crisóstomo, and Vasconcelos (2020) indicate that gender diversity in these strategic groups is positively linked to the performance of Brazilian companies. However, they do not converge with the study of Tshipa, Brummer, Wolmarans, and Du Toit (2018), which claims that diversity does not generate returns for the company.

Additionally to the executive board and the board of directors, some companies disclose that they have committees that help manage CG (in addition to the audit committee), such as the quality committee at BRF SA; the people and management committee and the finance, investments, and risks committee at Camil *Alimentos* SA; the social and environmental responsibility committee, the financial and risk management committee, and the diversity and inclusion committee at JBS SA; finance committee at Marfrig Global Foods SA; organizational development and strategy committee at Natura & Co Holding SA; strategy committee at Anima Holding SA; innovation committee at Iochpe Maxion SA; people, culture, and governance committee at Vivara *Participações* SA; and disclosure and negotiation committee at Via SA. Primarily, these companies inform who the people in these committees are, what they do, and what benefits they bring to the company. This result, which identifies the growing increase of advisory committees within CG structures, can be corroborated by Crisóstomo and Girão (2019), which also identified such a phenomenon.

When explicitly analyzed, the audit committee in 54% of the companies studied - especially those that have recently started trading on the *Novo Mercado* - does not disclose information pertinent to their internal audit clearly and directly. Thus, information such as the composition of this committee, the academic background of the members, their professional background (to justify being a member of the such committee), and the term of its management is not easily accessible on the institutional websites in the investor relations tab.

The size of audit committees is usually three to four people, and the number of annual meetings of the companies that disclose their information does not exceed three. The study by Farooque, Buachoom, and Sun (2019) shows that the meetings of this committee have a direct influence on the monitoring of the corporate system and the disclosure of information.

Furthermore, some companies do not disclose information pertinent to the meetings of this committee; of those that do, the number of meetings does not exceed two per year. It is noteworthy that most companies that disclose information regarding their internal audit are companies that have been in the *Novo Mercado* for a longer time, showing that the more traditional companies have a greater tendency to disclose such data.

Regarding board meetings, it was noted that there is a disparity in the number of annual meetings between companies. While some companies report 4 board meetings annually, others report 25 meetings. However, the average annual number of board meetings is 12.

When analyzing the issue of information transparency, some companies stand out - about 10% - by disclosing their governance structure, which helps investors understand each person's position within this strategic management group. Some companies explain briefly what a board of directors is, and others explain in detail all the functions of each CG group. In addition to providing additional information as mentioned above, others disclose their governance structure in the Management Report (MR), made available on B3’s website annually.

Within the sample of this research, only one company presents a translation in three languages (Portuguese, English, and Spanish) on its investor relations website. More than 90% of the companies have only English translations on their websites, and a small number of companies have no translations, presenting their data only in Portuguese.

In relation to the MR submitted to regulators at year-end, most of it is brief and to the point. Only 40% of the companies dedicate part of it to commenting about their CG. Thus, information such as directors, members of its board, committees, fiscal council, structure of strategic groups, and other information relevant to investors and stakeholders are not presented. One can see, therefore, that little is done to explore this crucial document in the disclosure of the company's results.

Such data on CG information are in line with the findings of the study by Mishra, Jain, and Manogna (2020), which shows that the information provided by companies (mostly) is only that which is required by law and that the focus should be on reporting quality information, with information that is relevant and interesting to investors.

In sum, most of the sample chosen for this research presents clearly and directly who their directors and board members are on their corporate website, but few companies disclose such information on their MR made available on B3’s website. Moreover, the disclosure of committees that are pertinent to this strategic group, such as the audit committee, is not yet customary.

There are also companies in which executive board members are part of the board of directors, accumulating functions from different governance groups. Regarding annual meetings of the board of directors, there is a disparity in the annual amount among the companies, but the average is 12 meetings per year. Finally, regarding the disclosure of all this data, most companies have their websites in Portuguese and English, and only one company presented data in three languages on its corporate website.

4.3 Statistical Results

The first statistical analysis deals with Pearson's correlation, for which Table 05 presents the results of the variables for the CG index.

Table 05
Pearson’s Correlation

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	**Year**	1.000																					
2	Segment	-0.007	1.000																				
3	Board Heterogeneity	0.093	-0.089	1.000																			
4	Board Size	0.037	-0.017	.304**	1.000																		
5	Board Duality	-0.010	0.022	.256**	0.012	1.000																	
6	Position in other companies	0.014	-.352**	-.148*	-.175*	0.131	1.000																
7	Board Accumulated Duties	-0.043	-0.083	-0.075	-.197**	-0.093	-0.002	1.000															
8	AC Heterogeneity	0.019	0.114	.434**	0.075	0.011	-.267**	0.011	1.000														
9	Independent AC Member	-0.028	-.194**	-0.016	-0.016	0.031	0.031	0.073	0.074	1.000													
10	AC Size	-0.011	-.569**	-0.016	0.058	-0.101	.160*	-0.014	-0.108	.363**	1.000												
11	MR Information AC CVM	-0.019	0.049	-0.129	0.007	-0.003	0.096	-0.062	0.036	-0.030	-0.104	1.000											
12	Information Disclosure Audit Committee	0.071	0.090	0.020	0.147	0.048	-0.123	-.198**	0.024	.239**	0.007	-0.023	1.000										
13	External Member 3-member Audit Comm.	0.112	-0.146	.188*	0.145	.191*	-0.036	-0.057	0.048	.182*	-0.031	-0.078	.730**	1.000									
14	No. of Meetings Audit	-0.056	-0.111	0.061	-.203**	0.138	0.081	0.076	0.027	0.037	0.068	-0.032	-0.127	-0.106	1.000								
15	Audited by Big Four	0.006	-0.089	.248**	.241**	.219**	-0.059	-.211**	0.032	.197**	0.030	-0.036	0.140	.195**	-.315**	1.000							
16	AC Annual Meeting	-0.005	0.065	0.017	.186*	.165*	-0.122	-.270**	0.043	-0.043	-0.128	0.062	.180*	0.105	0.058	.194**	1.000						
17	AC Composition Inform	0.019	-0.120	-.219**	-0.066	0.006	.265**	0.079	-.185*	-0.099	-0.063	-0.134	.171*	.152*	0.038	-0.120	0.099	1.000					
18	CG Information	0.021	0.082	-0.014	.174*	.154*	-.286**	-.167*	-0.003	.191*	-0.022	0.043	.623**	.451**	-.207**	.385**	.204**	-0.142	1.000				
19	Language Translation Information	-0.013	.239**	-0.112	-0.092	0.127	-.186*	-0.055	-0.132	0.069	0.044	-0.067	0.143	-0.107	-0.026	0.084	-0.003	0.024	0.099	1.000			
20	MR to B3 Information Includes CG	-0.056	0.072	-0.045	0.108	0.030	-0.109	-.217**	-.181*	-0.068	.197**	.431**	0.085	-0.078	0.012	-0.032	0.033	-.229**	0.117	.161*	1.000		
21	**ROA**	-0.095	0.135	0.126	.237**	-0.127	-.174*	-.193**	-0.007	-.160*	0.007	0.049	0.100	-0.007	-.212**	.243**	-0.071	-0.045	0.087	0.068	.324**	1.000	
22	**ROE**	-0.081	0.104	0.066	0.012	-0.106	-0.113	0.021	-0.072	-0.089	.173*	-0.107	0.081	0.032	-0.109	0.033	-0.124	-0.021	-0.014	0.024	0.140	.439**	1.000
23	**EBITDA**	0.052	.420**	-0.063	0.132	-0.079	-.236**	-0.139	0.142	0.039	-0.105	.191*	.276**	0.070	-0.065	-0.104	0.085	0.019	.174*	-0.022	.208**	.151*	0.112

* The correlation is significant at the 0.05 level (2 ends) and
** The correlation is significant at the 0.01 level (2 ends).

