Are Controversies an Opportunity to Achieve Profitability? The Healthcare Sector Observation

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Abstract: Starting with climate changes, followed by the pandemic period and conflicts between states, companies have been encouraged to align their strategies to ensure business continuity. In addition to these tumultuous periods, sustainability reporting has often remained a relatively voluntary practice in many states. During the pandemic, newspapers highlighted numerous instances of corruption in the healthcare sector, highlighting concerns about how well companies were addressing community needs. This study aims to analyse the impact of controversies on the profitability of the healthcare sector companies and assess the opportunities that arise from reporting them. To investigate this, a sample of 1323 listed healthcare companies was used, and a quantitative analysis was conducted through statistical and econometric methods. Data were gathered from the Refinitiv Eikon Database covering the period 2020-2022 and included sustainability indicators such as ESG Controversies and ESG scores. ROA (Return on Assets) was used as the key profitability indicator. The study's findings reveal that there are no significant opportunities aligned tied to controversies in the healthcare sector during crisis periods. Contrary, controversies negatively impacted the profitability of listed healthcare companies during crisis periods. The novelty of the study is reflected in the analysis of the ESG controversies indicator associated with the profitability of the healthcare sector during crisis periods.

Keywords: ESG Controversies, Sustainability Performance, Profitability, ESGs.

1. Introduction

Climate changes, the SARS-CoV-2 (COVID-19) pandemic, and geopolitical conflicts highlighted the weaknesses of the global healthcare sector, including severe shortages of essential personal protective equipment, diagnostic tools, and clinical management resources, alongside an urgent need for financial assistance (Khanam et al, 2023). In response, governments, health insurance funds, and other financing entities provided resources to combat the crisis, including funding for hiring additional personnel and the acquisition of COVID-19 vaccines from suppliers operating in fiscal paradises. However, these actions triggered controversies creating the perception that the healthcare sector became profitable during the crisis period (Teremetskyi et al, 2021). Fiscal controversies, especially those covering environmental, social and governance (ESG) aspects can impact a firm's financial performance (Anita et al, 2023). In the healthcare sector this impact can be assessed using the ESG Controversies Score which measures the exposure to negative impacts affecting the reputation or increasing the firm's performance based on negative media stories (Wu et al, 2023).

This study analyses the impact of the controversies on the profitability of public listed healthcare companies in the context of multiple crisis periods. Two research hypotheses are proposed: (H1) that *ESG Controversies Score has a positive and significant impact on the profitability of healthcare companies during crisis periods*, respectively (H2) that *both ESG Controversies Score and ESG Score positively and significantly impact the profitability of healthcare companies during crisis periods.*

This analysis uses quantitative methods focusing on key indicators that measure controversies, sustainability performance, and profitability. The author's contribution to this study lies in the analysis of ESG Controversies within the healthcare sector during the multiple crises helping to understand the relationship between controversies and profitability. The novelty of this study is reflected in the focus on how controversies affect companies' profitability during crisis periods.

This article is structured as follows: the literature review examines the impact of ESG controversies on firm performance in the healthcare sector, using stakeholder, legitimacy and agency theory to understand the role of ESG scores and their influence on company value during crises. The methodology section outlines the use of quantitative to assess the effect of these controversies on the firm value. Although this study focuses on quantitative methods, future studies could benefit from a mixed method approach, including an analysis of sustainability reports from public listed healthcare companies published in the crisis period. The next sections present the results of the quantitative analysis, followed by a brief discussion on the findings. The last section of the research focusses on the conclusion of the study.

2. Literature Review

Sustainable and financial performance in the healthcare sector has generated significant interest from researchers and investors due to stakeholder pressures to adopt environmentally responsible business practices (Mousa and Othman, 2019). Voluntary reporting on sustainability performance has become a common practice among companies, serving as an useful tool for ensuring transparency, stakeholder engagement and business continuity (Lungu, Caraiani and Dascalu, 2011).

In the healthcare sector, there has been a shift towards rethinking and evaluating strategies to meet stakeholder expectations and future needs. Kuzey et al (2021) observed that while corporate social responsibility (CSR) analysis from 2011-2018 did not improve firm performance, adopting new sustainable strategies and practices could create value for shareholders. However, the implementation of these new strategies was postponed due to recent crises. Zaremba et al (2021) noted that, in developed countries, the healthcare sector's strategies were able to combat any crisis.

