Utrecht University

# Master Thesis U.S.E.

MSc International Management

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## *Does ESG controversies score moderate the relationship between ESG factors and corporate financial performance in the healthcare industry in U.S.?*

An empirical study on the influence of ESG controversies sore on the relationship between ESG factors and corporate financial performance in the healthcare industry in the U.S.


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**Abstract**

In light of the pressing global challenges, ESG reporting has become crucial for large corporations to attract new investors. Since 2022, the regulatory authorities in the U.S. have proposed initiatives to strengthen ESG disclosure for companies that are listed on stock exchanges. This paper aims at analyzing the influence of ESG factors and Controversies (ESGC) on the Corporate Financial Performance (CFP) in the U.S. healthcare industry, focusing on the moderating role of ESG controversies. Based on a sample of 299 firms, this study employs the Ordinary Least Squares (OLS) regression analysis to study the relationship between ESG pillars scores and financial performance measures, including Tobin's Q, stock return, and market capitalization. The findings show that the Environmental factor has a significant and positive relationship with market value, while the Social and Governance factors fail to show a positive relationship with CFP. Although ESG Controversies do not have a moderating effect on the relations between the ESG pillars and CFP, they negatively influence stock returns. The study underlines the importance of environmental concerns for healthcare organizations and the management of ESG controversies to increase market value and investors' trust.

**Key words:** ESG, Corporate financial performance, Healthcare industry, ESG Controversies, Environmental practices, Market valuation, Investor confidence, OLS regression, U.S. firms, Sustainability reporting

**JEL Classification:** G30, G32, M14, Q56

## 1. Introduction

Climate change and global warming have emerged as important issues in recent years, garnering attention from scholars and the society, which in turn has made people more aware of the ESG risks faced by organizations worldwide (IPCC, 2022). The Corporate Sustainability Reporting Directive (CSRD) was introduced by the European Commission in 2021 with the purpose of updating the previous legislation and enhancing the quality of the reporting on sustainability. The initiative seeks to enhance the comparability and reliability of ESG ratings besides creating a framework for ESG ratings (Baumüller & Grbenic, 2021). In 2022, the United States Securities and Exchange Commission (SEC) released a proposal requiring businesses to disclose their direct greenhouse gas emissions in their public reports, providing third-party verification (Tysiac, 2022). The Sustainability Accounting Standards Board (2017) have revealed that 83% of the business organizations operating in the United States and registered with the U.S. Securities and Exchange Commission (SEC) disclose sustainability information in their compliance reports even though not mandatorily required. These regulations underscore the emerging integration of corporate governance, social, and environmental responsibilities, suggesting that investors should consider ESG metrics to be correlated with financial success (Gerard, 2019). This has therefore made ESG reporting a key driver that influences investment decisions (Wessel, 2024). According to Bifulco et al. (2023), enterprises may indeed get several advantages from ESG reporting, such as attracting private investors and obtaining incentives for securing more funding. Sassen et al. (2016) has also noted that ESG reporting significantly impacts an organization's reputation, public image, and financial performance. Furthermore, Giese et al. (2019) have shown that there is a favorable relationship between corporate financial performance (CFP) and ESG ratings.

Initially, ESG reporting lacked consistency in how ESG factors were measured and evaluated emphasizing the need for a comprehensive strategy to achieve sustainable and responsible investing (The Evolution of ESG, 2023). To address this, global rating agencies introduced ratings to provide investors with a comparable ESG performance (Gafni et al., 2024). Companies engaged in non-environmental activities suffer negative results in the market and among other firms since investors prefer companies that are environmentally friendly (Bodhanwala & Bodhanwala, 2019). In this context, ESG controversies (ESGC), such as fraud, product scandals, or legal issues, play a critical role as they are closely scrutinized by market participants. These controversies can seriously damage

the reputation of a firm and discourage responsible investors, highlighting the need for a proactive management and transparency in addressing such issues (Tamayo-Torres et al., 2019).
This scrutiny is especially concerning in the healthcare sector, which often experiences negative occurrences and controversies, resulting in a more sensitive market and greater vulnerability to risks (Aboud, 2019; De Franco, 2020). Healthcare firms involved in unethical acts or endangering safety of the citizens, suffer significantly both high financial penalties, and loss of investors' trust. However, the negative effects of these fluctuations can be offset by enhancing the use of ESG factors. Addressing ESGC factors, diverse healthcare organizations can better manage their revenues to correspond with fluctuations in market demands and improve their overall financial performance. Scholars argue that establishing robust ESG practices aids in the mitigation of controversies as well as enhances the business environment's sustainability and ethical standards (Aboud and Diab, 2018). This underscores the importance of ESGC in influencing investors' perceptions and market stability within volatile industries such as healthcare.

Taking into consideration that healthcare plays a vital role for the total output and sustainability of the United States, it is rather obvious that the fact of the sector being a leading contributor to both the enhancement of the country's socioeconomic conditions and the worsening of environmental issues cannot be overlooked. The healthcare industry is one of the most important sectors for the overall output and sustainability of the United States (Reykhart, 2023), yet it is also a serious problem for environment and society due its significant impact on socioeconomic well-being and environmental degradation (Silva et al., 2021; Engler et al., 2022), as it produces 8.5% of greenhouse gasses of the country and contributes to 17.7% of GDP (Sheynin, 2024). Given these impacts, the increased significance of corporate social responsibility activities shows that maintaining a good reputation is crucial for the industry to enhance patient confidence and continual innovation (Giannarakis, 2014). Analyzing the healthcare sector's regulatory compliance and reputational risks is crucial to attract investors and improve stakeholders' well-being (PricewaterhouseCoopers, 2024). Therefore, the financial impact of ESG practices in the healthcare sector may not be similar to other industries. Even though social and governance practices are less transparent than environmental performance, their effect can also be significant but more unpredictable. Social responsibilities in healthcare are not only limited to the treatment of patients but also to the treatment of the community and the credibility of medical research. Strong governance structures are essential for providing safe and quality care, especially in emergency situations, such as the COVID-19 pandemic (Wiig et al., 2020; Guttman et al., 2019).