Source: Research data (2022).

Pearson's correlation results demonstrate that the year did not show any significant correlation; this shows that the periods in which the research was conducted did not representatively impact the related data. With significance at the 1% level, the segment showed a negative correlation with independent executive members, independent board of directors members, and board size. However, a positive correlation was shown for the items languages and EBITDA.

Board heterogeneity showed a significant correlation with board composition, board duality, board heterogeneity, and company audited by a Big Four, but a negative correlation with independent board members and board composition information. Board composition has a positive correlation with ROA and a negative correlation with accumulated duties and the number of board meetings. Regarding board duality, there is a correlation with the company being audited by a Big Four.

As for directors holding other positions in other companies, at a significance level of 1%, heterogeneity, CG information, and EBITDA show a negative correlation. In contrast, information on the composition of the board of directors denoted a positive correlation. As for the accumulation of functions in the executive board, a negative correlation was observed between the disclosure of information on the audit committee (AC), company audited by a Big Four, number of annual meetings of the board of directors, information on CG in the MR sent to B3, and ROA.

Independent board members correlated with board composition, audit committee disclosure, and company audited by a Big Four. Board size and information about the board correlated with information about CG in the MR submitted to B3.

When it comes to the disclosure of audit committee information, this correlates with external members of this committee, information on CG, and EBITDA. The variable external member of the audit is positively correlated to the company audited by a Big Four and information on CG. Audit committee meetings are negatively correlated with a company audited by a Big Four, CG information, and ROA.

Annual meetings of the board of directors are negatively correlated with CG information. Board of directors information is negatively correlated with CG information in the MR submitted to B3. Finally, at a significance level of 1%, CG information in the MR submitted to B3 is correlated with ROA and EBITDA.

For greater robustness in the research results and to analyze the impacts of CG on the financial performance of companies belonging to the *Novo Mercado* of B3 - *Brasil, Bolsa,* *Balcão*, Table 6 is dedicated to explaining the bivariate linear regression for the formulated CG index.

Table 06
Linear Regression Analysis

	EBITDA		ROA		ROE		
Control Variables	**Beta**	***t***	**Beta**	***t***	**Beta**	***t***	**VIF**
Year	0.051	0.806	-0.107	-1.637	-0.102	-1.429	1.036
Segment	0.502	5.286	0.114	1.171	0.343	3.227	2.294
Board_Size	0.078	1.079	0.097	1.309	-0.098	-1.216	1.328
Board_Accumulated_Duties	-0.065	-0.912	-0.072	-0.993	0.078	0.987	1.284
Board_Exclusivity	-0.117	-1.424	-0.082	-0.966	-0.103	-1.12	1.73
MR_ AC_CVM_ Information	0.147	1.893	-0.052	-0.649	-0.068	-0.781	1.533
Audit Committee_Informartion	0.193	1.453	0.156	1.14	0.161	1.084	4.501
Audit_Committee_External_Member	-0.049	-0.434	-0.078	-0.669	0.056	0.441	3.24
Audit_Committee_Meeting_No.	-0.001	-0.02	-0.057	-0.775	-0.074	-0.911	1.328
Language_Translation_Information	-0.203	-2.722	-0.038	-0.498	-0.115	-1.38	1.411
AC_Composition_Information	0.169	2.173	0.115	1.441	0.038	0.438	1.538
MR_B3_ Information_Includes_CG	0.108	1.273	0.330	3.781	0.089	0.934	1.839
CG_Information	0.028	0.283	-0.089	-0.868	-0.146	-1.308	2.543
Independent Variables							
Board_Heterogeneity	-0.035	-0.399	0.102	1.142	0.152	1.559	1.931
Board_Duality	-0.018	-0.23	**-0.163**	-2.081	-0.072	-0.848	1.482
AC_Heterogeneity	0.096	1.221	0.004	0.048	-0.131	-1.494	1.569
Independent_AC_Members	0.092	1.216	**-0.177**	-2.277	**-0.198**	-2.337	1.462
AC_Size	0.181	1.931	0.03	0.312	**0.412**	3.927	2.238
Audited_by_Bigfour	-0.093	-1.131	**0.326**	3.849	0.139	1.511	1.724
AC_Annual_Meetings	-0.014	-0.202	**-0.186**	-2.543	-0.091	-1.147	1.291
R^2	0.384		0.349		0.229		
Adjusted R	0.305		0.266		0.131		
P-value	<0.05		<0.05		<0.05		
Durbin-Watson	2.176		2.145		1.937		

Source: Research data (2022).

Regarding the control variable EBITDA, the model presented an adjusted R of 0.305 at a significance level of 5% (p-value) and a Durbin-Watson index of 2.176. The segment showed a positive relationship with EBITDA to the extent that the β value is 0.502, as did disclosure of information on the composition of the AC, which showed a β of 0.169. In contrast, translation into three languages on the investor relations tab on the company's corporate website is negatively related to the model due to a β of -0.203.

Regarding the control variable ROA, the model presented an adjusted R of 0.266 at a significance level of 5% (p-value) and a Durbin-Watson index of 2.145. Board duality is negatively related in that the β value is -0.163, as well as the independent board member variable, which showed a β of -0.177, and number of annual board meetings, which showed a β of -0.186. On the other hand, the company audited by a Big Four showed a positive relationship with the model (β of 0.326), as well as the disclosure of information on CG in the MR made available on B3’s website (β of 0.330).

Regarding the control variable ROE, the model presented an adjusted R of 0.131 at a significance level of 5% (p-value) and the Durbin-Watson index of 1.937. The segment showed a positive relationship with the model, denoting a β of 0.343, as well as the composition of the BD, which showed a β of 0.412. However, the variable independent members of the AC presented a β of -0.198, thus demonstrating a negative relationship to the model with the dependent variable ROE. The following section presents the discussion of the results found.

4.4. Discussion of data

The session reserved for data discussion is premised on Agency Theory, in which the CG index is composed of 14 control variables and seven independent variables separated into the following dimensions: executive officers, board of directors, audit, annual board meetings, and CG principles.

Contrary to what was expected, there was no significant result regarding heterogeneity in either the executive board or boards of directors. As such, it is not possible to state that gender diversity in these two strategic CG groups interfered in any way (positive or negative) with the results of this research population within the chosen time cut. The findings are contrary to the results of Kaur and Vij (2017), Dal Magro, Dani, Vergini, and Silva (2018), Saini and Singhania (2018), and Costa, Sampaio, and Flores (2019), who found that heterogeneity has a direct positive relationship with performance. Such results meet the studies of Silva and Margem (2015) and of Jesus, Souza, Pelucio-Grecco, and Silva (2020), who also did not find significant results regarding this variable in Brazil.