The recent healthcare crisis, caused by COVID-19, was unpredictable and had a significant impact on the healthcare sector. It exposed weaknesses and deficiencies in many countries, leading to severe shortages in daily system operations (Teremetskyi et al, 2021). In response, governments, health insurance funds, and other financing entities were pressured to act quickly, adopting preventive measures to combat the pandemic (Khanam et al, 2023). This often involved providing additional financing resources for the purchase of specialised medical and protective equipment, COVID-19 tests, vaccines, and hiring of additional workforce (Simovic et al, 2022; Teremetskyi et al, 2021).

These actions were perceived as corrupt by citizens, and controversies associated with the healthcare sector became a major media topic. The media played a crucial role in raising public awareness about the pandemic through regular updates on COVID-19 case numbers, educational advice and critical assessments of government measures (Khanam et al, 2023). According to Teremetskyi et al (2021), several forms of corruption significantly impacted citizens and contributed to a global economic crisis. These included irregularities in the procurement of goods and services for COVID-19 treatment, embezzlement of healthcare funds, governance opacity, abuse of power, nepotism in the management, petty corruption in levels of service, and fraud involving theft of medicines and medical devices. They also observed an interesting controversy in Italy, where a public tender for mask procurement in March 2020 included bids from agricultural and forestry companies and a seller of office supplies. Khanam et al (2023) reported similar issues in Bangladesh including money laundering cases, misappropriation of funds, and ineffective monitoring of healthcare supplies during the pandemic. Additionally, report of the European Commission (2023) revealed a controversial fiscal paradise involving Pfizer and Moderna. These companies were accused of paying minimal taxes on their profits from delivering COVID-19 vaccine doses. Such controversies contributed to the perception that healthcare companies were more profitable than ever.

Controversies can significantly affect a firm's financial performance (Anita et al, 2023). Companies involved in controversies often experience stock price volatility, increased cost of capital and reduced market share (Wu et al, 2024). To analyse these effects, databases that track both financial and sustainability indicators such as Refinitiv Eikon, have developed specialised metrics. One such metric is the ESG Controversy Score developed by Thomson Reuters. This score evaluates a company's exposure to negative impacts related to environmental, social, and governance controversies, based on negative media stories (Brinette, Fatma and Pinar, 2024). According to Thomson Reuters (2023), the ESG Controversy Score measures how these negative impacts might affect a company's reputation and potentially influence its firm performance (Anita et al, 2023). The score is calculated considering various related controversies including business ethics, tax fraud, human rights, management compensation, consumer behaviour, environmental concerns, shareholder rights, and employee health and safety (Agnese et al, 2024). Based on the aforementioned information, the first hypothesis was developed:

Hypothesis 1: *ESG Controversies Score has a positive and significant impact on the profitability of healthcare companies during crisis periods.*

The ESG Controversy Score is often analysed in relation to firm value (Aouadi and Marsat, 2018), and in research on how board gender diversity and board independence can mitigate the negative effects of controversies. For example, France mandates that boards of companies with over 500 employees and listed companies, to include at least 40% women (Brinette, Fatma and Pinar, 2024). Shaqil (2021) found that gender-diverse boards reduce risks by influencing ESG activities, which can be crucial for raising investor cash flow during crises. Wu et al (2023) analysed Chinese firms and observed that while board independence can help companies navigate difficulties, larger boards may reduce decision-making effectiveness, increasing the risk of further controversies. They also noted that independent board members can contribute by using their professional skills and social connection to help the companies navigate challenges.

The ESG Controversies Score reflects the impact of ESG related controversies on companies. ESG scores have become a key tool for demonstrating sustainability performance and creating firm value contributing to sustainable development and reflecting CSR actions (Kuzey et al, 2023). The relationship between ESG performance and firm value is usually explained through multiple theories, but in the context of the healthcare sector three are relevant. Brinette, Fatma and Pinar (2024) highlight these theories: (1) the stakeholder theory suggests that companies engage in CSR activities to achieve sustainability performance, reduce opportunistic management, and maximise shareholder wealth. During the pandemic, healthcare companies followed this path by expanding test capacities and hiring additional workforce. For example, Simovic et al. (2022) analysed measures taken by Croatian healthcare sector and noted that COVID-19 exposed significant gaps in governance revealing that insufficient attention has been paid to good governance and prevention of corruption; (2) According to the legitimacy theory, companies maintain legitimacy by aligning their practices with CSR actions. In the healthcare sector, legitimacy could be maintained by ensuring that organisations are involved in solving the society's challenges such as responding effectively to the pandemic (Brinette, Fatma and Pinar, 2024); (3) The agency theory views sustainability reporting as a practice that may reduce a firm's value due to increased costs (Brinette, Fatma and Pinar, 2024). However, Wu et al (2023) found that agency theory argues that effective governance reduces costs and improves operational effectiveness when shareholders and managers interests align. Therefore, the second hypothesis was developed as follows:

Hypothesis 2: *Both ESG Controversies Score and ESG Score positively and significantly impact the profitability of healthcare companies during crisis periods.*

3. Research Methodology

The impact of the controversies on the profitability of public listed healthcare companies in the context of multiple crisis periods, with a focus on the recent healthcare crisis is analysed using quantitative methods. Descriptive statistics and econometric models are used in these types of analyses to provide a structured approach to assess companies' financial performance. Previous studies that analysed the impact of controversies on company performance used the quantitative approach to draw objective conclusions (Agnese et al, 2024; Brinette, Fatma and Pinar, 2024; Aouadi and Marsat, 2018). This section presents the sample data, the description of the variables included in the analysis, and the tested econometric models.

3.1 Sample Data

The database used for the analysis impact of the controversies on the profitability of public listed healthcare companies, in the context of the COVID-19 pandemic included 1323 companies from Refinitiv Eikon database, resulting in 3969 observations. Since the focus was on the controversies reported during the crisis periods, only companies with available ESG Controversies Score data for the period 2020-2022 were considered. To have better regression results, the missing data of the dependent and independent variables were trimmed from the database. Therefore, the database resulted in 1168 unique listed companies and 2894 observations.

The regional analysis of final observations as presented in *Table 1*, reveals that American listed healthcare companies reported the most information on controversies (1525 observations) followed by Asian (740) and European healthcare companies (599).

Table 1: Sample data

	Overall
Number of listed companies	1323
Initial observations for the period 2020-2022	3969
Less: Observations dropped due to insufficient data to ESG Controversies Score	(500)
Less: Observations dropped due to insufficient data to Board Gender Diversity, Percent Score	(2)
Less: Observations dropped due to insufficient data to ROA	(3)
Less: Observations dropped due to insufficient data to Assets Turnover*	(461)

	Overall
Less: Observations dropped due to insufficient data to Leverage	(18)
Final observations for the period 2020-2022	2985
Number of Final Observations by Region	2985
Africa	20
America	1525
Asia	740
Europe	599
Oceania	101

**Used for study extensions*

3.2 Variables

The descriptive statistics and econometric models were constructed using eight indicators: three independent variables (ESG Controversy Score, ESG Controversy Score Dummy, ESG Score) for analysing controversies and sustainability performance; four control variables (Board Size and Board Gender Diversity Score, Leverage and Firm Size); and one dependent variable (Return on Assets - ROA) to measure the profitability. These indicators align with previous studies on firm financial performance, controversies and sustainability performance (Brinette, Fatma and Pinar, 2024; Aydogmus, Gulay and Ergun, 2022; Constantinescu et al, 2021; Kuzey et al, 2021; Batae et al, 2020). Details for each variable are presented in *Table 2.*

Table 2: Definitions of variables, sources, and references

Indicators	Definition	Data Source	Reference
Independent variables			
ESG Controversies Score (ESG_CS)	Measures the company's exposure to environmental, social and governance related controversies as reflected in the media. The scores must be ranging between 0 (indicating high involvement in controversies) and 100 (indicating no involvement).	Refinitiv Eikon	(Batae et al, 2020)
ESG Controversies Score Dummy (ESG_CS_D)	Measures the engagement of a company in a controversy. Takes 1 if the company has at least one ESG Controversy, 0 otherwise.		(Brinette, Fatma and Pinar, 2024; Jialong et al, 2019; Aoudi and Marsat, 2018)
ESG Score (ESG)	Considers CSR performance change and ESG scores separately.		(Kuzey et al, 2021)
Control Variables			
Board Size (BSize)	Measure specific to company's governance and ownership. It contains the total number of directors on board.	Refinitiv Eikon	(Brinette, Fatma and Pinar, 2024; Kuzey et al, 2021)
Board Gender Diversity Score (BGender)	Measure specific to company's governance and ownership. It contains the percentage of women directors on board.		(Brinette, Fatma and Pinar, 2024; Kuzey et al, 2021)
Leverage (LEV)	(Total debts/total assets) * 100		(Brinette, Fatma and Pinar, 2024; Kuzey et al, 2021)
Firm Size (Size)	Natural logarithm of the total assets		(Brinette, Fatma and Pinar, 2024; Kuzey et al, 2021)
Dependent Variable			
Return on Assets - ROA	(Net Income after taxes/total assets) * 100	Refinitiv Eikon	(Kuzey et al, 2021)

