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CORPORATE GOVERNANCE, PANDEMIC, AND THE FINANCIAL PERFORMANCE OF BRAZILIAN COMPANIES

GOVERNANÇA CORPORATIVA, PANDEMIA E DESEMPENHO FINANCEIRO DAS EMPRESAS BRASILEIRAS

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ABSTRACT

Purpose: This paper analyzed the relationship between corporate governance and financial performance of Brazilian firms during the COVID-19 pandemic.

Method/approach: The study analyzed 126 firms listed on the B3 exchange from 2019 to 2022, covering the year prior to the pandemic, the most severe year of the crisis, and the two years of economic recovery. Initially, principal component analysis (PCA) was used to identify eight dimensions explaining financial performance and to measure indices of adoption best corporate governance practices recommended by both the market and academia. Subsequently, the relationship between corporate governance indices and the financial indicators representing these performance dimensions was investigated through regression analysis.

Main findings: During the pandemic period, an increase in corporate governance indices was observed, alongside significant changes in six dimensions of financial performance. Regression analysis indicated that corporate governance had a positive relationship with leverage (2020) and a negative relationship with profitability (2020) and market value (2021).

Theoretical, practical/social contributions: Theoretically, the hypothesis that the financial effectiveness of corporate governance is corroborated as being affected by environmental characteristics. In practice, it is suggested that corporate governance may have contributed to increasing access to debt and combating short-term managerial myopia during the most critical period of the pandemic.

Originality/relevance: The study contributes to the literature by investigating the relationship between corporate governance and financial performance during a crisis caused by a factor

exogenous to the corporate environment. The analysis of financial performance from a multidimensional perspective is also noteworthy.

Keywords: Corporate governance. Pandemic. Financial performance.

RESUMO

Objetivo: Analisou-se a relação entre governança corporativa e desempenho financeiro das empresas brasileiras durante a pandemia de COVID-19.

Método/abordagem: Analisou-se 126 empresas listadas na B3 no período de 2019-2022, englobando o ano anterior à pandemia, o ano mais severo da crise e os dois anos de recuperação econômica. Inicialmente foram identificados por meio de análise de componentes principais oito dimensões que explicam o desempenho financeiro, bem como mensurados índices de adoção de práticas de governança corporativa recomendadas pelo mercado e pela academia. Em seguida foi investigada a relação entre os índices de governança corporativa e indicadores financeiros que representam as dimensões do desempenho financeiro, por meio de análise de regressão.

Principais Resultados: Durante o período da pandemia observou-se crescimento dos índices da governança corporativa e alterações significativas em seis dimensões do desempenho financeiro. A análise de regressão indicou que a governança corporativa apresentou relação positiva o endividamento (2020) e relação negativa com indicadores de rentabilidade (2020) e valor de mercado (2021).

Contribuições teóricas/práticas/sociais: No campo teórico, corrobora-se a hipótese de que a eficácia financeira da governança corporativa é afetada por características ambientais. Na prática, sugere-se que a governança corporativa pode ter contribuído para elevar o acesso à dívida e combater a miopia gerencial de curto prazo no período mais crítico da pandemia.

Originalidade/relevância: O trabalho agrega à literatura ao investigar a relação entre governança corporativa e desempenho financeiro durante uma crise ocasionada por um fator exógeno ao ambiente corporativo. Também se destaca a análise do desempenho financeiro sob uma perspectiva multidimensional.

Palavras-chave: Governança corporativa. Pandemia. Desempenho financeiro.

1 INTRODUCTION

Between March 2020 and mid-2022, the world experienced one of the largest economic crises of the 21st century, driven by the effects of the COVID-19 pandemic. Economic crises can lead to lost investment opportunities, reduced production, sales, and profitability, as well as asset deterioration for firms, ultimately impairing corporate performance (Jebran & Chen, 2021). In Brazil, the pandemic-induced economic crisis was further exacerbated by low economic momentum and the lingering effects of the 2015–2016 recession (Silber, 2020). According to data from the Brazilian Institute of Geography and Statistics (IBGE, 2024), the Brazilian economy registered a contraction in Gross Domestic Product (GDP) between the second quarter of 2020 and the first quarter of 2021. In the capital market, the Ibovespa dropped by over 31.5% during March 2020, reflecting the pricing-in of pandemic-related information across firm stock prices (Avelar et al., 2021).

Among the factors that can mitigate the negative financial consequences of the COVID-19 crisis is a firm's internal corporate governance system (Jebran & Chen, 2023; Khatib & Nour, 2021). Theoretically, adopting sound corporate governance practices should make firms more resilient and less vulnerable to fraud during the economic fallout of the COVID-19 pandemic (Musa et al., 2022; Matuella et al., 2023). In this context, corporate governance is expected to influence financial performance during crisis periods by curbing managerial opportunism—such as the distortion of firm performance for private gain—and by enhancing access to external funding to secure liquidity and buffer economic volatility. Indeed, a robust internal corporate governance mechanism can facilitate access to external finance, improve operating performance, enhance market value, and reduce stock price volatility (Claessens & Yurtoglu, 2013).

One way to evaluate the financial performance of firms during the pandemic is by analyzing the information contained in their financial statements (Avelar et al., 2021). Through financial statement analysis, it is possible to measure firm performance in terms of liquidity, leverage, activity, profitability, and market metrics (Gitman & Zutter, 2017). However, existing literature primarily focuses on market-based indicators or is restricted to the first year of the pandemic due to the limited availability of accounting data at the time (Koutoupis et al., 2021). Compared to prior crises, the COVID-19 pandemic triggered a unique shock—originating from a public health crisis that impacted firms on both the supply and demand sides, largely driven by lockdown policies (Hassan et al., 2023; Shen et al., 2020). Consequently, the effect of internal corporate governance quality on the financial performance of Brazilian firms during the COVID-19 crisis may differ from that observed in previous economic downturns.

Although the country experienced two additional waves of COVID-19 in 2021 and 2022, the Brazilian economy showed signs of full recovery, with GDP growing by 2.9% in 2022 (Carvalho & Bastos, 2023). Now that financial statements covering the entire pandemic period are available, it is possible to assess more accurately whether internal corporate governance quality contributed to the financial performance of Brazilian firms during the pandemic. In this context, this study addresses the following research question: What was the effect of corporate governance on the financial performance of Brazilian firms during the COVID-19 pandemic?

The objective of this study was to analyze the relationship between corporate governance and the financial performance of Brazilian firms during the COVID-19 pandemic by investigating the trajectory of key financial performance dimensions (liquidity, leverage, activity, profitability, and market metrics) for 126 firms listed on B3 over the 2019–2022 period, and its association with the adoption of corporate governance practices.

This study adds to the literature investigating the relationship between corporate governance and corporate financial performance by using the COVID-19 economic crisis as an exogenous shock that helps evaluate the effectiveness of corporate governance in shielding firms from the adverse financial effects of the crisis and/or aiding in their recovery (Zattoni & Pugliese, 2021). Prior literature has primarily focused on profitability and market-based indicators, yielding inconclusive results (Alencar et al., 2023; Brandão, 2025; Oliveira et al., 2021). By examining liquidity, leverage, activity, profitability, and market-based indicators, this research provides a more comprehensive assessment of the financial benefits (or drawbacks) of corporate governance for firms, offering a foundation to further explore these effects in future research. Corporate governance, in turn, is measured based on academic and market recommendations, bringing greater robustness to the empirical findings. Furthermore,

the analyzed timeframe encompasses distinct stages of the crisis: the pre-pandemic year, the most severe year of the shock, and the two subsequent years of economic recovery.

In this context, it is possible to track the behavior of the economic performance of Brazilian firms across the entire pandemic period, as well as to understand how corporate governance was associated with this performance at each of these stages.

In practical terms, the research findings can contribute to the discussion on how effective market and academic recommendations are regarding the internal corporate governance system of Brazilian companies during crisis periods. This discussion is relevant to the enhancement of corporate governance structures in firms in order to mitigate the negative effects of future crises on performance. In particular, the study indicates in which dimensions of financial performance the adoption of corporate governance practices proved relevant, which can support managers, investors, and capital market regulators in Brazil in evaluating corporate governance effectiveness.

In the social realm, corporate governance is viewed as one of the pillars of corporate sustainability, capable of generating value not only for shareholders, but for all corporate stakeholders (Benites & Polo, 2013). In this sense, during periods of economic crisis, such as the one investigated in this research, organizational resilience supported by the corporate governance system and evaluated through financial performance behavior should not be viewed merely as a critical factor for investors, but for all stakeholders who comprise the corporate ecosystem.