The variable board duality was negatively associated with the company's financial performance, representing a β of -0.163. Such results can be corroborated with the study of Mishra and Kapil (2018), which pointed out in their results that duality is negatively associated with financial indicators. Nonetheless, it contrasts with the research of Kyere and Ausloos (2019), which found no influence of duality on the ROA variable, showing neutral results. The Boonlert-U-Thai and Pakdee (2018) and Saini and Singhania (2018) study also contradict this research's finding when it evidenced a positive association between duality and company performance. This research's finding supports Agency Theory's argument in addressing the positive outcome of separation between CEO and chairperson.

Regarding the variable independent member of the board of directors, the results showed a negative relationship both in ROA (β -0.177) and ROE (β -0.198). Therefore, independent members on the boards of directors of cyclical and non-cyclical consumer companies on the B3's *Novo Mercado* exert a negative relationship to financial performance. This result can be confirmed through the study of Yasser, Al Mamun, and Seamer (2017), which states in their results that this type of member does not influence financial performance, which may often be related to the lack of specific legislation for the appointment of such people. Thus, appointments may occur where the member does not have the necessary knowledge to perform the function or knowledge of the company for the full development of strategies focused on the result. Consequently, without the minimum knowledge to perform the job, an independent member will not be able to generate the impact they could provide.

The findings of this study are also in line with that of Suklev, Debarliev, and Drakulevski (2020), who state that when the number of independent directors is small, it is more difficult for them to perform their primary objective, which is to put on the agenda strategies with a view outside the company, which may affect the quality of decisions. However, the result of this research is in disharmony with the results of Handayani *et al.* (2020), which denotes that independent members affect the company's value, and this is because the higher the proportion of such members, the more successful the board will be in its performance of monitoring activities, for which there is the enabling environment for the creation of better strategies and more directed to the company's objectives.

According to Kyere and Ausloos (2019) and Barros *et al.* (2020), independence in a board is a key characteristic because they can act more freely in their roles, whether on boards or committees. This idea can be reinforced by the study of Napitupulu *et al.* (2020) since it elucidates that this type of board member, due to their strategic position, can develop a vital role in the performance of CG as a whole.

The variable board size showed a positive relationship with a β of 0.412; therefore, for this study, the number of people that compose the board of directors is related to the company's financial performance. This result is in synergy with the studies of Malik (2017), Kyere and Ausloos (2019), and Coleman and Wu (2020), who report that board size influences the value creation of companies, and with the research result of Usman and Yakubu (2018), who report that board composition can be positively significantly associated with firm performance when measured through ROA and ROE. However, this research confronts the results of Sonza and

Kloeckner (2014) and Yasser, Mamun, and Seamer (2017), who found evidence that such a variable negatively influences performance.

For the ROA variable and the company audited by a Big Four, the study shows a positive relationship with a β of 0.326. Notably, in the research sample, 70% of the companies are audited by a Big Four. This result demonstrates that the higher the internal financial and accounting controls level, the better the chances of delivering correct and safe information to stakeholders. However, this study presented different data than those found in the literature. Al-Gamrh *et al*. (2020) and Al Farooque, Buachoom, and Sun (2019) used this variable in their respective studies and did not find significant results. Still, they emphasize the importance of developing information security mechanisms based on the precepts of auditing, with the intention of passing on clear and convergent information with the legislation to its stakeholders.

Concerning the variable annual meetings of the board of directors, this research presented a negative relationship, with a β of -0.186. This result matches the result of Yousaf *et al.* (2019), which presents that the frequency of meetings has a moderate negative relationship regarding aspects of board structure. Nevertheless, it goes against the studies of Mishra and Mohanty (2014) and Saini and Singhania (2018), which claim that the number of annual meetings can be a positive signal to the market in value creation.

The findings here also differ from the study by Mishra and Kapil (2018), which evidences that the relationship between board meetings and financial performance is insignificant based on ROA. Furthermore, there is a divergence from the studies by Suteja, Gunardi, and Auristi (2017), Kaur and Vij (2017), and Al Farooque, Buachoom, and Sun (2019) when they comment that board meetings are positively associated with financial performance and that the frequency of such meetings can generate benefits for CG such as more significant promotion of social responsibility and innovation for sustainability.

Given these results, some hypotheses can be confirmed, others refuted, and others cannot be confirmed or refuted for not presenting significant results. To better understand the results of each research hypothesis, Table 07 shows the status of each one.

Table 07
Research Hypotheses

Hypothesis	**Hypothesis Status**
H1. Board heterogeneity is positively related to financial performance.	*Refuted*
H2. Duality on the board is negatively associated with financial performance.	***Confirmed***

to be continued

to be continued

H3. Board heterogeneity is positively related to financial performance.	*Refuted*
H4. The existence of independent members above the percentage required by law is positively associated with performance.	*Refuted*
H5. Board size is positively associated with financial performance.	***Confirmed***
H6. Companies audited by a Big Four are positively associated with financial performance.	***Confirmed***
H7. The number of annual board meetings is positively associated with financial performance.	*Refuted*

Source: Research data (2022).

The results show that, when it comes to the CG of cyclical and non-cyclical consumer companies in the B3's *Novo Mercado*, the size of the board of directors and the company being audited by one of the four large audit firms have a positive relationship with the financial performance of the companies. In contrast, gender diversity in CG groups does not present conclusive results; therefore, no information can be inferred regarding the inclusion of women in strategic groups. Furthermore, independent board members, board duality, and number of annual meetings show a negative relationship with financial performance.

With these results, it is possible to analyze that CG exerts significant influence on companies. Efficient and effective governance management brings better market strategies, a greater propensity to adaptability in uncertain times, and more transparency to a company, and this set of elements tends to promote sustainable development, especially in the financial aspect. Thus, a well-organized governance structure can create value within the company and improve its financial performance.

When there is a more accurate governance structure, it creates a more dynamic and adaptable environment to market changes. In addition, the development and improvement of advisory committees (especially the audit committee) are fundamental, as they help the other CG agents search for better results and representativeness in the market where they operate, aligned with the principles that govern CG and the company's strategies. Along with this, there is more outstanding promotion and better data dissemination, informing the company's precepts and future objectives.

Thus, the development of better CG mechanisms in emerging countries - such as Brazil - is of paramount importance for the progress of companies and corporate environments in general. To the extent that more precise governance mechanisms are adopted, there is a greater propensity for interest in domestic or foreign investments. Finally, Brazilian companies gradually realize that developing these strategic groups is fundamental to their survival in the corporate environment.

5 Final considerations

CG emerged from the need for a connection between investors and the company. Over time, it ceased to have a supporting role to assume a highly strategic and important role in the corporate environment, being responsible for promoting greater transparency, control, and security. Such an occurrence refers to this strategic group as a link to financial performance due to the existing relationship between such factors and investors, who value clear, objective, and safe information.

In the Brazilian stock market, the evolution was not different. The publicly traded companies that trade their shares on B3 - *Brasil, Bolsa, Balcão* are increasingly aware of the benefits of efficient governance management. Moreover, the country's regulatory bodies have been assiduously encouraging the promotion and development of governance in companies. An example of this is the continuous updating of the rules to integrate the *Novo Mercado* into the stock exchange, which is increasingly demanding for companies, but also increasingly transparent, safe, and attractive to investors.