Despite extensive research on ESG reporting's overall effects, there is a notable gap in understanding the potential influence of ESG controversies score on the relationship between ESG factors and corporate financial performance (CFP). Previous studies have examined ESGC's moderating impact in the oil and gas industry (García-Amáte et al.,2023) and in listed travel and leisure companies (Rodríguez-Fernández et al., 2019), both finding significant and positive relationship between the environmental factor and corporate financial performance and the moderating influence of ESG Controversies. This study, therefore, aims to address a significant knowledge gap by investigating how ESG controversies score (ESGC) and E, S, G factors impact corporate financial performance (CFP) within the healthcare sector, a niche industry that has not yet been investigated. By exploring the relationship between environmental sustainability (ESG) and CFP, this research will contribute to the existing literature by shedding light on the moderating effect of ESG controversies score on the association between ESG factors and CFP, particularly within the U.S. healthcare industry. Thus, the central question of this research is:

*Does ESG controversies score moderate the relationship between ESG factors and corporate financial performance in the healthcare industry in the U.S.?*

This study supplies a sample of 299 companies operating in the U.S. healthcare sector. The sample gathers data from 2023 and for ESGC from 2022, sourced from the Eikon database provided by Thomson Reuters (Refinitiv 2021) and the Ordinary Least Squares (OLS) method has been employed for the regression analysis. The results reveal an intricate relationship between ESG factors, ESG controversies and company financial performance in the healthcare industry. This research indicates that there is a direct positive relationship between environmental performance and company market value, which further underlines the financial significance of environmental performance. However, none of the social and governance factors seem to affect the financial metrics and this might imply that different strategies should be adopted to explain their financial consequences. Moreover, there is no evidence that ESG controversies affect the relationships between ESG factors and financial metrics, implying that the impact of past controversies may not change the effects of current ESG practices. However, the findings reveal that ESGC has a negative relationship with the stock price. These findings support the emphasis on the environmental aspects and suggest that there is a need to enhance disclosure standards of ESG risks and opportunities in the healthcare sector in order to provide a clearer view and boosting investors' trust.

The structure of the paper is organized as follows. Firstly, the literature review and conceptual framework present the main assumptions based on existing literature and revised theories, leading to the development of hypotheses. Secondly, the empirical analysis section details the data and methods

used to answer the research question and delves into the analysis and its outcomes. Thirdly, the results section presents a detailed description of study's findings. Finally, the discussion section explores the reasons behind the results and critically examines the relationships between the variables, lastly drawing a final conclusion.

## 2. Literature Review

### 2.1. ESG and Corporate financial performance

The acronym ESG is defined as “the consideration of environmental, social and governance factors alongside financial factors in the investment decision-making process” (MSCI, 2019). It was initially introduced in 2006 by the United Nations Principles for Responsible Investment (UNPRI) as a framework for evaluating the sustainability and social responsibility practices of businesses (Hoepner et al., 2019). The primary purpose of ESG disclosures released is to provide stakeholders with comprehensive view of a company’s governance policy, and its social and environmental impacts, thereby promoting sustainable and ethical corporate practices. This aligns with the “double-materiality principle”, which is now recognized as a key factor in decision-making and reporting practices (Directive - 2022/2464 - EN - CSRD Directive - EUR-LEX, 2022).

### 2.2. ESG controversies score

According to Friedman et al. (2021), the practice of "greenwashing" not only jeopardizes the legitimacy of ESG activities but also puts long-term financial success at risk. To overcome ESG-related hazards, it is necessary to achieve ESG goals while avoiding controversies or behavior that undermines them. ESG controversies (ESGC), ranging from product-related scandals to questionable social behavior, draw attention from the media and shareholder interest, highlighting the significance of open and accountable corporate procedures (Aouadi and Marsat, 2018; LSEG, 2023). Refinitiv (2021) defines ESGC as a firm’s exposure to unfavorable occurrences reported in the world’s media. Moreover, the media coverage of ESG scandals provides insightful information on how the market views a company's true adherence to ESG principles (Galletta and Mazzu, 2022).

Gyönyörová et al. (2021) indicate that the explanation behind ESG and ESGC indices has been intensely discussed leading to deeper research of the construction and their importance for the CFP of firms in different industries. However, this disparity emphasizes the necessity of a thorough examination of industrial sectors' ESG practices and factors (Baldini et al., 2018).

For instance, even though some research has examined ESG activities from the perspective of industries like banking, oil and gas, and chemicals, more investigation is still required to fully understand the diverse effects of ESG practices on stakeholder relationships and corporate performance in a range of industrial sectors.

### 2.3. Relevance of ESG in the Healthcare Industry

The healthcare industry prioritizes providing company social responsibility data, as noted by Giannarakis (2014). This is because the industry recognizes the critical role that company reputation plays in promoting patient trust and stimulating continuous innovation. Therefore, the adoption of corporate social responsibility initiatives is doubly important for the healthcare sector, as it cultivates relationships with stakeholders and maintains a favorable corporate image that is essential for growth and success (Giannarakis, 2014). Additionally, the contribution of the healthcare industry to environmental deterioration, such as greenhouse gas emissions and plastic pollution, highlights how urgent it is for medical professionals to address environmental issues (Silva et al., 2021; Engler et al., 2022). These issues are made worse by climate change, which increases the dangers to healthcare professionals and the threats to world health. Thus, in the context of the healthcare industry, the potential financial value of ESG practices can be considerably different from the value that is typical for other industries. Although the environmental performance is crucial, the impact of social and governance practices can also be considerable but less predictable and may vary with the context. Social responsibilities in healthcare companies are not limited to the patients' care but also cover community care, and the integrity of medical research. Management policies include legal requirements, patient information management, and organizational transparency; all of which are essential in building customers' trust and fostering compliance with necessary standards (Wiig et al., 2020). Such factors suggest that the financial value created by ESG activities in healthcare is linked with the sector's operation and ethical considerations. For instance, strategies such as effective governance frameworks improve the organizational capacity to deliver safe and quality care services which is critical during times of crisis, such as the COVID-19 pandemic (Guttman et al., 2019). Additionally, high reliability organizations (HRO) in healthcare makes organizations more prepared and responsive to crises emphasizing the necessity of effective governance (Wiig et al., 2020).

### 2.4. ESG Pillar scores

Notwithstanding the advancements in ESG reporting, there are still many concerns about the improper use of ESG as a greenwashing tool, in which businesses prioritize their short-term reputational gains ahead of consistent attempts to address environmental, social, and governance challenges (Chopra et al., 2024). ESG Key Performance Indicators (KPIs) were developed with the goal of assisting industries in efficiently measuring and communicating their sustainable policies (Gupta et al., 2021) by improving entities' performance while also giving investors transparency (Maas et al., 2016). ESG risk ratings, also known as ESG scores, examine a firm's exposure to the

climate risks that are industry-specific and those efforts made to address such risks (Chopra et al., 2024). An analysis of individual E, S and G pillars' scores and the overall ESG score shows if the enterprise is effective in conducting sustainable business operations and its overall function (Gupta et al., 2021).