2 LITERATURE REVIEW

2.1 CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE

Corporate governance is the system by which organizations are directed and monitored, aiming to preserve and optimize the long-term economic value of the organization (Instituto Brasileiro de Governança Corporativa [IBGC], 2023). Corporate governance emerged as a mechanism to mitigate conflicts of interest between managers and external investors, known as agency conflicts (Misangyi & Acharya, 2014). To optimize their corporate governance systems, firms can adopt good governance practices, which are typically outlined in governance codes and encompass recommendations regarding the role and composition of the board of directors, relationships with shareholders and top management, independent audit and disclosure, as well as the selection, compensation, and dismissal of key executives (Aguilera & Cuervo-Cazurra, 2004).

In Brazil, the capital market is characterized by weak legal protection and low enforcement (La Porta et al., 1999), which underscores the importance of enhancing the internal corporate governance systems of firms (Claessens & Yurtoglu, 2013). In publicly traded firms, this system consists of shareholders (the general assembly), management (the board of directors and executive officers), and oversight and control bodies (specifically the fiscal council, audit committee, and internal audit) (IBGC, 2023). The primary codes of good governance are developed by capital market entities and are voluntary, most notably the Brazilian Corporate Governance Code – Publicly Held Companies (2016) and the Code of Best Corporate Governance Practices (2023). Beyond these codes, B3 features special listing segments and corporate governance indices for listed firms, which require participating firms to voluntarily adopt specific corporate governance practices. The academic literature, in turn, has developed indices that aggregate characteristics of the corporate governance structure

that theoretically mitigate agency conflicts in Brazilian firms (Black et al., 2017; Brandão et al., 2024; Peixoto et al., 2014).

The effectiveness of corporate governance, within the framework of Agency Theory, is tied to the reduction of agency conflicts (Dey, 2008). From this perspective, the Finance literature has analyzed the effectiveness of a firm's internal corporate governance system by examining the relationship between the adoption of corporate governance practices and financial performance indicators (Pandey et al., 2023). According to this literature, better management of agency conflicts enables the firm to operate with greater efficiency, thereby achieving superior financial performance (Claessens & Yurtoglu, 2013; Musa et al., 2022).

One way to investigate the effect of corporate governance on firm financial performance is by analyzing financial ratios derived from accounting statements. Accounting statements are the subject of numerous studies on corporate performance, making it possible to assess the impact of managerial decisions on a firm's capital structure, liquidity, and profitability, as well as to project future performance (Alencar et al., 2023). Indicators extracted from financial statements can be categorized into four primary groups: liquidity, leverage, activity, and profitability (Beuren et al., 2020). Liquidity, leverage, and activity ratios capture risk, whereas profitability ratios capture return (Gitman & Zutter, 2017). For publicly traded firms, market-based indicators can also be calculated by linking accounting items to stock prices, thus capturing risk and return from the equity investor's perspective (Gitman & Zutter, 2017). Given the multiplicity of financial indicators that can be derived from financial statement analysis, factor analysis techniques have been proposed to identify the primary underlying dimensions of financial performance from these ratios (Souza et al., 2017).

The empirical literature has predominantly relied on profitability and market-based indicators to evaluate the relationship between corporate governance and the financial performance of Brazilian firms, with results mostly pointing to a positive relationship (Paulo et al., 2020). Few studies assess financial performance through a multidimensional perspective (encompassing liquidity, leverage, activity, profitability, and/or market metrics). The findings support the argument that corporate governance can contribute to superior financial performance among Brazilian firms (Crisóstomo & Melo, 2015; Macedo & Corrar, 2012; Silva & Krauter, 2020).

Although classical literature grounded in Agency Theory assumes a positive relationship between corporate governance and financial performance, the literature in Organizational Sociology has advocated for viewing corporate governance as an open system, suggesting that different corporate governance practices may be more or less effective depending on the contextual nuances of distinct organizational environments (Aguilera et al., 2008). The Contingency Approach to Corporate Governance, as this theoretical perspective is known, argues that the effectiveness of adopting corporate governance practices in optimizing financial performance is contingent upon factors within the firm's internal and external environments (Dedman & Filatotchev, 2008). Among the external contingency factors that can affect the relationship between corporate governance and financial performance is the country's economic environment, which is shaped by periods of economic expansion and crisis.

2.2 EFFECTS OF CORPORATE GOVERNANCE ON FINANCIAL PERFORMANCE DURING THE COVID-19 PANDEMIC

Corroborating the Contingency Approach to Corporate Governance, the financial benefits of corporate governance should be more pronounced during periods of economic crisis. Matuella et al. (2023) argue that during these periods, there is a higher propensity for corporate fraud, making governance activities essential to managing the factors that heighten the risk of such fraud occurring. From a capital markets perspective, investors pay greater attention to firms' internal corporate governance systems when they are adversely affected by sudden and unexpected economic crises (Leung & Horwitz, 2010). The decline in stock returns during crisis periods prompts investors to scrutinize the deficiencies in firms' corporate governance systems more closely (Peixoto et al., 2014).

Unlike previous crises, the crisis caused by the COVID-19 pandemic resulted primarily from restrictive government measures implemented to combat the public health emergency—such as mobility restrictions, social distancing policies, and community lockdowns—which disrupted both firm supply and demand (Hassan et al., 2023; Khatib & Nour, 2021; Shen et al., 2020). This crisis carried short-term implications for firms, including taking on debt to address liquidity shortages, a significant reduction in business activities, and supply chain disruptions (Musa et al., 2022). In Brazil, the literature indicates that in 2020 there was a drop in profitability, a loss of market value, an expansion of operating cycles, an increase in liquidity, and higher long-term leverage (Avelar et al., 2021; Oliveira et al., 2021).

In the face of an economic crisis that affected firm financial performance primarily in the short term, Musa et al. (2022) argue that adopting corporate governance practices should make firms more resilient by mitigating unnecessary risks with a focus on long-term firm sustainability. Furthermore, the pandemic period led to an increased risk of corporate fraud, which is typically linked to deficiencies in a firm's internal corporate governance system (Matuella et al., 2023). Khatib and Nour (2021) highlight the importance of corporate governance in shaping firm policies and mitigating risk during the COVID-19 pandemic. Among the internal corporate governance mechanisms that can help firms navigate the COVID-19 crisis are risk management committees and policies, board diversity and independence, CEO duality, and ownership concentration (Hsu & Liao, 2022; Jebran & Chen, 2020; Khatib & Nour, 2021; Yamahaki et al., 2021).

The international literature has primarily investigated the relationship between corporate governance and profitability and market-based indicators before and during the pandemic, yielding mixed findings (Anas et al., 2023; Boshnak et al., 2023; Khatib & Nour, 2021; Tarighi et al., 2023; Zulpahmi et al., 2024). A study by Musa et al. (2022) was the only one identified that analyzed the effect of corporate governance on liquidity, leverage, and profitability indicators during the pandemic (2019–2020) in Slovak firms. Their findings indicate that corporate governance was negatively related to changes in short-term debt, current assets, and current liquidity (Musa et al., 2022).

In Brazil, only three studies have analyzed the relationship between corporate governance and the financial performance of Brazilian firms during the COVID-19 pandemic, both also limited to profitability and market-based indicators. Alencar et al. (2023) compared firms in B3's special listing segments with those not listed in these segments during 2019 and 2020, finding no statistically significant differences between the two groups. Oliveira et al. (2021) examined the interaction effect between listing on B3's Corporate Sustainability Index (ISE)—which requires the adoption of differentiated corporate governance practices—and the

pandemic period (2020), also finding no empirical evidence of corporate governance relevance. These findings suggest that the adoption of corporate governance practices by Brazilian firms did not affect their profitability or market value in the early stages of the pandemic. Brandão (2025) analyzed the relationship between corporate governance mechanisms and the firm value of B3-listed firms during the pandemic. The results indicated that market value gradually declined over the analyzed period (2019–2022) and was positively associated with the quality of the internal corporate governance system only in the first year of the pandemic (2020), using one of the three corporate governance proxies employed in the study.

The first research hypothesis posits that fluctuations occurred in the financial performance of Brazilian firms during the pandemic period. Given the nascent empirical literature addressing various financial performance indicators during the pandemic and the specificities of each metric, we chose not to propose directional hypotheses predicting the signs of the analyzed relationships (positive/negative). However, it is expected that the first year of the pandemic (2020) witnessed a deterioration in firm financial performance, marked by an increase in leverage and liquidity alongside a reduction in activity levels, profitability, and market value (Avelar et al., 2021; Santos et al., 2023). As the health and economic impacts of the pandemic abated in 2021, followed by a full recovery of Brazilian GDP in 2022, financial performance indicators are expected to have returned to pre-pandemic levels during those years.

Hypothesis 1: The financial performance of Brazilian firms was affected by the economic crisis caused by the COVID-19 pandemic.