Based on this context, this study sought to analyze the relationship between CG and companies' financial performance in cyclical and non-cyclical segments in the *Novo Mercado* of B3- *Brazil, Bolsa, Balcão*. Initially, the literature guided the most debated variables regarding governance, and then the index that led the research was elaborated. The study included 178 observations, of which the general analysis of the governance structure of the chosen population was made, and the statistical metrics - Pearson correlation and linear regression - were applied to analyze the relationship between the two quantities.

With regard to the information on governance and its structure to its stakeholders, most companies present it directly and clearly in their communication media; however, the companies that disclose such information in their MR available on B3's website are rare. Similarly, it is not the habit of Brazilian companies to inform whether or not they have advisory committees. Another unusual aspect is the gender diversity in the strategic groups of stock market companies, given that approximately only half of the companies in this study had heterogeneous executive board and board of directors.

It was also possible to identify that duality continues to be a common practice at publicly traded companies in Brazil. Regarding languages, it is worth noting that most companies had translations on their website only into English, and one company had translations into English and Spanish on the investor relations tab during this research collection.

About the quantitative data, the results show that the size of the board of directors and the company being audited by a Big four have a positive relationship with the financial performance of companies. However, contrary to what was expected to be found, gender diversity in CG groups does not show conclusive results, and, in view of this, it is not possible to infer anything regarding the inclusion of women in strategic groups. Furthermore, independent board members, board duality, and number of annual meetings show a negative relationship with financial performance. With these results, this research's general objective and specific objectives were met, and it was possible to verify the implications that this strategic group can have on the company's financial performance.

It is possible to note that CG in Brazil has evolved considerably in the last decades, but aspects can still be improved. There are still lessons to be learned and better mechanisms to be developed, intending to present itself as a company that is increasingly safe, strong, and transparent to investors. This security will come from the association of all the groups involved in governance, i.e., from committees and councils to the executive board. Only a robust governance structure provides greater robustness in terms of reliability, security, and data transparency, which ultimately attracts more investors due to the protection offered by the company.

Hence, the contribution of the research is focused on a better understanding of the CG structure of Brazilian companies that are part of the highest level of governance of the Brazilian stock market, under the improved analysis of how this corporate arrangement is based and its impacts on financial performance. The study contributes by demonstrating that CG in Brazil is evolving but can be improved and become more robust. It also contributes to the practice, presenting a CG quantification method applicable to Brazilian companies after the regulatory agencies' changes.

This study faced some limitations. The first is the number of companies studied, tapered to two segments of the *Novo Mercado*. Therefore, the data refer to cyclical and non-cyclical consumption, so they cannot be generalized to the other levels of CG and to segments of branches of activities existing at B3. The second limitation refers to the years analyzed; studies conducted in different years from 2018 to 2020 tend to have different results. The third limiting factor is related to the financial indexes used; although these indexes are widely used in the literature, the data from this research cannot be disseminated to other financial indexes. The fourth factor refers to the proposed governance index; the results obtained here are based on the formulated index, and, therefore, different variables tend to generate different results. Finally, the fifth limitation deals with the statistical methods applied, for which different statistical metrics may present different results.

Based on these limitations, a range of options arise for future research: a) as to the CG index, it is suggested to apply it to more dimensions such as fiscal council, ownership structure, company size, and longevity in the market; b) as to the expansion of the sample, in which one can apply the index in the other segments of the *Novo Mercado*, besides being able to apply the index in other levels of B3, such as Level I and Level II, and compare the results with those obtained in this research; c) as for the application of statistical tests, it is suggested for other works the application of Spearman's correlation and other statistical metrics; d) in relation to the years analyzed, it is recommended to extend the study period and check whether the data has changed; e) finally, as for the application of the proposed governance index, it is suggested to apply it to private sector companies and compare the possible differences between the governance structures of the private sector *versus* SAs.

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APPENDIX A - STUDY POPULATION

Company		2018	2019	2020
Alphaville SA	Cyclical Consum.	x	x	x
Americanas SA	Cyclical Consum.	x	x	x
Anima Holding SA	Cyclical Consum.	x	x	x
Arezzo Indústria e Comércio SA	Cyclical Consum.	x	x	x
Aracadão AS	Non-Cyclical Cons.	x	x	x
Bk Brasil Operação e Assessoria a Restaurantes SA	Cyclical Consum.	x	x	x
Brasilagro – Cia Bras de Prop Agrícolas	Non-Cyclical Cons.	x	x	x
Brf AS	Non-Cyclical Cons.	x	x	x
Camil Alimentos SA	Non-Cyclical Cons.		x	x
Cea modas SA	Cyclical Consum.	x	x	x
Cia Brasileira de Distribuição	Non-Cyclical Cons.	x	x	x
Cia Locação das Américas	Cyclical Consum.	x	x	x
Cogna Educação SA	Cyclical Consum.	x	x	x
Construtora Tenda SA	Cyclical Consum.		x	x
Cury Construtora e Incorporadora SA	Cyclical Consum.	x	x	x
Cvc Brasil Operadora e Agência de Viagens SA	Cyclical Consum.	x	x	x
Direcional engenharia SA	Cyclical Consum.	x	x	x
Even Construtora e Incorporadora SA	Cyclical Consum.	x	x	x
Ez tec empreend. e Participações SA	Cyclical Consum.	x	x	x
Gafisa AS	Cyclical Consum.	x	x	x
Grendene AS	Cyclical Consum.			x
Grupo de Moda Soma SA	Cyclical Consum.			x
Grupo Mateus SA	Non-Cyclical Cons.		x	x
Grupo SBF SA	Cyclical Consum.	x	x	x
Helbor empreendimentos SA	Cyclical Consum.	x	x	x
International Meal Company Alimentação SA	Cyclical Consum.	x	x	x
Iochpe Maxion SA	Cyclical Consum.	x	x	x
Jbs AS	Non-Cyclical Cons.	x	x	x
Jhsf Participações SA	Cyclical Consum.			x
Lavvi Empreendimentos Imobiliários SA	Cyclical Consum.	x	x	x
Localiza Rent a Car SA	Cyclical Consum.			x
Lojas Quero-Quero SA	Cyclical Consum.	x	x	x
Lojas Renner SA	Cyclical Consum.	x	x	x
M. Dias branco SA	Non-Cyclical Cons.	x	x	x
Magazine Luiza SA	Cyclical Consum.	x	x	x
Mahle-metal Leve SA	Cyclical Consum.	x	x	x
Marfrig Global Foods SA	Non-Cyclical Cons.	x	x	x
Marisa Lojas SA	Cyclical Consum.			x
Melnick Desenvolvimento Imobiliário SA	Cyclical Consum.	x	x	x
Minerva AS	Non-Cyclical Cons.			x
Mitre Realty Empreendimentos e Participações SA	Cyclical Consum.			x
Moura Dubeux Engenharia SA	Cyclical Consum.	x	x	x
Movida Participações SA	Cyclical Consum.	x	x	x