Although investors have differing perspectives about the three ESG pillars, most of the research focuses more on the overall ESG ratings than on each of the pillars independently (Halbritter and Dorfleitner, 2015). However, Alsayegh et al. (2020) discover that the contribution of the environmental, social and economic performance to the total business sustainability performance are equal, while on the other hand, several previous literatures (Engelhardt et al., 2021; Jitmaneeroj, 2016; Giese et al., 2021; Miralles-Quirós et al., 2018), illustrate that the overall corporate sustainability performance is not affected equally by each ESG pillar. For instance, Cek and Eyupoglu (2020) find that only the social and governance pillars significantly affect economic performance, whereas Nekhili et al. (2019) emphasize how shareholders' opinions of ESG pillars change dependent on-board participation. In a similar vein, Velte (2019) highlights how the governance pillar, in contrast to the environmental and social pillars, has a markedly detrimental effect on profits management. According to Jitmaneeroj (2016), the direct impacts of each pillar score and the indirect consequences resulting from the causal relationships between those pillars have an impact on the total ESG score. Giese et al. (2021) demonstrate that, in the near term, governance is the dominating pillar, the environmental and social pillars grow increasingly important over time. Miralles-Quirós et al. (2018) indicate that the stock market places a positive value on the social and corporate governance activities of businesses operating in environmentally sensitive industries as well as the environmental practices of businesses unconnected to such industries. However, there is no consensus on the direct effect of every individual pillar on ESG score. Moreover, none of the studies focus on the healthcare industry.

Despite substantial research, the generalizability of prior study findings on the association between ESG metrics and corporate financial performance (CFP) remains limited due to varying industry practices. By concentrating on the healthcare sector, which has a substantial influence on the environment and contributes to socioeconomic well-being, this study seeks to fill these gaps. This sector offers a special setting for examining ESG effects that hasn't been thoroughly examined in previous research.

### 2.5. Conceptual framework and Hypothesis

#### 2.5.1. Relationship between Environmental pillar score and CFP

Concerning the correlation between the environmental factor and resource consumption planning, environmental issues are covered by areas related to environment protection, mitigating climate change, efficient use of resources, waste management and pollution control (Brogi and Lagasio, 2019). Such corporate practices that contribute to environmental conservation and impact minimization can result in both, immediate short-term effects and long-term no-regrets benefits for organizations (Reinhardt, 1999). Initially, their effect may be the source of cost reduction, waste minimization, and market expansion (Tamayo-Torres et al.,2019). Nevertheless, in the long run, they may provide the ability to develop corporate reputation and lower uncertainties while enhancing relationships with stakeholders such as employees, customers, and investors (Reinhardt, 1999; Delmas and Montiel, 2008).

Studies of the effectiveness of environmental policies has focused on their impact on market value, financial performance, or both, yielding inconclusive results. (Brammer et al., 2005; Suto & Takehara, 2018). For instance, Wang and Sarkis (2013) found a negative relationship between environmental factors and profitability but a positive one when combined with social factors. According to Ding et al. (2016), there was only a slight association between the performance of companies with non-financial information indicators and other firms in terms of specific financial measures or market valuation. Moreover, Tamayo-Torres et al. (2019) showed that profitability, measured by Tobin's Q ratio, did not follow environmental indicators' positive performance, implying that the latter had no effect on this financial performance indicator.

However, there is evidence supporting the positive impact of environmental policies on financial performance. Subrahmanya (2006) showed that the performance related to those firms that are less energy dependent is undoubtedly superior to the performance of companies whose outputs are energy dependent. Similarly, Bunse et al. (2011) noted that regenerative energy measures lead to the strengthening of economic and financial performance indicators. More recently, De Lucia et al. (2020) found that European firms, which achieved higher environmental performance, had higher return on asset (ROA) compared to the organizations with lower environmental performance.

In light of the above, the following hypothesis is:

*Hypothesis 1: Environmental pillar score has a positive impact on corporate financial performance.*

### 2.5.2. Relationship between Social pillar score and CFP

The social factor pertains to the dynamics within a firm concerning its human resources, encompassing aspects such as ensuring employment stability, upholding health and safety standards, safeguarding human rights, promoting equal treatment, and addressing gender-related issues across all levels of the workforce (De Lucia et al., 2020). Previous studies exploring this domain have attempted to measure the impact of the social factor on a firm's financial performance or market value. While some studies fail to establish a positive correlation between them (Attig et al. 2013; Tamayo-Torres et al., 2019), others suggest that emphasizing the social factor can yield financial benefits for a firm. For instance, firms may gain access to diverse sources of financing if investors perceive their commitment to social practices positively (Small and Zivin, 2005). Moreover, engagement in social initiatives can cause the development of new technologies that offer both financial and social advantages over existing ones (Tamayo-Torres et al., 2019). According to Engelhardt et al., (2021), the social pillar score is the main factor influencing a company's financial performance. Furthermore, authentic social responsibility practices can result in better employee retention, better reputation, and risk reduction against misconducts, therefore positively impacting companies' performance (de Roeck and Delobbe, 2012; Raman, 2018). As highlighted by Godfrey et al. (2009), social investment might also serve to safeguard the reputation of organizations against the fallout from adverse events.
Thus, it is hypothesized:

*Hypothesis 2: Social pillar score has a positive impact on corporate financial performance.*

### 2.5.3. Relationship between Governance pillar score and CFP

The governance factor encompasses elements such as board independence, transparency, disclosure policies, and shareholder protection (Galbreath, 2013), alongside considerations of board diversity. An independent board with fewer shareholders is often intrinsically connected with a well-defined corporate social responsibility strategy. In fact, the latest study by Velte et al. (2020) finds that non-shareholder boards play a crucial role in emphasizing corporate social responsibility programs, such as reducing gas emissions and ensuring environmental sustainability. According to Lueg et al. (2019), transparency and disclosure of information relating to governance can improve trust and as a result pave way for financial presentation. In fact, good governance is an important factor when it comes to undermine the risks to the firm's legitimacy. Implementing good governance practices, such as separating the roles of CEO and chairman or ensuring board diversity, is essential to achieving

stakeholder support and shareholder expectations while maintaining the long-term value of the company (Gjergji et al., 2021). This strategy creates more transparency, trust and brand reputation, enabling businesses to become more competitive and to perform financially, as emphasized by Ng and Rezaee (2015), which demonstrate the existence of a direct relationship between the issuance of transparency disclosures and company profitability. Moreover, empirical studies consistently demonstrate the positive impact of strong governance indicators on firm outcomes. For instance, Niesten et al. (2017) emphasize the significance of cooperation and stakeholder networks in building trust and improving performance. In addition, the presence of women as board members is connected to the higher priority on environmental policies and corporate social responsibility strategies, which suggests equity and governance with nothing amiss. Thus, investors and firms may gain the market value and financial performance (Amin at al., 2021).