The second research hypothesis posits that the alignment of Brazilian firms' internal corporate governance systems with market and academic recommendations contributed to mitigating the negative effects of the crisis. It is argued that greater alignment of the internal corporate governance system with market and academic recommendations makes the firm less susceptible to negative financial impacts during the peak of the crisis (2020) and/or fosters a more pronounced recovery in subsequent years (Zattoni & Pugliese, 2021). This is achieved by curbing the opportunistic behavior of managers who might disguise firm performance for private gain, and by enhancing the firm's access to external financing to secure liquidity and buffer economic volatility. Corporate governance is expected to be negatively related to leverage and positively related to liquidity, activity levels, profitability, and market value (Crisóstomo & Melo, 2015; Macedo & Corrar, 2012; Silva & Krauter, 2020).

Hypothesis 2: Corporate governance influenced the financial performance of Brazilian firms during the economic crisis caused by the COVID-19 pandemic.

3 METHODOLOGICAL PROCEDURES

The research can be classified as correlational, ex post facto, and quantitative. The secondary data were collected from the ComDinheiro database and institutional documents of the firms comprising the sample. Data analysis was performed using statistical software packages (Stata 12 and SPSS 20).

3.1 SAMPLE

The research population comprises publicly traded Brazilian firms. The final sample consists of 126 non-financial firms listed on B3 that had all necessary data available for the 2019–2022 period, resulting in a balanced panel of 504 firm-year observations. Financial sector firms were excluded because their financial statements follow a different structure and their operations require specific financial indicators (Souza et al., 2017). Firms with negative equity were also excluded, as this condition impairs the proper interpretation of certain financial ratios.

The 2019–2022 period was selected to include the year preceding the pandemic (2019), the year in which the economic effects of the pandemic were most severely felt in Brazil (2020), and the years of economic recovery and stabilization (2021–2022). According to data from IBGE (2024), the Brazilian economy contracted by 4.1% in 2020. In 2021 and 2022, annual Brazilian Gross Domestic Product (GDP) growth reached 4.6% and 2.9%, respectively.

3.2 VARIABLE MENSURAMENT

To measure financial performance, 20 financial ratios were initially calculated from the annual financial statements of the sampled firms, consisting of four indicators for each category (liquidity, leverage, activity, profitability, and market metrics), following Brandão (2024), who analyzed the quarterly financial performance of Brazilian firms during the COVID-19 pandemic. The 2018–2022 timeframe was considered in this stage of the analysis because the control variables in the regression analysis include one-year lagged values of the financial indicators. The data used to calculate these financial ratios were extracted from the ComDinheiro database. To mitigate the impact of outliers, all indicators were winsorized at the 5% level, with 2.5% in each tail (2.5th and 97.5th percentiles). These percentiles were selected based on a descriptive analysis of the raw data, which indicated that outliers—defined as observations exceeding three standard deviations from the mean—were concentrated beyond these threshold percentiles.

Following the computation of the financial ratios, Principal Component Analysis (PCA) was performed using SPSS 20 software. To identify the number of dimensions explaining the financial performance of Brazilian firms during the pandemic period, the scree test criterion was applied, which consists of identifying the optimal number of factors that can be extracted before the amount of unique variance begins to dominate the common variance structure (Hair et al., 2009). For subsequent analyses, the ratios with the highest factor loading from the Varimax rotated solution of each principal component identified in the PCA were used as proxies for financial performance. A surrogate variable approach was chosen over factor scores because it yields "cleaner" variables—uninfluenced by other performance metrics in their formulation—and facilitates their application in future studies (Hair et al., 2009). Furthermore, as shown in the results section (Table 2), the selected surrogate variables exhibit high correlations with the principal components (above 0.85).

Corporate governance was measured using two indices designed to assess the quality of Brazilian firms' internal corporate governance systems. Broad indices aggregating multiple corporate governance practices were selected—a methodology widely established in the literature—given that corporate governance is a latent, multidimensional construct that cannot be captured by a single variable, and considering that complementarity among governance practices can maximize their overall effectiveness. To ensure external validity, these governance indices were constructed based on best practice recommendations from

both the Brazilian capital market and the academic literature. The description of the analyzed indicators and their calculation formulas are presented in Table 1.

Table 1
Analyzed Financial Ratios

Group	Ratio	Formula
Liquidity	Cash Ratio	Cash and Cash Equivalents / Current Liabilities
	Quick Ratio	(Current Assets - Inventories) / Current Liabilities
	Current Ratio	Current Assets / Current Liabilities
	General Liquidity Ratio	(Current Assets + Long-Term Receivables) / (Current Liabilities +
Leverage	Short-Term Debt Ratio	Current Liabilities / Total Assets
	Long-Term Debt Ratio	Non-Current Liabilities / Total Assets
	Debt Structure	Current Liabilities / (Current Liabilities + Non-Current Liabilities)
	Equity Immobilization Ratio	Non-Current Assets / Equity
Activity	Days Payables Outstanding	Accounts Payable / Cost of Goods Sold
	Days Inventory Outstanding	Inventories / Cost of Goods Sold
	Days Sales Outstanding	Accounts Receivable / Net Revenue
	Asset Turnover	Net Revenue / Total Assets
Profitability	Net Margin	Net Income / Net Revenue
	Gross Margin	Gross Profit / Net Revenue
	Return on Assets	Net Income / Total Assets
	Return on Equity	Net Income / Equity
Market	Earnings Per Share	Net Income / Number of Shares
	Book Value Per Share	Equity / Number of Shares
	Tobin's Q	(Market Capitalization + Total Debt) / Total Assets
	Market-to-Book	Market Capitalization / Equity

The first index (CGI1) is based on the Corporate Governance Report (*Informe de Governança Corporativa*), retrieved from the Securities and Exchange Commission of Brazil (*Comissão de Valores Mobiliários - CVM*) website. The Corporate Governance Report is prepared annually by publicly traded Brazilian firms actively registered with the CVM and reports their compliance with 54 recommended practices from the Brazilian Corporate Governance Code for Publicly Held Companies (*Grupo de Trabalho Interagentes*, 2016). For each recommended practice, firms must declare whether they adopt it fully, partially, do not adopt it, or if it is not applicable to their reality. After excluding 10 practices that were not applicable to all firms in the sample, a score was assigned to each firm-year response across the remaining 44 practices: 1 if the firm fully adopted the practice; 0.5 if it partially adopted it; and zero if it did not adopt the practice. The annual CGI1 for each firm-year corresponds to the average score obtained across the 44 evaluated practices.

The second corporate governance index (CGI2) was constructed from data extracted from the Reference Form (*Formulário de Referência*), also available on the CVM website. CGI2 comprises nine characteristics of Brazilian firms' internal corporate governance systems commonly employed in the academic literature as proxies for corporate governance quality (Black et al., 2017; Brandão et al., 2024; Peixoto et al., 2014): general shareholder meeting (percentage of outstanding common shares); board of directors (board size, percentage of independent board members, absence of CEO duality, and female representation in management bodies); and oversight and control bodies (establishment of an audit committee, establishment of a fiscal council, and establishment of an internal audit function). A score

ranging from 0 to 1 was assigned to each characteristic. The annual CGI2 for each firm-year corresponds to the average score obtained across the nine evaluated characteristics.

The pandemic period was analyzed using binary indicator variables for the observation years: pre-pandemic (2019), economic recession (2020), economic recovery (2021), and the end of the pandemic marked by sector-wide recovery (2022). Four additional firm characteristics were included solely as control variables: firm size (SIZE), operationalized as the natural logarithm of total assets; firm age (AGE), corresponding to the number of years elapsed since registration as a public company with the CVM; ownership structure (OWN), categorized according to CVM registration records (private, state-owned, and foreign-owned); and industry sector (SECTOR), defined according to B3 industry classifications.

3.3 STATISTICAL PROCEDURES

Initially, a descriptive analysis of the evolution of financial performance and corporate governance of Brazilian firms during the pandemic period was performed in order to test the hypothesis that financial performance experienced fluctuations during the pandemic period. To this end, in addition to descriptive statistics, paired-samples t-tests of differences in means were processed, comparing the financial ratios and corporate governance indices year-by-year over the 2019–2022 period.