MRV Engenharia e Participações SA	Cyclical Consum.		x	x
Natura & co Holding SA	Non-Cyclical Cons.	x	x	x
Pdg Realty SA Empreend e Participações	Cyclical Consum.			x
Pet Center Comércio e Participações SA	Cyclical Consum.			x
Plano & Plano Desenvol Imob SA	Cyclical Consum.	x	x	x
Pomifrutas SA	Non-Cyclical Cons.	x	x	x
Restoque Comércio e Confecções de Roupas SA	Cyclical Consum.	x	x	x
Rni Negócios Imobiliários SA	Cyclical Consum.	x	x	x
Rossi Residencial SA	Cyclical Consum.	x	x	x
São Martinho SA	Non-Cyclical Cons.	x	x	x
Ser Educacional SA	Cyclical Consum.	x	x	x
SLC Agricola SA	Non-Cyclical Cons.	x	x	x
Smartfit Escola de Ginástica e Dança SA	Cyclical Consum.	x	x	x
Springs Global Participações SA	Cyclical Consum.	x	x	x
Syn Prop e Tech SA	Non-Cyclical Cons.	x	x	x
T4f Entretenimento SA	Cyclical Consum.	x	x	x
Technos AS	Cyclical Consum.	x	x	x
Tecnisa AS	Cyclical Consum.	x	x	x
Trisul AS	Cyclical Consum.	x	x	x
Unicasa Indústria de Móveis SA	Cyclical Consum.	x	x	x
Via AS	Cyclical Consum.		x	x
Vivara Participações SA	Cyclical Consum.	x	x	x
Viver Incorporadora e Construtora SA	Cyclical Consum.	x	x	x
Vulcabras SA	Cyclical Consum.	x	x	x
Yduqs Participações SA	Cyclical Consum.	x	x	x
Total		**53**	**57**	**68**

APPENDIX B - CORPORATE GOVERNANCE INDEX

2018

Company	D1.1	D1.2	D1.3	D1.4	D1.5	D2.1	D2.2	D2.3	D2.4	D3.1	D3.2	D3.3	D3.4	D4	D5.1	D5.2	D5.3	D5.4	ROA	ROE	EBITDA
Americanas SA	1	1	1	0	0	1	1	1	1	0	0	0	1	7	0	1	0	1	-3.05	-11.25	412,315
Anima Holding SA	1	1	1	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	0.16	0.34	92,976
Arezzo Ind e Com SA	1	1	0	0	0	1	1	1	0	0	0	0	1	11	1	1	0	0	13.65	20.05	232,161
Atacadão SA	0	1	1	1	0	0	0	0	0	1	1	0	1	8	1	1	0	0	5.10	13.30	3,891,000
Bk Brasil Oper e Asse. a Rest. SA	1	1	1	0	0	1	1	1	0	1	1	0	1	11	1	1	0	0	5.07	7.46	259,964
Brasilagro - Cia Bras de Prop Agri.	1	1	1	0	0	1	0	0	0	0	0	0	0	5	1	0	0	0	17.90	26.10	301,123
BRF SA	1	1	1	0	0	1	1	0	0	1	1	0	1	25	1	1	0	0	-10.50	-59.03	1,540,867
Camil Alimentos SA	0	1	1	0	0	0	1	1	0	1	0	0	1	8	1	1	1	1	7.90	16.20	487,416
Cia Brasileira de Distrib.	0	1	1	1	0	0	1	1	0	1	0	0	1	22	1	1	0	0	2.20	8.50	3,066,000
Cia Locação das Américas	1	1	0	0	0	0	0	1	0	0	0	0	0	28	1	0	0	1	2.16	7.37	840,714
Cogna Educação SA	0	1	0	1	0	1	1	1	0	1	0	0	1	14	1	1	0	1	4.55	8.70	1,721,676
Construtora Tenda SA	1	1	1	1	0	0	0	1	1	0	0	0	1	17	1	0	0	1	7.68	16.73	243,490
Cvc Brasil Op. Ag. de Viag. SA	0	1	1	1	0	1	1	1	1	0	0	0	1	36	1	1	0	0	4.29	23.72	659,063
Direcional Engenharia SA	0	1	0	0	1	1	1	1	0	0	0	0	1	8	1	1	0	0	-1.59	-5.31	-10,682
Even Const. e Incorp. SA	0	1	0	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	-2.97	-7.78	-148,174
Ez Tec Emp. e Particip. SA	0	1	0	0	0	0	1	1	0	0	0	0	1	6	1	1	0	0	3.44	3.87	6,049
Gafisa SA	0	0	0	0	1	0	0	1	1	1	1	1	0	21	1	1	0	1	-16.68	-85.42	-341,216
Grendene SA	0	1	1	1	0	0	0	1	0	0	0	0	1	5	1	1	0	1	15.17	16.90	522,724
Helbor Empreend. SA	0	1	0	1	1	0	1	1	0	0	0	0	0	5	1	0	0	0	-8.24	-29.67	-305,448
International Meal Comp. Ali. SA	1	1	1	1	1	1	1	1	0	0	0	1	0	11	1	0	0	0	0.48	0.78	102,804
Iochpe Maxion SA	0	1	0	1	0	0	1	1	0	1	0	0	1	22	1	1	0	0	3.39	9.57	1,057,068
JBS SA	0	1	0	0	0	1	1	1	1	1	0	0	0	15	1	1	0	1	0.20	0.80	11,988,839
Jhsf Particip. SA	0	1	1	1	0	0	1	1	1	1	1	0	1	14	1	1	0	1	4.06	8.62	342,126
Localiza Rent a Car SA	0	1	0	1	0	1	1	1	1	1	1	0	1	16	1	1	0	1	4.71	21.30	1,590,142
Lojas Renner SA	1	1	1	1	0	1	1	1	0	1	1	0	1	12	1	1	0	1	11.56	25.80	1,738,395
M.Dias Branco SA Ind Com de Ali.	1	1	0	0	0	1	1	1	0	0	0	0	1	10	0	1	0	1	9.30	13.00	933,120
Magazine Luiza SA	1	1	0	1	0	1	1	1	0	1	1	0	1	13	1	1	0	0	6.79	25.94	1,245,241
Mahle-Metal Leve SA	0	0	1	1	0	0	1	1	0	0	0	0	1	14	1	0	0	1	12.65	21.66	466,811
Marfrig Global Foods SA	0	1	0	0	0	1	1	1	0	1	0	0	0	12	1	0	0	1	8.10	53.70	1,075,246
Marisa Lojas SA	1	1	1	1	1	1	1	1	0	0	1	0	1	4	1	0	0	0	0.90	2.91	417,904
Minerva SA	0	1	0	0	0	0	0	0	0	0	0	0	1	27	1	1	0	0	-9.90	82.98	896,244
Movida Particip. SA	0	1	1	1	0	0	1	1	0	0	0	0	1	22	1	1	0	1	3.08	9.63	481,738
MRV Eng. e Particip. SA	1	1	1	1	0	1	1	1	0	1	1	0	1	12	1	1	0	1	5.56	15.55	805,611
Pdg Realty SA Emp. e Particip.	0	0	1	1	1	0	1	1	0	0	0	0	0	10	1	1	0	0	-34.20	-21.15	-359,089
Pomifrutas SA	0	0	0	1	1	1	0	0	1	0	0	0	0	2	1	0	0	0	-20.80	-10.94	-10,787
Restoque Com. e Conf. de Roup. SA	1	1	1	1	0	1	1	1	0	0	0	1	0	12	1	0	0	0	2.79	4.65	350,601
Rni Neg. Imob. SA	0	0	1	1	0	0	1	1	0	1	1	0	1	12	1	1	0	0	-2.28	-4.33	-28,044