Effective governance involves decision-making that aligns with stakeholder interests to prevent financial performance adverse impacts. Stakeholders influence performance through regulatory pressure and transaction scrutiny, motivating executives and shareholders to use corporate social responsibility strategies (Busch et al., 2022).

Therefore, the following hypothesis is:

*Hypothesis 3: Governance pillar score has a positive impact on corporate financial performance*.

### 2.5.4. Impact of ESGC on the relationship between ESG scores and CFP

Controversies provide unethical practices such as labor exploitation, child employment, environmental pollution and usage of illegal materials leading to conflicts with stakeholders and negatively impacting ESG dimensions (Tamayo-Torres et al., 2019). The emergence of the ESG controversies (ESGC) index reflects the market's assessment of these negative events' consequences on firms, potentially undermining investor trust and negatively impact financial performance (Refinitiv, 2021). Hence, corporate social responsibility performances play a crucial role in earning back trust in the market and the organization's reputation after a controversy (Becker-Olsen et al., 2006).

Controversies weaken a company's credibility and increase stakeholders' mistrust of sustainability related concerns (Aouadi and Marsat, 2018; Godfrey et al., 2009). This heightened awareness often leads to decreased sales, increased risks and expenses and a lower firm value (Tamayo-Torres et al., 2019; Aouadi and Marsat, 2018). While some contend that ESGC has a good moderating impact on

the link between financial performance and ESG practices (DasGupta, 2021), others claim that it may negatively influence investor confidence, increasing market volatility and risk (Nguyen and Nguyen, 2015). Additionally, bad news leading to negative outcomes such as employee misconduct or environmental catastrophe encourages negative stock market actions (Krüger, 2015). Industries such as healthcare, face intense criticism are faced with great criticism, mostly based on their ecological performance, driving the need for effective corporate social responsibility strategies to mitigate ESG controversies (López-Toro et al., 2021). ESGC management can preserve and moderate the link among ESG factors and financial performance (Shakil, 2021), although other researchers, such as Nirino et al. (2021) found contrary results.

Environmental controversies undermine firm reputation and credibility, potentially weakening the link between environmental measures and financial performance. Investors increasingly seek alternatives to mitigate the impact of irresponsible practices (Nguyen and Nguyen, 2015). Scandals related to social and governance factors, such as Enron or Parmalat, further strain the relationship between firm measures in these areas and financial performance (Engle, 2007).

Considering these assumptions and the potential impact of ESGC on various ESG factors, the following hypotheses are:

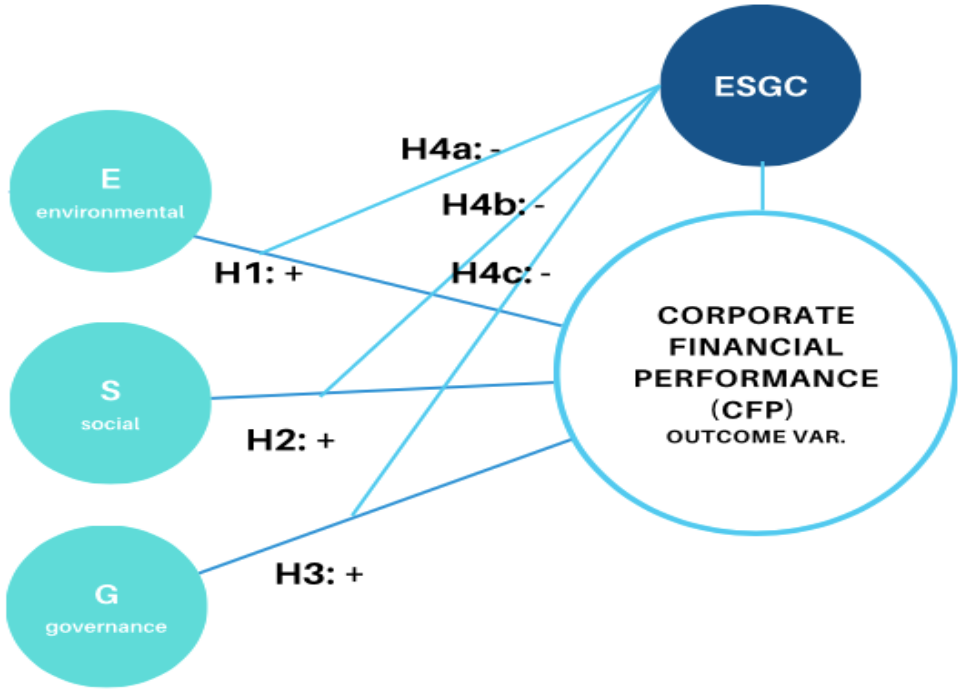
*Hypothesis 4a: The association between the Environmental pillar score and corporate financial performance is moderated by ESGC.*

*Hypothesis 4b: The association between the Social pillar score and corporate financial performance is moderated by ESGC.*

*Hypothesis 4c: The association between the Governance pillar score and corporate financial performance is moderated by ESGC.*

Fig.1 depicts the theorized effects of the variables on CFP.

**Fig.1** Conceptual model and hypotheses.



## 3. Empirical strategy

### 3.1. Data collection and description

The research design adopts an inductive quantitative method to investigate the relationship between corporate controversies, ESG practices, and corporate financial performance (Nirino et al., 2021). The use of a quantitative approach is justified because the study seeks to confirm relationships, as supported by previous research on the subject (Chen et al., 2018; Hernández et al., 2020).

To assess the research hypotheses, it has been employed the Ordinary Least Square (OLS) model, which is frequently applied in management and finance literature where the research seeks to determine the effects of sustainability policies on the performance of the firm (Wang and Sarkis, 2017; Nirino et al., 2019).

The sample of healthcare firms was compiled using secondary data from the Eikon database of Thomson Reuter's DataStream, which publishes the major economic and financial figures, and the information and data on ESG factors in relation to the sustainability indices. This database has already been used in prior studies on management and finance because of the extensive information it provides (Nirino et al., 2019). The dataset comprised 299 firms, with observations utilized to measure the variable ESGC. Controversies were lagged by one year, with 2022 observations used for ESGC and 2023 observations for ESG and CFP factors. This lag allows for the transmission of their effects to corporate financial performance, as suggested by previous studies (Suto & Takehara, 2018; Tamayo-Torres et al., 2019). This research is studied using the statistical software STATA.

The model used in this study encompasses five constructs, with the Environmental (E), Social (S), and Governance (G) pillars, along with ESG controversies score (ESGC), as the four independent variables, and Corporate Financial Performance (CFP) as the dependent variable. The pillars E, S, and G were assessed separately to examine the relevance of ESG practices on the corporate financial performance (CFP), based on indicators utilized in prior research (López-Toro et al., 2021; Nirino et al., 2021). For ESG Controversies score (ESGC), it is assumed a negative relationship with CFP in line with previous findings (DasGupta, 2021; Tamayo-Torres et al., 2019).