To test the hypothesis of the relationship between corporate governance and financial performance during the pandemic, regression analyses were conducted using the model described in Equation 1. The dependent variable ($FP_{i,t}$) represents the financial performance indicators of firm i in period t . The explanatory variables of interest ($CG_{i,t} \times YEAR_t$) are interaction terms between the corporate governance indices of firm i and the observation year t . Through this interaction, it is possible to identify, for each year of the analysis period (2019–2022), the marginal effect of corporate governance on financial performance indicators. The explanatory control variables ($CONT_{i,t}$) are: financial performance indicators of firm i in period $t - 1$; firm size, age, and ownership control type of firm i in period t ; and industry sector and observation year fixed effects. β_0 , β_1 , and β_2 are the parameters of the regression equation, and $\varepsilon_{i,t}$ is the error term.

$$FP_{i,t} = \beta_0 + \beta_1 CG * YEAR_{i,t} + \beta_2 \sum CONT + \varepsilon \quad (1)$$

To identify the panel estimation method for the regression analysis, the F test (fixed effects versus pooled OLS), the Breusch–Pagan test (random effects versus pooled OLS), and the Hausman test (fixed effects versus random effects) were conducted. Across all estimations, the test results favored fixed effects over random effects and pooled OLS. However, the low within-firm time variation of the corporate governance variables (as shown in Table 4) renders the parameter estimates inconsistent under fixed effects or first-differences specifications (Brandão et al., 2024; Wooldridge, 2002). Consequently, the models were estimated using pooled OLS. To mitigate the effects of unobserved heterogeneity, dynamic specifications incorporating a one-year lagged dependent variable among the control variables were employed (Wooldridge, 2002). To address potential heteroskedasticity and residual autocorrelation, standard errors were clustered at the firm level. Multicollinearity was ruled out based on low variance inflation factors (below 10) and the absence of high pairwise correlations among the explanatory variables (above 0.7).

4 RESULTS AND DISCUSSION

4.1 FINANCIAL PERFORMANCE DIMENSIONS

Table 2 presents the results of the principal component analysis. According to the criterion used (scree plot test), there are eight dimensions that explain the financial performance of the analyzed firms during the 2018–2022 period.

Table 2
Principal Components of Financial Performance

Financial Performance Ratio	Varimax Rotated Factor Loadings								Communality
	Principal components								
	1	2	3	4	5	6	7	8	
Short-Term Debt Ratio	0.93	-0.06	-0.14	-0.04	0.06	-0.01	-0.05	0.13	0.92
Debt Structure	0.76	0.01	0.57	0.01	0.12	0.10	-0.06	0.06	0.92
Asset Turnover	0.63	0.13	-0.02	-0.39	0.04	0.14	0.00	-0.45	0.79
Return on Equity	0.15	0.87	-0.11	-0.11	0.04	0.12	0.15	-0.13	0.85
Net Margin	-0.23	0.83	0.18	-0.05	0.03	-0.06	0.08	0.15	0.81
Return on Assets	0.12	0.78	-0.03	-0.38	-0.05	0.22	0.03	-0.10	0.83
Long-Term Debt Ratio	-0.35	-0.03	-0.90	-0.07	-0.09	-0.06	-0.01	-0.05	0.96
General Liquidity Ratio	-0.33	-0.04	0.81	0.11	0.13	0.09	0.15	-0.12	0.85
Equity Immobilization Ratio	0.00	-0.10	-0.60	-0.54	-0.21	0.17	0.05	0.01	0.74
Days Inventory Outstanding	0.01	-0.17	0.04	0.90	0.01	-0.01	-0.03	-0.10	0.85
Days Sales Outstanding	-0.07	-0.21	0.14	0.84	0.02	-0.10	-0.03	0.14	0.80
Cash Ratio	-0.15	-0.02	0.09	-0.02	0.92	0.08	-0.02	0.01	0.89
Quick Ratio	0.42	0.05	0.16	0.03	0.84	0.03	0.02	0.02	0.92
Current Ratio	0.59	0.02	0.17	0.34	0.61	-0.02	-0.01	-0.16	0.90
Market-to-Book	0.18	0.08	-0.18	-0.11	0.05	0.92	-0.09	0.04	0.95
Tobin's Q	-0.10	0.14	0.30	-0.06	0.06	0.89	-0.11	0.03	0.94
Book Value Per Share	-0.10	0.00	0.13	-0.03	-0.05	-0.19	0.92	0.04	0.91
Earnings Per Share	0.05	0.54	-0.07	-0.06	0.06	0.01	0.78	-0.04	0.91
Days Payables Outstanding	0.22	-0.20	-0.13	-0.02	0.02	0.02	0.08	0.85	0.83
Gross Margin	-0.32	0.43	0.16	0.05	-0.05	0.14	-0.11	0.68	0.81
Statistics									Total
Eigenvalue	3.85	3.70	2.83	2.01	1.47	1.38	1.16	0.97	17.38
Explained Variance (%)	14.66	13.49	12.46	11.31	10.24	9.34	7.78	7.64	86.91

Note. **Component extraction method:** Principal Component Analysis based on the scree plot test criterion. **Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy:** 0.613. **Bartlett's test of sphericity (X^2):** 10,414.29, significant at the 1% level. Bold values indicate factor loadings greater than 0.6.

As highlighted in bold in Table 2, each financial performance ratio is associated with a single component, exhibiting a factor loading greater than 0.60. It is observed that the ratios with the highest factor loading in each component present values exceeding 0.85, indicating that they can be used as representative proxies for the dimensions of financial performance in subsequent analyses (Hair et al., 2009). As a robustness check, principal component analyses were conducted separately for each year, yielding qualitatively identical results.

The eight components resulting from PCA can be mapped to the five financial performance categories documented in the literature (Gitman & Zutter, 2017): liquidity is associated with component (5), particularly regarding short-term liquidity (cash, quick, and current ratios); two components are associated with leverage ratios, with component (1) capturing short-term debt and component (3) capturing long-term debt; two components are associated with activity ratios, capturing the operating cycle (inventory and receivables turnover days) (4) and supplier relations (payables turnover days and gross margin) (8); profitability is primarily associated with component (2); and market performance is associated

with component (6), capturing the firm's market value, and component (7), capturing the firm's book value.

As explained in Section 3, among the twenty financial ratios analyzed, those with the highest factor loading in each component were selected to represent the eight dimensions of financial performance, based on the PCA results reported in Table 2: Cash Ratio (CR), Short-Term Debt Ratio (STDR), Long-Term Debt Ratio (LTDR), Days Payables Outstanding (DPO), Days Inventory Outstanding (DIO), Return on Equity (ROE), Market-to-Book (MtB), and Book Value Per Share (BVPS).

4.2 DESCRIPTIVE ANALYSIS OF FINANCIAL PERFORMANCE AND CORPORATE GOVERNANCE

Table 3 presents the descriptive statistics of the continuous variables of the study for the 2019–2022 period. Correlation analysis, omitted for brevity, indicates a strong positive correlation between the corporate governance indices (0.757), suggesting proximity between market recommendations (CGI1) and academic literature recommendations (CGI2), and indicating that both indices capture the same underlying phenomenon and can be used as complementary proxies for evaluating corporate governance in the Brazilian capital market.

The correlation among the financial performance ratios is low (below 0.3), confirming that they represent distinct dimensions of firm performance. Significant correlations were also found between the corporate governance indices and the ratios for cash ratio (negative), long-term debt ratio (positive), days payables outstanding (positive), and days inventory outstanding (negative).

Table 3
Descriptive Statistics of Continuous Variables

Variable	Mean	Standard Deviation	Median	Minimum	Maximum
CR	0.140	0.082	0.125	0.023	0.369
STDR	0.239	0.117	0.226	0.056	0.556
LTDR	0.312	0.156	0.312	0.038	0.622
DPO	0.157	0.121	0.126	0.016	0.567
DIO	0.290	0.379	0.203	0.003	1.885
ROE	0.143	0.195	0.128	-0.400	0.693
MtB	1.633	0.762	1.450	0.745	4.331
BVPS	14.330	13.153	10.347	1.505	61.269
CGI1	0.697	0.195	0.744	0.182	1.000
CGI2	0.630	0.180	0.647	0.187	0.977
AGE	27.183	17.753	23.000	1.000	84.000
SIZE	22.544	1.724	22.466	19.137	25.904

Note. Financial performance ratios: Cash Ratio (CR), Short-Term Debt Ratio (STDR), Long-Term Debt Ratio (LTDR), Days Payables Outstanding (DPO), Days Inventory Outstanding (DIO), Return on Equity (ROE), Market-to-Book (MtB), and Book Value Per Share (BVPS). **Corporate governance:** corporate governance indices based on market recommendations (CGI1) and academic literature recommendations (CGI2). **Control variables:** firm age (AGE) and firm size (SIZE).

Table 4 presents the annual evolution of the financial ratios and corporate governance indices over the 2019–2022 period. The results indicate that Brazilian firms experienced shifts in their financial performance, supporting the first research hypothesis. Corporate governance, in turn, exhibited steady growth throughout the analyzed period.