Rossi Residencial SA	0	0	0	1	0	1	1	1	0	0	0	0	0	8	1	0	0	0	-23.88	-247.47	-427,388
Sao Martinho SA	1	1	1	0	0	1	0	1	0	0	0	0	1	12	1	1	0	1	4.00	11.40	1,616,898
Ser Educacional SA	0	1	0	0	1	0	1	1	0	1	1	0	0	13	1	1	0	1	8.28	13.69	312,033
Slc Agricola SA	0	1	1	1	0	0	1	1	1	0	0	0	1	7	1	1	0	1	7.10	14.50	768,988
Smartfit Esc. de Gin. e Dança SA	0	1	0	1	0	1	0	1	0	0	0	0	0	16	1	0	0	0	9.27	29.59	689,407
Springs Global Particip. SA	1	1	0	1	0	0	1	1	0	0	0	0	1	11	1	0	0	0	3.50	8.42	340,759
Syn Prop e Tech SA	1	1	1	1	0	1	1	1	0	0	0	0	1	9	1	0	0	0	1.39	2.80	256,920
T4f Entret. SA	0	0	0	1	0	0	1	1	0	0	0	0	1	4	1	0	0	0	1.56	3.18	37,442
Technos SA	0	1	0	1	1	0	1	1	0	0	0	0	1	2	1	0	0	0	1.81	3.09	8,380
Tecnisa SA	0	1	1	1	0	0	1	1	0	0	1	0	1	9	1	0	0	0	-14.63	-36.20	-209,001
Trisul SA	0	1	0	1	0	0	0	1	0	0	0	0	0	4	1	0	0	1	7.08	12.82	102,746
Unicasa Ind. de Móv. SA	0	1	0	1	0	0	1	1	1	0	0	0	0	6	1	0	0	1	1.56	1.98	10,482
Via SA	0	1	0	1	0	0	1	1	0	1	1	0	1	19	1	1	0	0	-1.27	-10.58	685,000
Viver Incorp. e Const. SA	0	1	1	1	0	0	1	1	0	1	1	0	0	15	1	1	0	0	-30.65	-430.55	-81,863
Vulcabras SA	0	1	0	1	0	0	1	1	1	0	0	0	1	11	1	0	0	1	11.46	16.16	218,013
Yduqs participacoes SA	1	1	1	1	0	0	1	1	0	1	1	0	1	13	1	1	0	1	15.72	24.89	967,392

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Company	D1.1	D1.2	D1.3	D1.4	D1.5	D2.1	D2.2	D2.3	D2.4	D3.1	D3.2	D3.3	D3.4	D4	D5.1	D5.2	D5.3	D5.4	ROA	ROE	EBITDA
Americanas SA	1	1	1	0	0	1	1	1	1	0	0	0	1	7	0	1	0	1	-1.98	-5.55	626,359
Anima Holding SA	1	1	1	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	-0.40	-1.39	243,063
Arezzo Ind e Com SA	1	1	0	0	0	1	1	1	0	0	0	0	1	11	1	1	0	0	11.47	21.73	303,424
Atacadão SA	0	1	1	1	0	0	0	0	0	1	1	0	1	8	1	1	0	0	3.00	9.00	3,852,000
Bk Brasil Oper e Asse. a Rest. SA	1	1	1	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	1.38	2.72	320,310
Brasilagro - Cia Bras de Prop Agri.	1	1	1	0	0	1	0	0	0	0	0	0	0	4	1	0	0	0	6.70	10.80	142,183
BRF SA	1	1	1	0	0	1	1	0	0	1	1	0	1	22	1	1	0	0	0.70	3.70	5,254,051
Camil Alimentos SA	0	1	1	0	0	0	1	1	0	1	0	0	1	15	1	1	1	1	5.00	12.10	419,950
Cea Modas SA	1	1	1	0	1	1	1	1	0	1	1	0	1	6	1	1	0	0	16.10	35.48	1,561,802
Cia Brasileira de Distrib.	0	1	1	1	0	0	1	1	0	1	0	0	1	25	1	1	0	0	1.40	6.20	3,525,000
Cia Locação das Américas	1	1	0	0	0	0	0	1	0	0	0	0	1	25	1	0	0	1	3.06	8.66	1,269,858
Cogna Educação SA	0	1	0	1	0	1	1	1	1	1	0	0	1	16	1	1	0	1	0.71	1.53	2,214,678
Construtora tenda SA	0	1	1	1	0	0	0	1	1	0	0	0	1	15	1	0	0	1	7.60	19.56	322,381
Cvc Brasil Op. Ag. de Viag. SA	0	1	1	1	0	1	1	1	1	0	0	0	1	25	1	1	0	0	-0.03	-0.23	428,358
Direcional Engenharia SA	0	1	0	0	1	1	1	1	0	0	0	0	1	6	1	1	0	0	2.60	8.82	228,889
Even Const. e Incorp. SA	0	1	0	0	0	1	1	1	0	1	1	0	1	14	1	1	0	0	2.86	7.60	182,861
Ez Tec Emp. e Particip. SA	0	1	0	0	0	0	1	1	0	0	0	0	1	14	1	1	0	0	6.79	7.62	229,647
Gafisa SA	0	1	1	1	0	1	0	1	1	1	1	0	0	32	1	1	0	1	-0.55	-1.58	24,427
Grendene SA	0	1	1	1	0	0	0	1	0	0	0	0	1	5	1	1	0	1	12.18	13.44	430,750
Grupo SBF SA	1	1	1	1	0	1	0	1	0	0	0	0	1	19	1	0	0	0	7.87	26.50	120,987
Helbor Empreend. SA	0	1	0	1	1	0	1	1	0	0	0	0	0	5	1	0	0	0	-2.25	-6.50	22,182
International Meal Comp. Ali. SA	1	1	1	1	1	1	1	1	0	0	0	0	1	14	1	0	0	0	-0.59	-1.38	128,423
Iochpe Maxion SA	0	1	0	1	0	0	1	1	0	1	0	0	1	27	1	1	0	0	4.49	12.05	1,095,809
JBS SA	0	1	0	0	0	1	1	1	1	1	0	0	0	10	1	1	0	1	5.10	19.90	19,795,941