**Dependent variables**

To explore the impact of conflicts on various performance metrics, different performance variables have been considered. For the Corporate Financial Performance (CFP), *Tobin's Q ratio* is used as a primary measure of market valuation, calculated as the market value of the firm's assets divided by the total value of its assets (Dincer et al., 2023). Tobin's Q is widely for its efficiency in capturing the

market investors' valuation of growth options relative to assets, which makes it suitable for the measurement of market valuation (Lindenberg & Ross, 1981).

Additionally, the analysis includes the firm's stock *Price*, representing the last recorded closing price of the firm's shares, which is a direct indicator of investor attitude and market activity (Baker & Wurgler, 2007).

The *market value of firm (MVC),* corresponding to the total market value of a firm summed up in domestic currency, provides a comprehensive measure of a firm's size and market position (Amihud et al., 2005). For the market value of firm (MVC), the natural logarithm is employed to mitigate the influence of extreme values and normalize the distribution of firm sizes (Fama and French,1992). This transformation is especially valuable in predicting the data and testing if it satisfies the assumptions of the models that will be analyzed to increase their accuracy (Gujarati, 2004). All these indicators are defined by the Eikon database (Refinitiv, 2021) which ensures consistency and reliability in the data used for the study.

**Independent variables**

The *Environmental pillar* comprised three indicators, including gas emissions into the atmosphere, resource development usage, and environmental innovations (Refinitiv, 2021). The *Social pillar* included four indicators related to workforce score, human rights, community impact, and product responsibility (Refinitiv, 2021). The *Governance pillar*, consisted of indicators concerning corporate governance practices, shareholder relations, and CSR strategy (Refinitiv, 2021). The scores of the E, S, and G indicators ranged from 0 to 100, with higher values indicating stronger performance.

The *ESG Controversies score (ESGC)* is a single-element construct measuring a firm's exposure to negative events reflected in global media (Refinitiv, 2021). This is measured by counting the number of controversies for environmental, social, and governance issues and other negative events that firms have faced during the year (Li et al., 2019). Thomson Reuters define the score as follows: "*The ESG controversies score is calculated based on 23 ESG controversy topics. During the year, if a scandal occurs, the company involved is penalized and this affects their overall controversies score and grading*". Thomson Reuters' methodology compares each firm to its industry group based on 23 ESGC topics, yielding an ESGC score reflecting the firm's commitment compared to its peers (Fauser and Utz, 2021). This score ranges from 0 to 100, with higher scores indicating greater commitment.

**Descriptive statistics**

Means and standard deviations of the variables of the study are reported in Table 1. The environmental pillar (E. Pillar) shows a mean score of 39.59 with a high standard deviation of 23.066 across 221 observations, indicating significant variability in environmental practices among firms. In contrast, the social pillar (S. Pillar) and governance pillar (G. Pillar) have higher mean scores of 59.75 and 55.434, respectively, based on 299 observations each, with lower variability as indicated by their standard deviations 18.492 and 17.274, respectively. This suggests that firms generally perform better in social and governance aspects than environmental ones, but with some differences across firms.

The ESG Controversies Score lagged by one year (ESGC t-1) has a mean of 93.164 and a standard deviation of 19.875 over 290 observations, showing that most firms have high controversies scores, with a broad range from 3.68 to 100. This wide range underscores significant differences in controversy level among firms.

Regarding the financial performance variables, Tobin's Q ratio, which measures firm valuation, averages 2.324 with a substantial standard deviation of 2.891 across 298 observations, reflecting a wide range in firm valuations. Stock price (Price) shows a mean of 77.791 with a high standard deviation of 142.134, highlighting considerable variability in market prices among firms. Finally, the natural logarithm of market value of capital (ln_MVC) displays a mean of 21.174 with a standard deviation of 2.688, indicating less dispersion compared to other financial metrics.

**Table 1.** Descriptive statistics of the variables of the study.

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| E. Pillar | 221 | 39.59 | 23.066 | .23 | 92.62 |
| S. Pillar | 299 | 59.75 | 18.492 | 12.67 | 97.55 |
| G. Pillar | 299 | 55.434 | 17.274 | 8.95 | 93.51 |
| ESGC $_{t-1}$ | 290 | 93.164 | 19.875 | 3.68 | 100 |
| Tobin's Q ratio | 298 | 2.324 | 2.891 | 0 | 30.957 |
| Price | 299 | 77.791 | 142.134 | 0 | 1249.88 |
| ln_MVC | 299 | 21.174 | 2.688 | 3.909 | 27.496 |

**Correlations between variables**

The correlation matrix reveals significant relationships among the variables which are reported in Table 2. The results of the correlations indicate that there are some positive and negative relationships between variables. The environmental pillar (E. Pillar) is strongly correlated with the social pillar (S. Pillar), suggesting that firms with higher environmental scores tend to also have higher social scores.

On the other hand, the governance pillar (G. Pillar) shows a positive but weak correlation with the environmental and social pillars, indicating that the governance practice does not have a strong relationship with the other ESG dimensions.

Notably, the ESG Controversies Score (ESGC t-1) is negatively correlated with all the three pillars, especially with the environmental and social pillars. This suggests that firms with lower environmental and social scores tend to have higher controversy scores, highlighting the importance of robust ESG practices in mitigating controversies.

Tobin's Q ratio also shows low significance levels in its association with the ESG pillar, suggesting a limited influence of ESG factors on the valuation of firms using this ratio. However, stock price and the natural logarithm of market value of capital (ln_MVC) are slightly correlated to environmental performance and firm size, implying that firms with better environmental scores and larger firms own high stock prices. This suggests potential implications on market potential of improved environmental performance, and the influence of firm size on financial performance.

**Table 2.** Correlations of the variables of the study.

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| (1) E. Pillar | 1.000 | | | | | | |
| (2) S. Pillar | 0.658 | 1000 | | | | | |
| (3) G. Pillar | 0.177 | -0.012 | 1.000 | | | | |
| (4) ESGC $_{t-1}$ | -0.338 | -0.279 | -0.094 | 1.000 | | | |
| (5) Tobin's Q ratio | 0.084 | 0.092 | -0.067 | 0.044 | 1.000 | | |
| (6) Price | 0.410 | 0.296 | 0.146 | -0.062 | 0.433 | 1.000 | |
| (7) ln_MVC | 0.639 | 0.536 | 0.196 | -0.311 | 0.345 | 0.581 | 1.000 |

### 3.2. Data analysis

The regression analysis presented in Table 3 shows the impact of various ESG pillars and the ESG Controversies score, along with their interactions, on three different financial outcomes: Tobin's Q ratio, Price, and the natural logarithm of Market Value of the firm. This analysis specifically seeks to test the validity of hypotheses concerning the relationship between ESG scores and corporate financial performance.