3.3 Regression Models

To construct valid and significant econometric models, a linear regression method based on multiple independent variables and a dependent variable was used. Regression analysis was used to assess the correlation between the independent and dependent variables in this study. Regression analysis was performed based on panel data analysis on cross-sectional and overtime data (Brinette, Fatma and Pinar, 2024; Almeyda and Darmansyah, 2019). The dependent ROA was identified as a profitability efficiency indicator usually used in firm financial performance research (Kuzey et al, 2021). SPSS Statistics software was employed to perform the econometric analysis, and specific models were applied to test the hypotheses as follows:

H1: *ESG Controversies Score has a positive and significant impact on the profitability of healthcare companies during crisis periods.*

$ROA_{it} = \beta_0 + \beta_1 ESG\_CS\_D_{it} + \beta_4 BSize_{it} + \beta_5 BGender_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \gamma_{year} + \varepsilon_{it}$ (Model 1),

where the subscript $_i$ denotes the firms and $_t$ denotes years, ROA_{it} is the dependent variable testing the impact of ESG Controversies Score Dummy on the profitability, $ESG\_CS\_D_{it}$ is the independent dummy variable for reporting ESG Controversies and takes 0 for no involvement in any controversies, and 1 for involvement in controversies. $Bsize_{it}$, $BGender_{it}$, LEV_{it}, $Size_{it}$ are control variables for board size, board gender diversity, financial leverage, and company size.

For H2: *Both ESG Controversies Score and ESG Score positively and significantly impact the profitability of healthcare companies during crisis periods,* another model was developed. The global influence of the ESG Controversy Score and ESG score on the profitability of the healthcare sector company was tested as follows:

$ROA_{it} = \beta_0 + \beta_1 ESG\_CS_{it} + \beta_2 ESG_{it} + \beta_3 BSize_{it} + \beta_4 BGender_{it} + \beta_5 LEV_{it} + \beta_6 Size_{it} + \gamma_{year} + \varepsilon_{it}$ (Model 2)

4. Results and Discussion

4.1 Descriptive Statistics

The first step before testing the research hypotheses was to analyse descriptive statistics. *Table 3 presents* the descriptive statistics for the dependent, independent, and control variables.

Table 3: Descriptive Statistics Overall

Variables	N*	Minimum	Maximum	Mean	Std. Deviation
ESG_CS	2985	0.68	100.00	93.6932	19.12741
ESG_CS_D	2985	0	1	0.13	0.336
ESG	2985	2.37	95.58	41.4886	20.10402
BGender	2985	0.96	99.99	52.8579	28.71022
BSize	2985	1	70	8.50	2.720
ROA	2985	-1610.45	446.03	-14.0335	53.05034
LEV	2985	0.00	25627.26	80.3288	656.51413
Size	2985	13.02	24.84	19.5903	1.77508

**N is the total number of valid observations*

The independent variable ESG_CS had a minimum score of 0.68 indicating the existence of multiple controversies attached to listed healthcare companies. The ESG_CS_D variable had a mean value of 0.13, suggesting that 13% of company-year observations involved ESG scandals. This mean is lower than the 30% reported by Brinette, Fatma and Pinar (2024) for companies across different sectors, including healthcare in France. Despite this, the mean ESG_CS value of 93.69 and a standard deviation of 19.13% indicate high scores for reported ESG controversies, implying limited involvement in controversies (Brinette, Fatma and Pinar, 2024; Jialong et al, 2019; Aoudi and Marsat, 2018). According to Aydogmus, Gulay, and Ergun (2022), ESG scores ranging from 26 to 50 represent satisfactory ESG performance and moderate transparency in sustainability disclosure. Therefore, the mean value of the ESG score in this study suggests that the healthcare sector has been actively engaged in presenting sustainable information to stakeholders during crisis periods.