Jhsf Particip. SA	1	1	1	1	0	0	1	1	1	1	1	0	1	15	1	1	0	1	5.60	10.69	635,732
Localiza Rent a Car SA	1	1	0	1	0	1	1	1	1	1	1	0	1	20	1	1	0	1	4.30	15.31	2,212,756
Lojas renner SA	1	1	1	1	0	1	1	1	0	1	1	0	1	15	1	1	0	1	9.32	23.36	2,373,745
M.Dias Branco SA Ind Com de Ali.	1	1	0	0	0	1	1	1	0	0	0	0	1	10	0	1	0	1	6.90	9.20	772,054
Magazine luiza SA	1	1	0	1	0	1	1	1	0	1	1	0	1	10	1	1	0	0	4.66	12.19	1,775,538
Mahle-Metal Leve SA	0	0	1	1	0	0	1	1	0	0	0	1	0	15	1	0	0	1	10.99	19.73	440,835
Marfrig Global Foods SA	0	1	0	0	0	1	1	1	0	1	0	0	0	12	1	0	0	1	5.00	89.11	4,609,868
Marisa lojas SA	1	1	1	1	1	1	1	1	0	0	1	0	1	14	1	0	0	0	-2.80	-7.91	394,922
Minerva SA	0	1	0	0	0	0	0	0	0	0	0	0	1	32	1	1	0	0	0.10	-5.74	1,726,076
Movida Particip. SA	0	1	1	1	0	0	1	1	0	0	0	0	1	23	1	1	0	1	3.15	9.90	746,559
MRV Eng. e Particip. SA	1	1	1	1	0	1	1	1	0	1	1	0	1	13	1	1	0	0	5.09	14.64	827,839
Natura &co holding SA	1	1	1	0	0	1	1	0	1	1	1	0	1	11	1	1	0	1	0.70	4.60	2,468,664
Pdg Realty SA Emp. e Particip.	0	0	1	1	1	0	1	1	0	0	0	0	0	4	1	1	0	0	-47.00	-18.48	-452,802
Pomifrutas SA	0	0	0	1	1	1	0	0	1	0	0	0	0	7	1	0	0	0	1.83	0.00	-1,262
Restoque Com. e Conf. de Roup. SA	1	1	1	1	0	1	1	1	0	0	0	1	0	14	1	0	0	0	-4.50	-8.46	88,452
Rni Neg. Imob. SA	0	0	1	1	0	0	1	1	0	1	1	0	1	11	1	1	0	0	0.10	0.20	12,972
Rossi Residencial SA	0	0	0	1	0	1	1	1	0	0	0	0	0	7	1	0	0	0	-15.37	-55.33	-288,181
Sao martinho SA	1	1	1	0	0	1	0	1	0	0	0	0	1	10	1	1	0	1	5.10	15.80	1,738,649
Ser Educacional SA	0	1	0	0	1	0	1	1	0	1	1	0	0	10	1	1	0	1	5.33	10.42	391,176
Slc Agricola SA	0	1	1	1	0	0	1	1	1	0	0	0	1	6	1	1	0	1	4.50	10.60	664,552
Smartfit Esc. de Gin. e Dança SA	0	1	0	1	0	1	0	1	0	0	0	0	0	26	1	0	0	0	-4.58	-14.96	617,526
Springs Global Particip. SA	1	1	0	1	0	0	1	1	0	0	0	0	0	9	1	0	0	0	1.40	3.30	172,420
Syn Prop e Tech SA	1	1	1	1	0	1	1	1	0	0	0	0	1	13	1	0	0	0	1.82	3.06	323,962
T4f Entret. SA	0	0	0	1	0	1	1	1	0	0	0	0	1	7	1	0	0	0	-11.52	-25.95	-30,349
Technos SA	0	1	0	1	1	0	1	1	0	0	0	0	1	6	1	0	0	0	-18.14	-35.61	-114,391
Tecnisa SA	0	1	1	1	0	0	1	1	0	0	1	0	1	17	1	0	0	0	-15.27	-27.72	-204,252
Trisul SA	0	1	0	1	0	0	0	1	0	0	0	0	0	4	1	0	0	1	8.40	13.82	181,712
Unicasa Ind. de Móv. SA	0	1	0	1	0	0	1	1	1	0	0	0	0	6	1	0	0	1	7.88	11.24	28,741
Via SA	0	1	0	1	0	0	1	1	0	1	1	0	1	15	1	1	0	0	-5.87	-247.92	-159,000
Vivara participaçoes SA	1	1	0	1	0	1	1	1	0	1	1	0	1	8	1	1	0	0	13.73	23.67	322,056
Viver Incorp. e Const. SA	0	1	1	1	0	0	1	1	0	1	1	0	0	12	1	1	0	0	-42.95	-164.23	-161,489
Vulcabras SA	0	1	0	1	0	0	1	1	1	0	0	0	1	9	1	0	0	1	10.56	13.16	222,445
Yduqs participacoes SA	1	1	1	1	0	0	1	1	0	1	1	0	1	12	1	1	0	1	11.72	20.83	1,260,967

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Company	**D1.1**	**D1.2**	**D1.3**	**D1.4**	**D1.5**	**D2.1**	**D2.2**	**D2.3**	**D2.4**	**D3.1**	**D3.2**	**D3.3**	**D3.4**	**D4**	**D5.1**	**D5.2**	**D5.3**	**D5.4**	**ROA**	**ROE**	**EBITDA**
Alphaville SA	0	1	1	0	0	1	1	1	0	0	1	0	1	20	1	0	0	0	-18.29	-105.82	-269,423
Americanas SA	1	1	1	0	0	1	1	1	1	0	0	0	1	7	0	1	0	1	-0.93	-2.22	782,336
Anima Holding SA	1	1	1	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	-0.90	-1.61	268,004
Arezzo Ind e Com SA	1	1	0	0	0	1	1	1	0	0	0	0	1	11	1	1	0	0	1.72	3.60	173,212
Atacadão SA	0	1	1	1	0	0	0	0	0	1	1	0	1	9	1	1	0	0	5.50	16.70	5,596,000
Bk Brasil Oper e Asse. a Rest. SA	1	1	1	0	0	1	1	1	0	1	1	0	1	16	1	1	0	0	-11.33	-24.24	-177,075