Table 4

Financial performance and corporate governance in the 2019–2022 period

Variable	Annual average				Annual evolution		
	2019	2020	2021	2022	2019-2020	2020-2021	2021-2022
CR	0.131	0.167	0.136	0.127	0.036 ***	-0.032 ***	-0.009 *
STDR	0.223	0.240	0.247	0.244	0.017 ***	0.007	-0.003
LTDR	0.316	0.312	0.307	0.312	-0.005	-0.004	0.005
DPO	0.147	0.170	0.150	0.160	0.023 ***	-0.020 **	0.011
DIO	0.287	0.286	0.283	0.304	-0.001	-0.003	0.021 ***
ROE	0.111	0.112	0.207	0.142	0.001	0.095 ***	-0.065 ***
MtB	1.871	1.716	1.548	1.397	-0.155 ***	-0.168 ***	-0.151 ***
BVPS	14.205	13.964	13.961	15.191	-0.241	-0.002	1.229 ***
CGI1	0.647	0.678	0.705	0.759	0.031 ***	0.027 ***	0.055 ***
CGI2	0.598	0.608	0.637	0.676	0.010	0.029 ***	0.038 ***

Note. **Financial performance ratios:** Cash Ratio (CR), Short-Term Debt Ratio (STDR), Long-Term Debt Ratio (LTDR), Days Payables Outstanding (DPO), Days Inventory Outstanding (DIO), Return on Equity (ROE), Market-to-Book (MtB), and Book Value Per Share (BVPS). **Corporate governance:** corporate governance indices based on market recommendations (CGI1) and academic literature recommendations (CGI2). **Statistical significance of the paired-samples *t*-test for differences in means:** * $p < 0.10$, $p < 0.05$, and *** $p < 0.01$.

The year 2020 was marked by economic contraction, with a cumulative decline in Brazilian GDP of 3.3% compared to 2019. Lacking operational capacity to conduct mass testing, the primary strategy to curb the spread of the disease during this period was social isolation (lockdown), which generated substantial impacts on the Brazilian economy (Gullo, 2020). In this sense, the increase in liquidity, short-term debt, and payables turnover days suggests that firms postponed financial commitments to 2021 in order to strengthen cash positions amid uncertainties regarding the end of health restrictions. The decline in market value, in turn, also reflects investor insecurity concerning economic recovery. These results corroborate previous studies that analyzed the first year of the pandemic (Avelar et al., 2021; Oliveira et al., 2021).

In 2021, a strong surge in profitability (return on equity) and a reduction in liquidity and payables turnover days—which had increased in 2020—are observed. These results may reflect the economic rebound following the period of strictest social isolation measures and firms' capacity to adapt to the reality imposed by the pandemic (Souza et al., 2022). Brazilian GDP resumed growth starting in the second quarter, accumulating an expansion of 4.8% for the year 2021. The market-to-book ratio, in turn, continued its downward trend in 2021. Unlike other indicators, market value captures risk and return from the perspective of investors, rather than solely from firm financial statements (Brealey et al., 2008; Gitman & Zutter, 2017). In this regard, factors external to firms and uncorrelated with the pandemic may have influenced investor risk perception in the Brazilian capital market in 2021, such as the political and fiscal crisis and the war in Ukraine.

The year 2022 was marked by the recovery of all sectors of the Brazilian economy and the end of social isolation measures (Carvalho & Bastos, 2023). The country's GDP grew by 2.9% relative to the previous year. Among the financial performance indicators, notable highlights include the increase in days inventory outstanding and book value per share, which had not undergone significant changes in 2020 and 2021. For this reason, the end of the pandemic cannot be linked to changes in these indicators. The decline in return on equity in 2022, in turn, may reflect greater economic stabilization following the boom observed in 2021.

The market-to-book ratio again showed a decline in 2022, reinforcing the argument that factors external to the pandemic influenced investor risk perception in the stock market during the period of economic recovery.

Corporate governance exhibited a positive trajectory throughout the analyzed period: while the corporate governance index based on market recommendations (CGI1) presented significant growth across all three pandemic years, the index based on academic literature recommendations (CGI2) displayed significant growth in 2021 and 2022. These results align with the literature documenting continuous improvements in the corporate governance of Brazilian firms over recent decades (Brandão et al., 2024; Carvalho et al., 2021). In the context of the crisis resulting from the COVID-19 pandemic, this evolution can be explained by both internal and external firm objectives. Internally, firms seek to adapt organizational structures to changes brought about by the pandemic and reduce the risk of corporate fraud during crisis periods (Matuella et al., 2023). Externally, firms aim to convey greater confidence to investors in the capital market, thereby helping mitigate the adverse effects of the crisis on stock prices (Claessens & Yurtoglu, 2013).

4.3 RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE

Tables 5 and 6 present the results of the regression analysis evaluating the relationship between corporate governance and financial performance. Table 5 analyzes CGI1, which is based on practices recommended by the market through the Brazilian Corporate Governance Code – Publicly Held Companies.

Table 5

Panel Regression Results: Corporate Governance Index 1 and Financial Performance

Explanatory variables	Dependent variables: financial performance ratios (FP)							
	CR	STDR	LTDR	DPO	DIO	ROE	MtB	BVPS
CGI1_2019	-0.056 (0.034)	-0.001 (0.024)	0.121*** (0.027)	0.015 (0.025)	-0.045 (0.083)	-0.163 (0.120)	0.015 (0.231)	-2.777 (2.573)
CGI1_2020	-0.008 (0.023)	0.061** (0.026)	0.008 (0.023)	0.004 (0.031)	0.050 (0.076)	-0.185** (0.074)	-0.137 (0.202)	-2.943 (3.068)
CGI1_2021	-0.028 (0.033)	0.007 (0.024)	0.039 (0.028)	0.045 (0.030)	-0.105 (0.072)	-0.073 (0.077)	-0.323* (0.166)	-2.590 (3.354)
CGI1_2022	-0.013 (0.031)	0.033 (0.028)	0.061** (0.028)	0.024 (0.036)	-0.076 (0.066)	-0.044 (0.068)	0.224 (0.152)	-3.685 (2.515)
L.FP	0.666*** (0.045)	0.847*** (0.028)	0.851*** (0.022)	0.750*** (0.055)	0.819*** (0.055)	0.554*** (0.059)	0.838*** (0.029)	0.808*** (0.051)
AGE	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.022 (0.018)
SIZE	-0.004* (0.002)	-0.002 (0.002)	0.004** (0.002)	0.003 (0.002)	0.005 (0.006)	0.005 (0.005)	-0.025** (0.010)	0.196 (0.328)
GOV	0.006 (0.011)	-0.017* (0.010)	-0.039*** (0.012)	-0.013 (0.009)	0.006 (0.008)	-0.017 (0.031)	-0.001 (0.048)	2.422 (1.897)
FOR	0.001 (0.008)	0.023** (0.010)	-0.031*** (0.008)	0.010 (0.017)	0.049 (0.067)	0.012 (0.028)	0.043 (0.045)	-0.233 (1.445)
Constant	0.151*** (0.049)	0.078* (0.041)	-0.104** (0.046)	-0.022 (0.053)	-0.079 (0.099)	0.038 (0.124)	1.042*** (0.255)	1.552 (7.454)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.540	0.805	0.873	0.638	0.857	0.439	0.802	0.750
F	36.07***	138.40***	340.70***	89.93***	249.60***	18.91***	153.70***	53.06***

Note. Statistical test: balanced panel data regression (126 firms over the 2019–2022 period) estimated via pooled Ordinary Least Squares (OLS) with robust standard errors. **Dependent variables:** Cash Ratio (CR), Short-Term Debt Ratio (STDR), Long-Term Debt Ratio (LTDR), Days Payables Outstanding (DPO), Days Inventory Outstanding (DIO), Return on Equity (ROE), Market-to-Book (MtB), and Book Value Per Share (BVPS). **Explanatory variables:**

interaction between corporate governance index 1 and observation year (CGI1_2019, CGI1_2020, CGI1_2021, and CGI1_2022), one-year lagged dependent variable (L.FP), firm age (AGE), firm size (SIZE), government control dummy (GOV), foreign control dummy (EST), and industry and year fixed effects (omitted for brevity). **Statistical significance:** * $p < 0.10$, $p < 0.05$, and *** $p < 0.01$.

The results indicate that prior to the pandemic (2019), CGI1 was positively related only to LTDR. During the most critical period of the pandemic (2020), CGI1 became positively related to STDR and negatively related to ROE. In the period of economic recovery, a positive relationship between CGI1 and LTDR re-emerged (2022), alongside the emergence of a negative relationship with MtB (2021).

Table 6 presents the relationship between financial performance ratios and CGI2, which was constructed based on practices commonly used as proxies for good corporate governance in academic studies conducted within the Brazilian context.