The descriptive statistics reveal a negative ROA of 16.10%) during the crisis periods by healthcare companies. Kuzey et al (2021) reported a positive mean value before the pandemic. In this case, the negative value cannot be attached only to the presence of the ESG Controversies, but it may be linked to the effects of the COVID-19 pandemic.

BGender and BSize presented an average of 52.86% of women on board, with board size ranging from 1 to 70 members. The high presence and the existence of women on board were perceived as a good practice in recent studies due to their ability to mitigate negative effects of controversies (Brinette, Fatma and Pinar, 2024). Regarding the control variables, Size has a mean value of 19.590, while LEV has a high mean of 80.33% for LEV, indicating that listed healthcare companies tend to have more debt than assets (Aydogmus, Gulay, and Ergun, 2022).

4.2 Correlation Results

Table 4 presents Pearson's correlation matrix for the variables included in the models. Pearson's correlation is also used in analyses by other authors (Brinette, Fatma and Pinar, 2024; Aydogmus, Gulay and Ergun, 2022).

Table 4: Model 1 & 2 - Pearson's correlation matrix

	ROA	ESG_CS	ESG_CS_D	ESG	BGender	BSize	LEV	Size
ROA	1	-0.010	0.034	.256**	.083**	.155**	0.006	.360**
ESG_CS	-0.010	1	-.853**	-.215**	-.038*	-.165**	-0.004	-.300**
ESG_CS_D	0.034	-.853**	1	.235**	.046*	.157**	0.001	.310**
ESG	.256**	-.215**	.235**	1	.305**	.372**	0.013	.617**
BGender	.083**	-.038*	.046*	.305**	1	.123**	-0.003	.231**
BSize	.155**	-.165**	.157**	.372**	.123**	1	-0.024	.499**
LEV	0.006	-0.004	0.001	0.013	-0.003	-0.024	1	-.075**
Size	.360**	-.300**	.310**	.617**	.231**	.499**	-.075**	1

*** and * denote statistical significance at 1 % and 5% levels, respectively.*

Pearson's correlation matrix suggests that ROA shows a positive but non-significant correlation with ESG_CS_D and a significant correlation with SIZE and BSize. However, the Spearman's correlation matrix (*Table 5)* shows a significant correlation between ESG_CS_D and ROA. In each correlation matrix, the BSize is significantly correlated with the ESG_CS_D.

Table 5: Model 1 & 2 - Spearman's correlation matrix

	ROA	ESG_CS	ESG_CS_D	ESG	BGender	BSize	LEV	Size
ROA	1	-0.035	.039*	.385**	.122**	.209**	.119**	.446**
ESG_CS	-0.035	1	-.997**	-.203**	-.044*	-.178**	-.127**	-.266**
ESG_CS_D	.039*	-.997**	1	.203**	.044*	.175**	.125**	.265**
ESG	.385**	-.203**	.203**	1	.302**	.423**	.270**	.584**
BGender	.122**	-.044*	.044*	.302**	1	.137**	.050**	.223**
BSize	.209**	-.178**	.175**	.423**	.137**	1	.203**	.543**
LEV	.119**	-.127**	.125**	.270**	.050**	.203**	1	.171**
Size	.446**	-.266**	.265**	.584**	.223**	.543**	.171**	1

*** and * denote statistical significance at 1 % and 5% levels, respectively.*

For the second model, both correlation matrices confirm that the independent variable is not negatively correlated with ESG_CS, but is positively and significantly correlated with ESG, BGender, BSize, and SIZE. Additionally, ESG_CS shows a significant negative correlation with BGender and BSize.

4.3 Regression Results

Before running the panel data regression, it was necessary to determine the most suitable panel data model for this study. In general, there are multiple types of linear regression panel data models such as pooled, random, and fixed effects (Aydogmus, Gulay and Ergun, 2022). However, research analysing the relationship between sustainability performance and firm financial performance, ESG disclosure, or corporate social responsibility (Aydogmus, Gulay and Ergun, 2022; Brinette, Fatma and Pinar 2024) use fixed effects models. Therefore, this study uses the F test, which confirmed that fixed effects were suitable for this analysis, with a significance level below 0.01. Additionally, the VIF values were all below 10, indicating no correlation between the independent variables (Brinette, Fatma and Pinar, 2024). The results of the linear regression used to test the validity and statistically significance of the two econometric models are presented in *Table 6*.