Brasilagro - Cia Bras de Prop Agri.	1	1	1	1	0	1	0	0	0	0	0	0	0	15	1	0	0	0	5.10	9.70	262,077
Brf SA	1	1	1	0	0	1	1	0	0	1	1	0	1	23	1	1	0	0	2.80	15.80	5,241,171
Camil Alimentos SA	0	0	1	0	0	0	1	1	0	1	0	0	1	15	1	1	1	1	7.00	16.70	778,116
Cea Modas SA	1	1	1	0	1	1	1	1	0	1	1	0	1	10	1	1	0	0	-2.28	-6.27	388,537
Cia Brasileira de Distrib.	0	1	1	1	0	0	1	1	0	1	0	0	1	18	1	1	0	0	4.40	13.80	5,193,000
Cia Locação das Américas	1	1	0	0	0	0	0	1	0	0	0	0	1	31	1	0	0	1	2.67	9.21	1,326,514
Cogna Educação SA	0	1	0	1	0	1	1	1	1	1	0	0	1	12	1	1	0	1	-18.86	-40.64	-2,083,906
Construtora Tenda SA	1	1	1	1	0	0	0	1	1	0	0	0	1	14	1	0	0	1	4.71	13.16	294,707
Cury Const. e Incorp. SA	1	1	0	0	0	0	0	1	0	1	1	0	1	1	1	1	0	0	11.60	29.60	240,104
Cvc Brasil Op. Ag. de Viag. SA	0	1	1	1	0	1	1	0	1	0	0	0	1	23	1	1	0	0	-24.07	-2,127.61	-1,190,592
Direcional Engenharia SA	0	1	0	0	1	1	1	1	0	0	0	0	1	13	1	1	0	0	2.94	11.20	262,808
Even Const. e Incorp. SA	0	1	0	0	0	1	1	1	0	1	1	0	1	22	1	1	0	0	1.03	2.15	280,421
Ez Tec Emp. e Particip. SA	0	1	0	0	0	0	1	1	0	0	0	0	1	14	1	0	0	0	8.80	10.03	275,372
Gafisa SA	0	1	1	1	0	0	0	1	1	1	1	0	0	16	1	1	0	1	-2.05	-4.94	11,881
Grendene SA	0	1	1	1	0	0	0	1	0	0	0	0	1	9	1	1	0	1	8.67	9.58	389,248
Grupo de Moda Soma SA	0	1	0	1	0	1	1	1	0	1	1	0	1	9	1	1	0	0	-3.03	-4.47	9,920
Grupo Mateus AS	0	1	0	0	0	0	1	1	0	1	1	0	0	2	1	1	0	1	8.90	12.70	1,004,016
Grupo SBF SA	1	1	1	1	0	1	0	1	0	0	0	0	1	13	1	0	0	0	-1.82	-5.78	167,133
Helbor Empreend. SA	0	1	0	1	1	0	1	1	0	0	0	0	0	9	1	0	0	0	1.42	3.70	66,389
International Meal Comp. Ali. SA	1	1	1	1	1	1	1	1	0	0	0	0	1	14	1	0	0	0	-17.20	-40.09	-453,723
Iochpe Maxion SA	0	1	0	1	0	0	1	1	0	1	0	0	1	12	1	1	0	0	-3.40	-11.00	372,140
JBS SA	0	1	0	0	0	1	1	1	1	1	1	0	0	12	1	1	0	1	2.80	10.70	28,340,500
Jhsf Particip. SA	1	1	1	1	0	0	1	1	1	1	1	0	1	17	1	1	0	1	8.77	16.69	841,694
Lavvi Empreend. Imob. SA	1	1	0	1	0	1	0	1	0	0	0	0	0	10	1	0	0	0	7.02	9.14	119,271
Localiza Rent a Car SA	1	1	0	1	0	1	1	1	1	1	1	0	1	21	1	1	0	1	5.13	17.32	2,468,070
Lojas Quero-Quero SA	1	1	0	1	0	0	0	1	0	1	1	0	1	12	1	1	0	0	3.06	14.16	214,811
Lojas Renner SA	1	1	1	1	0	1	1	1	0	1	1	0	1	15	1	1	0	1	7.49	19.93	1,647,915
M.Dias Branco SA Ind Com de Ali.	1	1	0	0	0	1	1	1	0	0	0	0	1	15	0	1	0	1	7.90	11.50	974,270
Magazine Luiza SA	1	1	0	1	0	1	1	1	0	1	1	0	1	4	1	1	0	0	1.59	5.35	1,527,099
Mahle-Metal Leve SA	0	0	1	1	0	0	1	1	0	0	0	1	0	11	1	0	0	1	4.37	9.11	296,564
Marfrig Global Foods SA	0	1	0	0	0	1	1	1	0	1	0	0	0	13	1	0	0	1	11.50	128.90	9,247,469
Marisa Lojas SA	1	1	1	1	1	1	1	1	0	0	1	0	1	11	1	0	0	0	-12.83	-43.57	5,583
Melnick Desenvolv. Imobiliário SA	0	1	0	1	0	0	1	1	0	1	1	0	1	3	1	1	0	0	3.19	4.77	57,615
Minerva SA	0	1	0	0	0	0	0	0	0	0	0	0	1	26	1	1	0	0	4.10	83.00	2,102,435
Mitre Realty Emp. e Particip. SA	1	1	1	1	0	0	1	1	0	1	1	0	1	14	1	1	0	1	3.72	4.87	40,306
Moura Dubeux Engenharia SA	0	1	1	1	0	0	1	1	0	1	1	0	0	15	1	1	0	0	-5.03	-10.44	-67,852
Movida Particip. SA	0	1	1	1	0	0	1	1	0	0	0	0	1	16	1	1	0	1	1.28	4.62	717,181
MRV Eng. e Particip. SA	1	1	1	1	0	1	1	1	0	1	1	0	1	17	1	1	0	0	3.44	10.29	823,466
Natura &co Holding SA	1	1	1	0	0	1	1	0	1	1	1	0	1	24	1	1	0	1	-1.10	-2.40	3,508,453
Pdg Realty SA Emp. e Particip.	0	0	1	1	1	0	1	1	0	0	0	0	0	7	1	1	0	0	-26.40	-8.48	-273,918
Pet Center Com. e Particip. SA	1	1	0	1	0	0	1	1	0	1	1	0	1	7	1	1	0	0	3.08	11.34	265,070
Plano & Plano Des. Imob. SA	0	1	0	0	0	1	0	1	0	1	1	0	0	8	1	1	0	0	13.75	57.44	166,463
Pomifrutas SA	0	0	0	1	1	1	0	0	1	0	0	0	0	5	1	0	0	0	6.40	-3.28	1,940

Restoque Com. e Conf. de Roup. SA	1	1	1	1	0	1	1	1	0	0	0	1	0	19	1	0	0	0	-93.03	-724.31	-126,407
Rni Neg. Imob. SA	0	0	1	1	0	0	1	1	0	1	1	0	1	13	1	1	0	0	0.27	0.69	16,921
Rossi Residencial SA	0	0	0	1	0	1	1	1	0	0	0	0	0	9	1	0	0	0	-0.55	-1.60	-375,144
Sao Martinho SA	1	1	1	0	0	1	0	1	0	0	0	0	1	10	1	1	0	1	7.00	21.40	2,221,937
Ser Educacional SA	0	1	0	0	1	0	1	1	0	1	1	0	0	13	1	1	0	1	5.34	11.57	488,845
Slc Agricola SA	0	1	1	1	0	0	1	1	1	0	0	0	1	7	1	1	0	0	5.90	16.20	900,616
Smartfit Esc. de Gin. e Dança SA	1	1	0	1	0	1	0	1	0	0	0	0	0	6	1	0	0	0	-7.12	-24.48	310,443
Springs Global Particip. SA	1	1	0	1	0	0	1	1	0	0	0	0	0	7	1	0	0	0	-10.10	-29.02	143,174
Syn Prop e Tech SA	1	1	1	1	0	1	1	1	0	0	0	0	1	12	1	0	0	0	2.60	4.35	312,631
T4f Entret. SA	0	0	0	1	0	1	1	1	0	0	0	0	1	6	1	0	0	0	-20.67	-57.60	-62,136
Technos SA	1	1	0	1	1	0	1	1	0	0	0	0	1	3	1	0	0	0	-4.70	-8.90	1,471
Tecnisa SA	0	1	1	1	0	0	1	1	0	0	1	0	1	20	1	0	0	0	-9.57	-21.09	-135,278
Trisul SA	0	1	0	1	0	0	0	1	0	0	0	0	0	4	1	0	0	1	8.44	15.14	214,818
Unicasa Ind. de Móv. SA	0	1	0	1	0	0	1	1	1	0	0	0	0	7	1	0	0	1	7.23	9.51	26,452
Via SA	0	1	0	1	0	0	1	1	0	1	1	0	1	15	1	1	0	1	3.04	16.79	2,531,000
Vivara Particip. SA	1	1	0	1	0	1	1	1	0	1	1	0	1	11	1	1	0	0	6.85	12.52	263,351
Viver Incorp. e Const. SA	0	1	1	1	0	0	1	1	0	1	1	0	0	16	1	1	0	0	-56.03	-79.74	-143,437
Vulcabras SA	0	1	0	1	0	0	1	1	1	0	0	0	1	8	1	0	0	1	1.88	2.80	112,244
Yduqs Particip. SA	1	1	1	1	0	0	1	1	0	1	1	0	1	13	1	1	0	1	1.06	3.06	895,315