Table 6

Panel Regression Results: Corporate Governance Index 2 and Financial Performance

Explanatory variables	Dependent variables: financial performance ratios (FP)							
	CR	ECP	CR	PMP	CR	ROE	CR	VPA
CGI2_2019	-0.043 (0.033)	-0.000 (0.024)	0.051* (0.026)	0.006 (0.038)	-0.017 (0.075)	-0.040 (0.093)	-0.096 (0.197)	-3.384 (3.177)
CGI2_2020	-0.012 (0.025)	0.074** (0.030)	0.000 (0.027)	0.002 (0.035)	0.013 (0.073)	-0.155** (0.074)	-0.338* (0.204)	0.283 (3.703)
CGI2_2021	0.029 (0.032)	-0.027 (0.028)	0.057* (0.031)	0.012 (0.033)	-0.041 (0.094)	-0.096 (0.078)	-0.400** (0.189)	-2.518 (2.314)
CGI2_2022	0.001 (0.031)	0.056** (0.028)	0.043 (0.030)	0.003 (0.039)	-0.030 (0.079)	-0.046 (0.075)	0.296** (0.144)	-0.983 (2.786)
L.FP	0.669*** (0.045)	0.851*** (0.028)	0.843*** (0.024)	0.750*** (0.055)	0.819*** (0.055)	0.554*** (0.056)	0.838*** (0.028)	0.812*** (0.052)
AGE	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.020 (0.018)
SIZE	-0.005** (0.002)	-0.002 (0.002)	0.006*** (0.002)	0.004* (0.002)	0.003 (0.006)	0.002 (0.005)	-0.019 (0.012)	0.093 (0.301)
GOV	0.006 (0.011)	-0.020* (0.011)	-0.041*** (0.013)	-0.014 (0.009)	0.007 (0.009)	-0.011 (0.032)	0.014 (0.047)	2.525 (1.920)
FOR	0.002 (0.009)	0.021** (0.010)	-0.037*** (0.008)	0.007 (0.016)	0.054 (0.066)	0.020 (0.031)	0.048 (0.043)	0.087 (1.425)
Constant	0.173*** (0.050)	0.074* (0.042)	-0.094** (0.047)	-0.044 (0.050)	-0.055 (0.115)	0.015 (0.133)	0.997*** (0.285)	4.087 (7.998)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.539	0.807	0.870	0.637	0.856	0.433	0.804	0.749
F	48.75***	174.30***	319.30***	63.38***	268.70***	17.89***	185.40***	54.67***

Note. Statistical test: balanced panel data regression (126 firms over the 2019–2022 period) estimated via pooled Ordinary Least Squares (OLS) with robust standard errors. **Dependent variables:** Cash Ratio (CR), Short-Term Debt Ratio (STDR), Long-Term Debt Ratio (LTDR), Days Payables Outstanding (DPO), Days Inventory Outstanding (DIO), Return on Equity (ROE), Market-to-Book (MtB), and Book Value Per Share (BVPS). **Explanatory variables:** interaction between corporate governance index 2 and observation year (CGI2_2019, CGI2_2020, CGI2_2021, and CGI2_2022), one-year lagged dependent variable (L.FP), firm age (AGE), firm size (SIZE), government control dummy (GOV), foreign control dummy (EST), and industry and year fixed effects (omitted for brevity). **Statistical significance:** * $p < 0.10$, $p < 0.05$, and *** $p < 0.01$.

Similar to the results for CGI1, CGI2 was also positively associated only with LTDR in the year prior to the pandemic (2019). In 2020, in turn, it became associated with higher STDR and lower ROE and MtB. During the period of economic recovery (2021–2022), the results

indicate that CGI2 showed a positive relationship with STDR (2022), LTDR (2021), and MtB (2022). Conversely, a negative relationship between CGI2 and MtB was also observed in 2021.

4.4 DISCUSSION OF RESULTS

The results of the regression analysis (Table 5 and Table 6), combined with the mean difference tests (Table 3 and Table 4), provide insights into how the relationship between corporate governance and financial performance of Brazilian firms unfolded during the pandemic period.

During the pandemic, short-term liquidity challenges represented a major threat to firms (Musa et al., 2022). In this context, higher corporate governance quality was expected to be positively associated with the liquidity of Brazilian firms (Crisóstomo & Melo, 2015; Macedo & Corrar, 2012; Silva & Krauter, 2020). The results, however, indicate that corporate governance is not related to cash ratio in any of the analyzed years. These findings may be linked to the fact that firms in the sample did not experience liquidity distress during the pandemic. On the contrary, in 2020—the most critical period of the pandemic—an increase in cash ratio was observed.

Leverage was represented by short-term and long-term debt ratios. Given the adverse impacts of the pandemic on revenues, firms were expected to seek debt renegotiations, thereby reducing short-term debt and increasing long-term debt (Musa et al., 2022). The results indicate that corporate governance indices were associated with higher long-term debt prior to the pandemic (2019), as predicted by the literature (Silva et al., 2017). During the pandemic, in turn, the positive relationship between corporate governance and short-term debt in 2020 can be understood through the time-series evolution of financial performance ratios (Section 4.2). Facing uncertainties brought about by the pandemic, firms strengthened cash holdings and sought to defer liability payments to 2021, explaining the increase in short-term debt and payables turnover days during this period. In this scenario, firms with superior corporate governance may have secured more favorable terms for debt renegotiation and bank loans to reinforce cash positions, contributing to higher short-term debt. This focus on short-term liabilities may also explain the lack of a significant relationship between corporate governance and long-term debt during this period. Following the economic recovery, a positive relationship between corporate governance and long-term debt was re-established.

Activity ratios (days payables outstanding and days inventory outstanding) showed no significant relationship with the corporate governance of Brazilian firms during the analyzed period. Prior studies investigating the relationship between these ratios and corporate governance in the Brazilian context were not found in the literature. However, given the crisis scenario, firms with superior corporate governance were expected to extend payment terms with suppliers and reduce days inventory outstanding. A higher payables turnover days reduces the firm's cash conversion cycle, whereas a lower inventory turnover days reduces both the operating and holding cycles (Barros et al., 2022). Although significant changes in inventory and payables turnover periods were observed from 2019 to 2022 (Table 4), the findings suggest that corporate governance did not affect the operating and financial cycles of Brazilian firms.

Profitability is one of the primary financial benefits attributed to corporate governance in the literature, with higher governance quality expected to contribute to greater efficiency in resource allocation, thereby maximizing operational performance (Claessens & Yurtoglu, 2013). However, the empirical results indicated that, in 2020, higher adoption of corporate governance practices was associated with a decline in return on equity among Brazilian firms.

Previous studies had not found a significant relationship between corporate governance and profitability ratios in the first year of the pandemic (Alencar et al., 2023; Oliveira et al., 2021). Prior to the pandemic, empirical research generally documented a positive relationship (Crisóstomo & Melo, 2015; Macedo & Corrar, 2012; Silva & Krauter, 2020).

Considering that corporate governance prioritizes long-term financial sustainability over short-term results (Musa et al., 2022), the negative relationship between corporate governance and profitability observed in 2020 may indicate that, during the economic recession caused by the pandemic, firms with more robust internal governance mechanisms focused their efforts on preserving financial solvency, placing less emphasis on short-term economic returns. Alternatively, these results may reflect the influence of corporate governance on accounting information quality, which tends to foster more conservative reporting (Taso et al., 2023).

Market performance was analyzed from the perspective of market value and book value of the firm. During periods of economic crisis, the positive effect of internal corporate governance mechanism quality on firm value is expected to be more pronounced (Peixoto et al., 2014). In the most acute period of the COVID-19 crisis (2020), however, corporate governance was unable to mitigate value losses of Brazilian firms in the capital market, with a negative relationship observed between CGI2 [IGC2] and market-to-book. In the year marking the onset of economic recovery (2021), corporate governance was associated with lower market-to-book across both governance indices (CGI1 and CGI2). Conversely, in 2022, following the full recovery of the Brazilian economy, a positive relationship between CGI2 and market-to-book was documented. Prior literature had already pointed to a lack of relationship between corporate governance and market value in 2020, as well as a negative relationship during the economic recovery period (Alencar et al., 2023; Oliveira et al., 2021; Santos et al., 2023). Only the study by Brandão (2025) indicated a positive relationship between corporate governance and market-to-book, but restricted to 2020 and to only one of the three corporate governance proxies employed in the paper.