Table 6: Models 1 & 2 – Fixed - Effects Regression Results

	Model 1	Model 2
ROA	-246.563***	-260.33***
ESG_CS_D	-13.257***	-
ESG_CS	-	0.301***
ESG	-	0.174***
BGender	-0.005*	-0.028*
BSize	-0.650***	-0.719***
LEV	0.003	-0.003
Size	12.131***	11.244***
Year dummy	Yes	Yes
R	0.374	0.382
R Square	0.140	0.146
Adjusted R Square	0.138	0.144
F test	69.007***	63.633
Durbin Watson test	1.951	1.964
VIF	<10	<10
Model	Fixed Effect	Fixed Effect
Observations	2985	2985

, ** and * denote statistical significance at 1 %, 5% and 10% levels, respectively.*

In the first model, ESG_CS_D has a significant negative impact on ROA (β=-13.257, $p < 0.05$) indicating that involvement in controversies reduces company profitability (Brinette, Fatma and Pinar, 2024). Agnese et al (2024) observed that as the number of controversies related to a company's activity increases (indicated by a score below 100), profitability is negatively affected. Contrary to the findings of Brinette, Fatma and Pinar (2024), this model shows that the BSize and BGender also have a negative significant influence over the profitability of the company during the crisis period. This suggests that having women on board does not mitigate the impact of controversies on the profitability, and the negative interaction between BSize and ROA (β = -.650, $p < 0.05$) suggest that an independent board of directors does not moderate the effects of controversies on the profitability during crises. Therefore, the first hypothesis is not supported.

In the second model, ESG_CS and ESG show a positive statistically significant influence on company profitability during the crisis periods ($\beta_1 ESG\_CS_{it}$ = 0.301, $p > 0.01$; $\beta_2 ESG_{it}$ = 0.174, $p > 0.01$*)*, which confirms that the second hypothesis is supported. An in-depth analysis of the regression results suggests that an increase in ESG_CS (up to 100) positively affects company profitability during crises, indicating that handling controversies effectively can be beneficial (Agnese et al, 2024). Although the existence of controversies may negatively impact profitability, reporting ESG information offers the opportunity to improve financial performance during crisis periods (Anita et al, 2023).

4.4 Discussion

In the study by Aoudi and Marsat (2018), it was found that while controversies did not have a direct impact on firm value or profitability, their interaction with other factors was significantly associated with higher firm value. Contrary to these findings, the results of this research show that controversies during crisis periods had a negative impact on the profitability of healthcare companies. At the same time, as the number of controversies increased, the profitability of these companies decreased, indicating that the negative effects of these controversies were significantly higher than any potential benefits.

This partially aligns to the study of Anita et al (2023) which suggested that while controversies might expose companies to negative impacts that could affect their reputation, they could also present opportunities to improve performance. However, in this research no opportunity arising from the impact of ESG Controversies on the listed healthcare companies in the crisis period was observed. Moreover, the negative effects of ESG controversies on profitability were highlighted, indicating that the healthcare sector struggled to mitigate their impact during crises.

Therefore, the findings suggest that in the crisis period the healthcare sector was vulnerable to negative effects of the controversies associated with ESG aspects, without being able to turn these challenges into opportunities to improve profitability. These aspects highlight the need for effective crisis management strategies to mitigate the negative financial impact of controversies.

5. Conclusion

This paper analysed the impact of the controversies on the profitability of public listed healthcare companies in the context of multiple crises, between 2020-2022, using a fixed effects panel data approach with ROA as the profitability dependent variable.

The first model revealed that ESG Controversy Score Dummy had a significant negative impact on ROA, indicating that involvement in controversies reduced profitability. Board size and Board Gender also negatively influenced the profitability. Thus, the presence of women on board and the presence of an independent board did not moderate the effects of controversies during the crises.

The second model showed that while ESG Controversy Score and ESG Score had a positive impact on profitability during the crisis periods, the existence of controversies still posed a negative risk. Positive ESG performance indicated that reporting on environmental, social, and governance issues could generate the opportunity to increase the profitability. This study could be extended by analysing the impact of controversies on other profitability indicators such as Return on Equity or Assets Turnover.

The findings provide evidence that controversies associated with the healthcare sector during the crisis periods do not present opportunities for positive outcomes. Instead, these controversies negatively impacted the profitability of healthcare listed companies. Further research could extend this work by exploring opportunities and sustainable practices that improve the healthcare sector's performance during the crisis periods.

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