To investigate the hypothesis, two models have been developed. The first model calculated the correlations between the coefficients ESGC and CFP and the E, S, and G scores.

$$CFP_{i,2023} = \beta_0 + \beta_1 Ei_{,2023} + \beta_2 Si_{,2023} + \beta_3 G_{i,2023} + \beta_4 ESGC_{i,2022} + \varepsilon_i$$

On these correlations, the moderating impact of ESGC was incorporated in the second model.

$$CFP_{i,2023} = \beta_0 + \beta_1 E_{i,2023} + \beta_2 S_{i,2023} + \beta_3 G_{i,2023} + \beta_4 (E_{i,2023} * ESGC_{i,2022}) + \varepsilon_i$$

$$CFP_{i,2023} = \beta_0 + \beta_1 E_{i,2023} + \beta_2 S_{i,2023} + \beta_3 G_{i,2023} + \beta_4 (S_{i,2023} * ESGC_{i,2022}) + \varepsilon_i$$

$$CFP_{i,2023} = \beta_0 + \beta_1 E_{i,2023} + \beta_2 S_{i,2023} + \beta_3 G_{i,2023} + \beta_4 (G_{i,2023} * ESGC_{i,2022}) + \varepsilon_i$$

The 7 Assumptions test for OLS was tested. Due to heteroskedasticity, which was identified by the Breusch–Pagan test, the models used were robust regression models. Robust standard errors are essential since they compensate for heteroscedasticity and possibly serial correlation in the idiosyncratic components to afford the right standard errors for the OLS coefficients. This approach is particularly important when variations in the outcome variable are associated with changes in the explanatory variables, as it increases the efficiency of the obtained regression coefficients (White, 1980). This method allows for more reliable inference by adjusting for the unequal variance of the error terms across different levels of the independent variables.

**Table 3.** OLS Regression analysis of the three models of the study.

| | (1) | (2) | (3) |
|---|---|---|---|
| **VARIABLES** | Tobin's Q ratio | Price | ln_MVC |
| E. Pillar | 0.051 | 5.745 | 0.084*** |
| | (0.063) | (3.504) | (0.031) |
| S. Pillar | -0.0184 | -4.554 | 0.028 |
| | (0.057) | (3.328) | (0.032) |
| G. Pillar | -0.088 | -4.129 | -0.002 |
| | (0.068) | (4.535) | (0.029) |
| $ESGC_{t-1}$ | -0.037 | -4.768* | 0.006 |
| | (0.046) | (2.827) | (0.021) |
| **Moderation effects** | | | |
| $E*ESGC_{t-1}$ | -0.0004 | -0.0326 | -0.0004 |
| | (0.0006) | (0.037) | (0.0003) |
| $S*ESGC_{t-1}$ | 0.0003 | 0.0553 | -0.0004 |
| | (0.0006) | (0.034) | (0.0003) |
| $G*ESGC_{t-1}$ | 0.0008 | 0.053 | 0.0001 |
| | (0.0007) | (0.0466) | (0.0003) |
| Constant | 5.270 | 355.3 | 17.02*** |
| | (4.390) | (271.8) | (1.905) |
| Observations | 212 | 213 | 213 |
| R-squared | 0.037 | 0.204 | 0.461 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

F statistics: Tobin's Q=0.3568, Price=0.000, ln_MVC=0.000

## 4. Results and interpretation

According to the hypotheses, the following are the findings of this research.

*Hypothesis 1: Environmental pillar score has a positive impact on corporate financial performance.*

Regarding *Hypothesis 1*, the results vary between the models. In Model 1 (*Tobin's Q ratio*), the Environmental pillar does not demonstrate statistical significance ($\beta = 0.051$, $p > 0.1$), indicating that its effects on firm valuation using this measure cannot be identified within the current sample. Despite the existence of correlations, these do not translate into significant implications for company valuation as measured by Tobin's Q. This lack of significance suggests that ESG factors, at least within this sample, do not play a substantial role in determining firm value through Tobin's Q, highlighting potential limitations in this valuation metric's sensitivity to ESG performance. Therefore, there is no evidence to support Hypothesis 1. Similarly, in Model 2 (*Price*), the Environmental pillar does not show a statistically significant effect ($\beta = 5.745$, $p > 0.1$), implying that its role in enhancing stock prices through this measure is less or non-existent in the current analysis. This lack of significance implies that Hypothesis 1 cannot be accepted based on the Price model results. However, in Model 3 (*ln_MVC)*, the Environmental pillar demonstrates a positive and strongly significant value ($\beta = 0.084$, $p > 0.1$), indicating that better environmental performance leads to a higher market valuation, supporting Hypothesis 1. This aligns with prior research suggesting that firms with a strong focus on environmental sustainability receive more favorable assessments from investors, which could translate to better market positions. The strong statistical significance ($p<0.01$) of this relationship indicates a robust impact of environmental performance on market value, suggesting that investors reward firms for good environmental practices.

*Hypothesis 2: Social pillar score has a positive impact on corporate financial performance.*

Regarding *Hypothesis 2,* the data does not support this hypothesis. In Model 1 (*Tobin's Q ratio*), the Social pillar shows a negative relationship and it does not demonstrate statistical significance ($\beta = -0.0184$, $p > 0.1$), indicating that its effects on firm valuation using this measure cannot be identified within the current sample. Similarly, in Model 2 (*Price*), the Social pillar does not show a statistically positive significant effect ($\beta = -4.554$, $p > 0.1$), suggesting its role in stock price enhancement is minimal or non-existent. In Model 3 (*ln_MVC)*, the Social pillar presents also shows no significant impact ($\beta = 0.028$, $p > 0.1$), reinforcing that its influence on market valuation is negligible in this analysis. Such insignificance means that Hypothesis 2 cannot be accepted. These results suggest that the social dimension may have different mechanisms or settings indicating its financial significance.

*Hypothesis 3: Governance pillar score has a positive impact on corporate financial performance*.

