
The Impact of CSR/ESG Reporting on the Cost of Capital: An Example of US Healthcare Entities

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Abstract:

Purpose: Identifying the direction and strength of the relationship between individual elements of ESG and ESG as a whole and the cost of capital (weighted average, equity, and debt) in the healthcare industry.

Design/Methodology/Approach: This paper incorporates an analytical approach based on the results of the original research.

Findings: According to our conclusions based on empirical studies of the US healthcare industry, ESG and its corporate governance component translate into the weighted average cost of capital and one of its components, i.e., the cost of equity.

Practical Implication: The healthcare sector is a critical element of the pandemic-determined economic reality. The possibility of obtaining cheaper capital, e.g., for its development, is therefore of considerable importance. This paper shows that the weighted average cost of capital (WACC) and the cost of equity is significantly affected by ESG and the corporate governance component. About the cost of debt, no such relationships can be established. In our view, the existence of such dependencies (allowing for reducing the cost of capital) is crucial for the managers of companies from this socially important sector.

Originality/Value: The article studies on the healthcare industry rarely focus on rationalizing the cost of capital. The literature presenting similar studies (linking the presentation of ESG disclosures with the cost of money), although concerning other industries, also suggests a lack of comprehensive empirical studies on this topic. Therefore, our study reduces this research gap in this context while the research methodology itself is also innovative.

Keywords: CSR, ESG, cost of equity, cost of debt, healthcare.

JEL classification: C80, G30, L20.

Paper Type: Research paper.

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1. Introduction

The healthcare industry is vital during a pandemic. A lot has always depended on its condition, development, and capacity to meet investment needs, and now there is even more on the line. Therefore it is so essential for the industry to raise capital quickly and at the lowest possible cost to meet the needs of a demanding reality. The issue of reducing the costs of raising equity and debt is complex. Therefore, it is undoubtedly worth undertaking research aimed at diagnosing what can help reduce the costs of raising capital, what relationships and dependencies are present in this area, and what actions can be helpful in this regard.

There is a growing body of literature indicating that the presentation of CSR/ESG information is becoming increasingly important because of the legal framework itself, which is being introduced more and more widely, and because of the evolving priorities of banks, institutional and individual investors. Business practitioners themselves and consumers note that by subscribing to ESG ratings, companies can improve their relationships with shareholders, increase investment, access a lower cost of capital, and make strategic decisions more effectively.

In addition, as the recent experience of the COVID-19 pandemic outbreak has confirmed, business models that take ESG factors into account are less likely to be negatively impacted by various types of disruptions, giving them a competitive advantage in the long term. What is more, recent months have also shown that companies taking into account environmental, social and corporate governance factors are in many cases better prepared for crisis management. Demonstrating achievements in this field can help minimize the impact of the current crisis, accelerate recovery, stimulate the innovation needed to function in the new reality, and reduce the risk of further problems in the future.

Avoiding pandemic-related perturbations and raising capital (both equity and debt) quickly and cheaply is particularly important for entities in the healthcare industry of interest. Therefore, our article aims to identify the direction and strength of the relationship between individual ESG elements and ESG as a whole and the cost of capital (weighted average, equity, and debt) within the healthcare industry. Due to the possibility of obtaining a relatively representative research sample and the representativeness of the respondents, our study focuses on the American (US) market.

2. Literature Review

Companies' origins of CSR/ESG disclosure practices can, in our view, be anchored in at least four theories: stakeholder theory, agency theory signaling theory, and legitimacy theory. Freeman (1994) defines stakeholders as 'any group or individual who can affect or is affected by achieving the organization's objectives, including shareholders, creditors, suppliers, employees, and the government.' Stakeholder

theory states that organizations are accountable for their actions because of interest-based, rights-based, and duty-based accountability (2016). An interest-based approach emphasizes the effects of organizational activities, a rights-based analysis calls for an equitable distribution of resources and opportunities, and a duty-based process looks at an organization's responsibilities to stakeholders.

Ultimately, stakeholder theory emphasizes that companies should strive to meet stakeholder demands, which, at least in the long run, leads to higher economic returns (Harrison and Freeman, 1999). Jones (1995) argues that trusting and collaborative stakeholder relationships help companies achieve a competitive advantage over companies with low stakeholder focus. In this sense, CSR activities play a crucial role for companies in gaining the necessary resources and stakeholder support. Bauer and Hann (2012) argue that environmental externalities can lead to various corporate problems. As a result, companies involved in environmental issues can be subject to costly penalties leading to adverse stakeholder reactions, ultimately impacting their risk of default. Accordingly, stakeholder theory may suggest that the greater the extent of a corporation's responsible actions, the lower the cost of capital.