A possible explanation for these results lies in the nature of the economic crisis triggered by the pandemic. Recent global economic crises (such as the 1997 Asian financial crisis and the 2008 subprime mortgage crisis) were endogenous in nature, stemming from corporate fraud, whereas the COVID-19 crisis was not caused by opportunistic managerial behavior or internal control deficiencies, but rather by an exogenous health crisis outside the corporate environment (Zattoni & Pugliese, 2021). In this context, mechanisms designed to mitigate agency conflicts within firms and prevent opportunistic behavior by managers and controlling shareholders (Misangyi & Acharya, 2014) may not exhibit the same effectiveness under the unique constraints of the pandemic-induced crisis. In the post-pandemic period (2022), alongside full economic recovery, a positive effect of corporate governance on firm market value re-emerged, even amidst an overall decline in sample-wide market valuation (Table 4).

5 CONCLUSIONS

This study analyzed the relationship between corporate governance and the financial performance of Brazilian firms during the COVID-19 pandemic. The findings provide consistent evidence that corporate governance contributed to firm leverage during the most critical period of the pandemic (2020), but was associated with lower profitability during this same period and a loss of market value during the economic recovery phase (2021).

The research provides theoretical, methodological, and practical contributions. Theoretically, this study contributes to the literature investigating the relationship between corporate governance and financial performance by utilizing the COVID-19 crisis as an exogenous shock that helps evaluate the role of corporate governance in shielding firms from adverse financial shocks and/or fostering their recovery. The results indicate that the positive effects of adopting corporate governance practices may be sensitive to institutional environment characteristics, supporting the contingency approach to corporate governance.

Methodologically, financial performance was evaluated through a multidimensional lens, extending beyond traditional profitability and market-based measures. In addition to identifying the core dimensions of corporate financial performance during the pandemic, this framework enabled the examination of governance effects on financial performance indicators that remain underexplored in the literature. Furthermore, corporate governance was captured using two distinct proxies derived from capital market recommendations and academic literature. Beyond enhancing empirical robustness, these two measures can serve as reliable proxies for corporate governance in future research on Brazilian listed firms.

Practically, the study demonstrated that corporate governance may have facilitated firm debt access and helped curb managerial myopia during the most severe phase of the pandemic. These findings carry heightened relevance in an institutional setting where credit represents the primary source of corporate financing and where substantial information asymmetry persists between insiders and external stakeholders. Conversely, other empirical results raise questions regarding the effectiveness of corporate governance practices in mitigating the adverse impacts of economic crises on investor valuation in the capital market. The adoption of practices targeted at internal agency conflicts may prove insufficient to buffer firms against negative shocks originating from exogenous sources. Consequently, even from a market perspective, internal governance frameworks must integrate broader strategic agendas that extend beyond traditional agency conflicts.

Regarding research limitations, corporate governance was evaluated as a unidimensional aggregate index based on agency theory principles. Additionally, the quantitative techniques employed did not fully address potential endogeneity issues; thus, the findings do not imply causal relationships between corporate governance and financial performance. Furthermore, the pandemic was operationalized via time dummy variables, which may not fully capture the gradual and heterogeneous firm-level impacts of the crisis.

Future research could examine how specific corporate governance mechanisms influence financial performance among Brazilian firms. Alternative theoretical frameworks, such as the Resource-Based View (RBV), could also be explored to gain deeper insights into governance mechanisms during systemic shocks. Methodologically, future studies should adopt robust econometric models to address endogeneity concerns and employ continuous proxies for economic crises to isolate their distinct impacts over time.

REFERENCES

- Aguilera, R. V., & Cuervo-Cazurra, A. (2004). Codes of good governance worldwide: what is the trigger? *Organization Studies*, 25(3), 415-443.
<https://doi.org/10.1177/017084060404066>
- Aguilera, R. V., Filatotchev, I., Gospel, H., & Jackson, G. (2008). An organizational approach to comparative corporate governance: Costs, contingencies, and

- complementarities. *Organization science*, 19(3), 475-492.
<https://doi.org/10.1287/orsc.1070.0322>
- Alencar, M. R. X., Feitosa, M. I. C., Leite, A. C. R., Leal, P. H., Oliveira, A. R. V., & Chagas, M. J. R. (2023). Governança corporativa e COVID-19: desempenho financeiro e de mercado antes e durante a pandemia. *International Journal of Scientific Management and Tourism*, 9(2), 1349-1368. <https://doi.org/10.55905/ijsmtv9n2-030>
- Anas, M., Gulzar, I., Tabash, M. I., Ahmad, G., Yazdani, W., & Alam, M. F. (2023). Investigating the Nexus between Corporate Governance and Firm Performance in India: Evidence from COVID-19. *Journal of Risk and Financial Management*, 16(7), 307. <https://doi.org/10.3390/jrfm16070307>
- Avelar, E. A., Ferreira, P. O., Silva, B. N. E. R., & Ferreira, C. O. (2021). Efeitos da Pandemia de COVID-19 sobre a sustentabilidade financeira de empresas brasileiras. *Revista Gestão Organizacional*, 14(1), 131-152. <https://doi.org/10.22277/rgo.v14i1.5724>
- Barros, F. R., Santos, R. L., & Amaral, H. F. (2022). Análise dos indicadores de atividade, liquidez e dinâmicos de três empresas de Minas Gerais. *Revista de Auditoria, Governança e Contabilidade*, 10(44), 129-145. <https://revistas.fucamp.edu.br/index.php/ragc/article/view/2735>
- Benites, L. L. L., & Polo, E. F. (2013). A sustentabilidade como ferramenta estratégica empresarial: governança corporativa e aplicação do Triple Bottom Line na Masisa. *Revista de Administração da Universidade Federal de Santa Maria*, 6, 827-841. <https://doi.org/10.5902/198346598879>
- Beuren, I. M., Santos, V., & Cantieri, V. M. (2020). Diferenças nos índices de análise das demonstrações financeiras. *Revista Pretexto*, 69-85. <https://doi.org/10.21714/pretexto.v21i1.6647>
- Black, B., Carvalho, A. G., Khanna, V., Kim, W., & Yurtoglu, B. (2017). Corporate governance indices and construct validity. *Corporate Governance: An International Review*, 25(6), 397-410. <https://doi.org/10.1111/corg.12215>
- Boshnak, H. A., Alsharif, M., & Alharthi, M. (2023). Corporate governance mechanisms and firm performance in Saudi Arabia before and during the COVID-19 outbreak. *Cogent Business & Management*, 10(1), 2195990. <https://doi.org/10.1080/23311975.2023.2195990>
- Brandão, I. F. (2024). Desempenho financeiro das empresas listadas na B3 durante a pandemia de covid-19. *Revista de Gestão, Finanças e Contabilidade*, 14(3), e241434-e241434. <https://doi.org/10.18028/rgfc.v14i3.19651>
- Brandão, I. F. (2024). Governança corporativa em tempos de pandemia: análise das empresas brasileiras. *Estudios Gerenciales*, 40(173), 460-476. <https://doi.org/10.18046/j.estger.2024.173.6797>

- Brandão, I. F., Crisóstomo, V. L., & López-Iturriaga, F. J. (2024). A multidimensional analysis of corporate governance and firm value. *Journal of Management and Governance*, 1-32. <https://doi.org/10.1007/s10997-024-09699-8>
- Brealey, R. A., Myers, S. C., & Allen, F. (2008). *Princípios de Finanças Corporativas*. 8 ed. São Paulo: McGraw-Hill.
- Carvalho, A. G., Dal'Bó, F., & Sampaio, J. (2021). Determinants of corporate governance practices in Brazil. *Emerging Markets Review*, 48, 100771. <https://doi.org/10.1016/j.ememar.2020.100771>
- Carvalho, L. M., & Bastos, E. K. X. (2023). Desempenho do PIB no quarto trimestre de 2022. *Carta de Conjuntura*, 58(19), 1-8. https://www.ipea.gov.br/cartadeconjuntura/wp-content/uploads/2023/03/230303_nota_16.pdf
- Claessens, S., & Yurtoglu, B. B. (2013). Corporate governance in emerging markets: A survey. *Emerging Markets Review*, 15, 1-33. <https://doi.org/10.1016/j.ememar.2012.03.002>
- Crisóstomo, V. L., & Melo, C. V., Júnior (2015). Uma análise comparativa de indicadores financeiros entre empresas listadas em segmentos diferenciados Bovespa e as do mercado tradicional. *Perspectivas Contemporâneas*, 10(3), 15-34. <https://revista2.grupointegrado.br/revista/index.php/perspectivascontemporaneas/article/view/1767>
- Dedman, E., & Filatotchev, I. (2008). Corporate governance research: a contingency framework. *International Journal of Managerial Finance*, 4(4), 248-258. <https://doi.org/10.1108/17439130810902778>
- Dey, A. (2008). Corporate governance and agency conflicts. *Journal of Accounting Research*, 46(5), 1143-1181. <https://doi.org/10.1111/j.1475-679X.2008.00301.x>
- Gitman, L. J., & Zutter, C. J. (2017). *Princípios de Administração Financeira*. 14 ed. São Paulo: Pearson Education do Brasil.
- Grupo de Trabalho Interagentes (2016). *Código Brasileiro de Governança Corporativa: Companhias Abertas*. São Paulo: IBGC. <https://conhecimento.ibgc.org.br/Paginas/Publicacao.aspx?PubId=21148>
- Gullo, M. C. R. (2020). A economia na pandemia COVID-19: algumas considerações. *Rosa dos Ventos*, 12(Esp. 3), 1-8. <https://doi.org/10.18226/21789061.v12i3a05>
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (2009). *Análise multivariada de dados*. 6 ed. São Paulo: Bookman.
- Hassan, T. A., Hollander, S., Van Lent, L., Schwedeler, M., & Tahoun, A. (2023). Firm-level exposure to epidemic diseases: COVID-19, SARS, and H1N1. *The Review of Financial Studies*, 36(12), 4919-4964. <https://doi.org/10.1093/rfs/hhad044>