Regarding *Hypothesis 3,* the data does not support it. In Model 1 (*Tobin's Q ratio*), the Governance pillar is not positive nor significant ($\beta = -0.088$, $p > 0.1$), implying no identifiable influence on firm valuation. In Model 2 (*Price*), the Governance pillar is similarly observed not to have a significant positive influence ($\beta = -4.129$, $p > 0.1$), suggesting that the current approach of using this measure does not capture the Governance pillar's contribution to increasing stock prices, or that it has negligible impact. In Model 3 (*ln_MVC*), the Governance pillar is not revealed to be positive nor statistically significant ($\beta = -0.002$, $p > 0.1$), indicating its impact on market value is insignificant. The three models fail to accept Hypothesis 3. These findings suggest that it may be necessary to evaluate the governance factors employing various indicators or in other ways to identify their impact on finances.

*Hypothesis 4a: The association between the Environmental pillar score and corporate financial performance is moderated by ESGC.*

*Hypothesis 4b: The association between the Social pillar score and corporate financial performance is moderated by ESGC.*

*Hypothesis 4c: The association between the Governance pillar score and corporate financial performance is moderated by ESGC.*

The moderation tests of ESGC t-1 on these relationships are particularly insightful. None of the interaction terms are statistically significant across the three models. This suggests that the prior year's ESG controversies do not significantly moderate the relationships between the ESG pillars and the financial performance metrics (Tobin's Q, Price, and ln_MVC). These non-significant values suggest that there is no evidence supporting the hypothesized moderation effects (Hypotheses 4a, 4b, and 4c). The lack of moderation effects implies that the impact of ESG pillars to financial performance metrics majorly depends on the current state rather than prior ESG scandals. This finding is critical as it suggests that the influence of environmental, social, and governance practices does not depend on prior scandals, emphasizing the intrinsic value of these practices.

Notably, despite the previous findings that generally do not accept the theorized hypotheses, in Model 2 (*Price*), the results demonstrated that ESGC t-1 has a negative effect that is statistically significant ($\beta = -4.786$, $p > 0.1$), which may suggest that higher former ESG controversies scores can potentially

lower current stock prices. This implies that investors might have a negative impression towards firms with higher past ESG controversies, resulting in a lower current stock price.

In light of these findings, it is important to highlight the explanatory power of the models. For Model 1 (*Tobin's Q*), the low R-squared value of 0.037 further indicates that the model explains only 3.7% of the variability in Tobin's Q, suggesting that other factors outside the model are more critical in explaining variations in firm valuation. Additionally, the F-statistic is not significant, reinforcing the notion that the model does not provide a good fit for the data. For Model 2 (*Price*), the R-squared value of 0.204 indicates that the model explains 20.4% of the variability in stock prices, which is a moderate level of explanatory power. The significant F-statistic reveals that the overall model is a good fit to the given data, highlighting that all the independent variables included in the model are collectively significant in explaining stock price fluctuations. Lastly, for model 3 (*ln_MVC*), the high R-squared value of 0.461 indicates that the model explains 46.1% of the variability in the natural logarithm of market value of capital, suggesting a strong explanatory power. The significant F-statistic supports the overall validity of the model, indicating that the included variables are collectively significant in explaining variations in market value firm.

## 5. Discussion

This paper aims to explore the relationship between ESG factors and corporate financial performance within the context of healthcare firms in the U.S., focusing on the moderating role of ESG Controversies score. The Ordinary Least Square (OLS) regression analysis was applied on three models of Tobin's Q ratio, Stock Price, and the Market Value of a firm. The main findings revealed that the environmental pillar had a positive and statistically significant relationship with market value, suggesting that better environmental performance led to higher market value. On the other hand, there was no evidence that the social and governance factors affected financial performance, which indicate that their financial impact is less clear or context-dependent. Furthermore, the ESG controversies score did not moderate the relationship between the ESG pillars and financial performance but had a direct adverse impact on the stock price. This implies that past ESG controversies are related to lower current stock prices, due to the negative perception of investors. The varying the R-squared values across the models, shows that the market value of a firm model has the highest level of explanation. These results highlight the role of environmental factors in the market valuation in the healthcare industry, whereas the roles of social and governance factors are less significant. These results highlight the need for the healthcare organizations to pay attention to the environmental actions and the management of the effective ESG controversies, since the moderating effect is limited.

### 5.1. Theoretical implications

The findings of this study contribute to the theoretical understanding of the existing literature on ESG and its impact on corporate financial performance, particularly in the U.S. healthcare industry. Firstly, the strong positive relationship between the environmental pillar and market valuation further illustrates the importance of efficient environmental management in enhancing financial performance. This result supports existent theories suggesting that environmental strategies not only yield environmental benefits but also financial gains. Tamayo-Torres et al. (2019) note that good environmental practices have positive impacts on the organization's image as the market perceives them as environmentally conscious, creating a positive image for investors and hence better stock market performance. Both De Lucia et al. (2020) and Subrahmanya (2006) argue that industries that create adverse environmental effects, such as the healthcare sector, are more likely to experience higher regulatory demands and societal attention.

Secondly, the insignificant relationships between the social and governance pillars and financial returns identified in this study are not in line with earlier research that has boosted the financial

advantages of social and governance factors (Godfrey et al., 2009). This disparity indicates that the influence of the ESG factors may vary greatly by context and that the nature, and features of the healthcare sector may affect these relationships in ways that differ from those of other industries. Healthcare is a service industry subject to significant regulations and ethical concerns with the direct influence on human welfare, potentially changing the relationship between social and governance factors and financial outcomes. For instance, while social programs can improve brand reputation and employee productivity in other industries, their financial impacts in healthcare might be less direct or tangible. Engelhardt et al. (2021) and Gjergji et al. (2021), argue that the benefits of social and governance practices might take longer to create their effects, requiring different analytical methodologies. Additionally, governance practices in healthcare such as board structure, shareholder rights, and company transparency, might be more standardized due to stringent regulations, leading to a limited observable effect on the financial performance variables. Furthermore, the emphasis on compliance and ethical considerations of healthcare governance might be less tangible compared to other industries. Such a disparity with previous research highlights the need to conduct sector-based investigations to understand the financial impact of ESG undertakings. This better understanding of ESG factors across different sectors enriches the existent literature and provides a foundation for more targeted ESG strategies and policies. Lee et al. (2014) note that characteristics of industries may affect the effectiveness and the financial performances of ESG investments and, therefore, drawing global generalizations about ESG may be misleading.

Furthermore, the negative impact of ESG controversies and its influence on stock returns supports the theory that ESG risks must be managed adequately to maintain the value in the market, especially in industries with vulnerable trust and reputation (Nirino et al., 2021; Aouadi & Marsat, 2018). ESG controversies, such as adverse events involving environmental, social, and governance issues which, can damage the reputation of a firm and its stakeholders, decrease their trust, and result in various financial penalties, including declining stock prices and increased funding costs. Nirino et al. (2021) and Aouadi & Marsat (2018) have provided robust evidence on how ESG negative events can lead to investors' perception and market value changes. For healthcare firms, which operates under stringent regulatory frameworks and are expected to protect patient's interests, ESG failures pose significant risks to their reputation and financial performance. Unlike in other industries where reputation management may be an additional consideration, the financial performance of healthcare businesses can be impacted by people's perceptions of their ethical standards and corporate responsibility.

### 5.2. Practical implications

Based on the findings discussed, the practical implications of this research are significant for healthcare organizations and their investors. Firstly, building on the robust relationship between environmental performance and market valuation established in the healthcare industry, practitioners can harness this insight by integrating environmental sustainability metrics into business strategic priorities. Investing in energy efficiency, waste minimization, and green purchasing not only strengthens the environmental responsibility but also offers increased sustainability in healthcare. Aligning operations with environmental goals may also help in developing the value of environmental awareness among investors, increasing the brand image and implementing sustainable methods in operations in the long run.

Secondly, despite the insignificant findings for the social and governance pillars in influencing financial indicators, healthcare organizations should consider the broader implications of these factors, which goes beyond the financial aspect. While direct financial impacts may not be apparent, strong social strategies and robust governance practices can foster a resilient organization culture and improve stakeholder confidence besides preventing operational risks. This strategic focus may also mitigate regulatory liabilities and threats to organizational reputation and make tangible contributions to the sustainability and value creation by healthcare stakeholders in the long term.

Furthermore, the evidence of negative association between ESG controversies and stock returns reinforces the importance of effective ESG risk management in the healthcare sector. In order to have no adverse impact on the market perception and investors, the practitioners should encourage effective communication and strong stakeholder management which include proper auditing of the ESG practices. By managing and mitigating ESG risks, the healthcare organizations not only safeguard their reputation and earn investors' confidence but also ensure their operational excellence given the evolving legal frameworks and increasing stakeholder demands. In this regard, as suggested by Lee et al. (2014), it is possible to involve the ISO 14001/2015 or the GRI standards as frameworks for the integration of environmental sustainability into the operational practices of practitioners to ensure the total management and reporting of the environmental impacts.

This finding of multifaceted relationships between the ESG controversies and certain ESG factors for the healthcare sector means that there is a need to work towards developing holistic ESG approaches for the healthcare industry. Therefore, it is crucial for the practitioners to create flexible ESG frameworks that can contain proactive and passive approaches to managing sustainability issues related to external factors and internal challenges. This should be a continuous process to ensure that

the strategies are in line with the goals of the business, the industry, and the expected standards of the stakeholders.

### 5.3. Limitations and suggestions for further research

While this study provides valuable insights, there are several limitations that should be acknowledged. One primary limitation of this study is that it treats healthcare as a single industry without differentiating between the various sub-industries, such as pharmaceuticals, medical equipment, and healthcare services. These sectors have different ESG risks and opportunities, which determines how ESG considerations affect financial performance. For instance, pharmaceutical companies may have an interest in ethical drug trials and availability of drugs, while medical device producers may be concerned with the environmental impact of manufacturing and product safety. Hence, future studies analyzing these sector-level variations in ESG intensity can help build a better understanding of the impacts of ESG factors and guide the design of more specific ESG strategies, investments, and regulations. This allows for the determination of the interconnection between the different ESG risks and returns across each healthcare subsegment.

Another significant limitation is that the ESG metrics and the company's financial performance data are collected from secondary sources. The absence of a standardized format for data could pose a problem on the quality of data used, reporting method, and frequency, consequently affecting the findings. More primary data collection methodologies, like questionnaires and interviews with various stakeholders, could improve future research on the given subject by diversifying the data collected only through secondary resources. In the same vein, expanding data quality by working with relevant regulatory agencies and industry associations could strengthen the study and enhance the reliability of the results.

Thirdly, identifying ESG controversies by relying only on the information gathered from the previous year may not capture effectively existing or emerging issues that may affect the current year's financial performance of the company and the perceptions of its stakeholders. For this reason, it is recommended that future studies take a more real-time approach of capturing ESG controversies to assess the resultant impact on stock pricing and investors' confidence in the short and long-run. This approach may include developing real-time risk management tools using analytic and machine learning algorithms to identify and evaluate the effects of ESG risks while emerging.

Additionally, future research should investigate how ESG activities and their costs and benefits are influenced by corporate culture, leadership behaviors, and the involvement of different stakeholders

in healthcare organizations. It is also important to consider the culture of the company, since culture plays a critical role in determining the effectiveness of ESG initiatives (Eccles et al., 2014). In particular, there are positive associations between leadership behaviors, like transformational leadership, and increased levels of organizational commitment to ESG goals (Pless et al., 2012). Involvement of the patients, employees, and communities increases overall ESG strategies (Aguinis & Glavas, 2012). Therefore, analyzing how these factors influence ESG implementation can offer a deeper understanding of achieving financial and social impacts, thereby improving the management and policymaking of healthcare organizations.

Furthermore, an interesting area for future research would be the impact of new technologies like artificial intelligence (AI) and blockchain on ESG reporting and decision-making. These technologies could enhance the quality of ESG data, thereby enhancing the credibility of stakeholders concerning the ESG practices discussed in this paper. Subsequent research can also explore the emergence of AI-based ESG benchmarking systems and the use of blockchain for ESG reporting to ensure that the right information is shared to support businesses and gain investors' trust.

Lastly, longitudinal studies that follow the development of ESG practices over time would be useful in understanding the long-term effects of ESG on financial performance. In this way, researchers can examine the time horizon of ESG strategies and whether the results of such measures may have a long-time lag. For instance, longitudinal research could entail following a sample of firms over several years to determine the impact of sustained improvement in ESG performance on financial performance, risk management, and competitiveness.

### 5.4. Conclusion

In conclusion, this study provides insight into the relationship between ESG factors, ESG controversies, and corporate financial performance in the U.S. healthcare industry. The research shows that environmental aspects have a positive and significant relationship with the market value of a firm, while social and governance practices do not seem to have a significant relationship. ESG controversies do not moderate the relationship between ESG factors and corporate financial performance; however, they impact a firm's share returns, which underlines the significance of addressing these risks properly. These findings underscore the need for targeted interventions to build on ESG strengths, tackle risks that affect operations, and restore stakeholder confidence. Thus, healthcare organizations should enhance their market value and operational effectiveness through enhanced ESG disclosures, proper handling of controversies, and focus on environmental issues. Future research should focus on the extended analysis of the sector-specific ESG factors in healthcare,

the issues of corporate culture and stakeholders, and the dynamics of ESG issues and issues. This will help to gain a better understanding of how ESG factors affect the financial performance in the healthcare sector and to design a more efficient ESG approach.

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