- Hsu, Y. L., & Yang, Y. C. (2022). Corporate governance and financial reporting quality during the COVID-19 pandemic. *Finance Research Letters*, 47, 102778. <https://doi.org/10.1016/j.frl.2022.102778>
- Instituto Brasileiro de Geografia e Estatística. (n.d). *Produto Interno Bruto - PIB*. Recuperado em 28 de junho de 2024 de <https://www.ibge.gov.br/explica/pib.php>.
- Instituto Brasileiro de Governança Corporativa. (2023). *Código das Melhores Práticas de Governança Corporativa*. 6 ed. São Paulo: IBGC. <https://conhecimento.ibgc.org.br/Paginas/Publicacao.aspx?PubId=24640>
- Jebran, K., & Chen, S. (2023). Can we learn lessons from the past? COVID-19 crisis and corporate governance responses. *International Journal of Finance & Economics*, 28(1), 421-429. <https://doi.org/10.1002/ijfe.2428>
- Khatib, S. F., & Nour, A. (2021). The impact of corporate governance on firm performance during the COVID-19 pandemic: Evidence from Malaysia. *Journal of Asian Finance, Economics and Business*, 8(2), 943-952. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0943>
- Koutoupis, A., Kyriakogkonas, P., Pazarskis, M., & Davidopoulos, L. (2021). Corporate governance and COVID-19: A literature review. *Corporate Governance: The International Journal of Business in Society*, 21(6), 969-982. <https://doi.org/10.1108/CG-10-2020-0447>
- Leung, S., & Horwitz, B. (2010). Corporate governance and firm value during a financial crisis. *Review of Quantitative Finance and Accounting*, 34, 459-481. <https://doi.org/10.1007/s11156-009-0141-z>
- Macedo, M. A. S., & Corrar, L. J. (2012). Análise comparativa do desempenho contábil-financeiro de empresas com boas práticas de governança corporativa no Brasil. *Revista Contabilidade e Controladoria*, 4(1), 42-61. <https://doi.org/10.5380/rcc.v4i1.25258>
- Matuella Filho, I., & Miranda, C. S., & Rodrigues, J. M. (2023). COVID-19: uma janela para fraudes corporativas. *GV-EXECUTIVO*, 22(1), 24-30. <https://doi.org/10.12660/gvexec.v22n1.2023.88905>
- Misangyi, V. F., & Acharya, A. G. (2014). Substitutes or complements? A configurational examination of corporate governance mechanisms. *Academy of Management Journal*, 57(6), 1681-1705. <https://doi.org/10.5465/amj.2012.0728>
- Musa, H., Rech, F., Chen, Y., & Musova, Z. (2022). The deterioration of financial ratios during the COVID-19 pandemic: Does corporate governance matter? *Folia Oeconomica Stetinensia*, 22(1), 219-242. <https://doi.org/10.2478/fofi-2022-0011>
- Oliveira, T., Jesuka, D., Peixoto, F. M., & Tizziottiet C. P. P. (2021). A Sustentabilidade e a COVID-19 afetam o Desempenho, o Valor e o Risco de Firms no Brasil? *Advances in*

Scientific and Applied Accounting, 14(2), 227-239.
<https://doi.org/10.14392/asaa.2021140209>

- Pandey, N., Andres, C., & Kumar, S. (2023). Mapping the corporate governance scholarship: Current state and future directions. *Corporate Governance: An International Review*, 31(1), 127-160. <https://doi.org/10.1111/corg.12444>
- Paulo, R. R. D., Ferola, L. M., & Martins, V. F. (2020). Governança corporativa e desempenho: Uma análise dos estudos no século XXI. *Revista de Auditoria, Governança e Contabilidade*, 8(34), 48-70.
<https://www.revistas.fucamp.edu.br/index.php/ragc/article/view/2032>
- Peixoto, F. M., Amaral, H. F., Correia, L. F., & Neves, J. C. C. (2014). Governança Corporativa e Crises: mecanismos importantes durante ciclos econômicos distintos. *Revista de Ciências da Administração*, 16(39), 119-133. <https://doi.org/10.5007/2175-8077.2014v16n39p119>
- Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54(2), 471-517. <https://doi.org/10.1111/0022-1082.00115>
- Santos, D. P. N., Olivo, R. L. F., Sales, G. A. W., & Silva, F. L. (2023). Impacto da governança corporativa na bolsa brasileira durante a crise do COVID-19. *Concilium*, 23(2), 31-51. <https://doi.org/10.53660/CLM-739-23A03>
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, 56(10), 2213-2230. <https://doi.org/10.4324/9781003214687>
- Silber, S. D. (2020). A fragilidade econômica e financeira na pandemia do Sars-COVID-19. *Estudos Avançados*, 34, 107-115. <https://doi.org/10.1080/1540496X.2020.1785863>
- Silva, B. A. O., & Krauter, E. (2020). Indicadores Financeiros e Governança Corporativa de Companhias Brasileiras: uma Análise sob a Ótica da Restrição Financeira. *Management in Perspective*, 1(1), 9-33. <https://doi.org/10.14393/MIP-v1n1-2020-44206>
- Silva, E. S., Kayo, E. K., & Lima, I. S. (2017). Dupla listagem, alavancagem e maturidade da dívida. *Revista de Gestão*, 24(2), 98-109. <https://doi.org/10.1016/j.rege.2017.03.001>
- Souza, J. A., Mendonça, D. J., Benedicto, G. C., & de Carvalho, F. M. (2017). Aplicação da análise fatorial para identificação dos principais indicadores de desempenho financeiro em instituições financeiras bancárias. *Revista Catarinense da Ciência Contábil*, 16(47), 26-41. <https://doi.org/10.16930/2237-7662/rccc.v16n47p26-41>
- Souza, J. R. C. Júnior, Cavalcanti, M. A. F. H., Levy, P. M., Carvalho, L. M., Bastos, E. K. X., Santos, F. E. L. (2022). Visão Geral da Conjuntura. *Carta de conjuntura*, 54(34), 1-24. https://portalantigo.ipea.gov.br/agencia/images/stories/PDFs/conjuntura/220331_cc_54_nota_34_visao_geral.pdf

- Tarighi, H., Hosseiny, Z. N., Akbari, M., & Mohammadhosseini, E. (2023). The moderating effect of the COVID-19 pandemic on the relation between corporate governance and firm performance. *Journal of Risk and Financial Management*, 16(7), 306. <https://doi.org/10.3390/jrfm16070306>
- Toso, C. R., Carmo, C. H. S., & Machado, M. R. R. (2023). Níveis diferenciados de governança corporativa e grau de conservadorismo: um estudo empírico. *Contabilometria*, 10(02), 1-20. <https://revistas.fucamp.edu.br/index.php/contabilometria/article/view/2665>
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. MIT Press.
- Yamahaki, C., Breviglieri, G. V., & Vendramini, A. (2021). Riscos emergentes na análise de investimentos. *GV-EXECUTIVO*, 20(2), 44-47. <https://doi.org/10.12660/gvexec.v20n2.2021.83958>
- Zattoni, A., & Pugliese, A. (2021). Corporate governance research in the wake of a systemic crisis: lessons and opportunities from the COVID-19 pandemic. *Journal of Management Studies*, 58(5), 1405-1410. <https://doi.org/10.1111/joms.12693>
- Zulpahmi, Sumardi, Al Azizah, U. S., Nugroho, A. W., & Setiawan, E. (2024). Investigating the Impact of Corporate Governance on Financial Performance and Firm Value Prior To And During the Covid-19 Pandemic. *Revista De Gestão Social E Ambiental - RGSA*, 18(6), e05334. <https://doi.org/10.24857/rgsa.v18n6-069>