Agency theory explores the problems of moral hazard and adverse selection resulting from the different interests of the agent and the principal, which leads to information asymmetry (Chow and Wong-Boren, 1987; Firth, 1980). Diamond and Verrecchia (1991) introduced a theoretical model showing that voluntary disclosure reduces information asymmetry among investors. Corporate reporting contributes to market liquidity, which leads to a lower cost of capital because liquidity is viewed as a function of information asymmetry (Glosten and Milgrom, 1985). While companies disclose more information about their operations, additional reporting on selected corporate issues can help reduce the information gap between the two parties, ultimately reducing shareholder uncertainty and lowering the cost of capital. Consequently, more extensive corporate information reporting may be an incentive for managers to raise money cheaply (Bokpin, 2013).

The signaling theory states that companies are emboldened to disclose more information because this reduces information asymmetry and shows (signals) to outsiders that the company is performing better than its market competitors (Scaltrito, 2016). Consequently, better performance leads to better perceptions by financial markets, thereby lowering risk and reducing the cost of capital. According to signaling theory, corporate disclosure of non-financial information broadens the spectrum of information recipients. Such practices allow companies to increase the plurality of stakeholders, from customers and employees to suppliers and government (Raimo *et al.*, 2021; Vitolla *et al.*, 2020)

Nevertheless, managers should seek to balance the positive effects of a lower cost of capital through additional disclosures with the possible disadvantages of scope reporting (Meek *et al.*, 1995).

The last-mentioned theory (legitimacy) is perhaps the most frequently associated in the literature precisely with the aspect of ESG disclosures. Given that our previous article discusses it in more detail, we will only synthetically mention that it is used to explain particular sustainability reporting practices by managers and allows for a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions (Dyduch and Krasodomska, 2017; Hooghiemstra, 2000; Meek *et al.*, 1995; Rahman and Alsayegh, 2021; Suchaman, 1995). The literature further highlights that ESG disclosures respond to societal needs (and even public pressure) in this regard (Hahn and Kühnen, 2013; Rahman and Alsayegh, 2021). It is indicated that stakeholders put increasing pressure on companies to prove that they operate sustainably, reduce negative environmental and social impacts, and implement sustainability measures (Eliwa *et al.*, 2019; Manes-Rossi *et al.*, 2020; Raimo *et al.*, 2021).

The literature furthermore points to links between ESG elements or the entire ESG score and the cost of capital. A lot of research has been conducted for several years. Generally, it can be divided into two main groups (research streams):

- research on the links between ESG (or its elements) with the cost of equity (Albarrak *et al.*, 2019; Ellili, 2020; García-Sánchez and Noguera-Gámez, 2017; Marshall *et al.*, 2009; Zhou *et al.*, 2017).
- research on the links between ESG as a whole or its elements with the cost of debt (Armitage and Marston, 2008; Bauer and Hann, 2012; Goss *et al.*, 2011; Guidara *et al.*, 2014; Hamrouni *et al.*, 2019; Najah and Jarboui, 2013; Oikonomou *et al.*, 2014; Orens *et al.*, 2010; Shad *et al.*, 2020; Talbi and Omri, 2014; Wang *et al.*, 2008).

Only a few studies examined both the impact on equity and debt (Lopes and de Alencar, 2010) and, for example, researchers who explored Brazilian companies found that corporate disclosure impacts both the cost of equity and debt, but they also compared these relationships, indicating that a more substantial effect is observed on the cost of debt than the cost of equity.

As to the direction of this impact (ESG on capital, these studies, in general, led to the consistent conclusion that there is a negative relationship between CSR/ESG or usually one selected element of it) and the cost of equity or debt, respectively. Different findings were observed relatively rarely (Clarkson *et al.*, 2013) found no statistical significance between environmental reporting and cost of capital. At the same time, Richardson and Welker (2001) observed a positive relationship between disclosure of one of the pillars of CSR (social information) and cost of equity on a sample of Canadian companies.

There is also an exciting strand of research (Espinosa and Trombetta, 2007; Gietzmann and Ireland, 2005) that shows that greater disclosure of information does

reduce the company's cost of equity, but only if the company pursues an aggressive accounting policy. It should be noted at this point that the studies cited, however, usually focused only on specific components of ESG and usually regarded the impact on one of the types of capital (equity only or debt only). Typically, the research samples under investigation were relatively small due to the lack of sufficient access to this information until a few years ago.

The literature indicates (Ellili, 2020) that there is still a lack of research in this area. We believe that there is a lack of comprehensive studies that would show simultaneously (on the same research sample, the same data) whether there are relationships between ESG, the components of ESG, and the cost of capital, weighted average equity and debt, and the cost of equity and debt separately. And what is most relevant to the topic of this article, we did not trace any research findings from this area that address the healthcare sector, which is vitally important, even more so now. Therefore, we set out to fill this research gap.

3. Research Methodology

Data on the ESG index and its components were extracted from the Thomson Reuters Eikon database, one of several databases collecting information on this topic. This database was created in 2010, and its scope is systematically expanded. Nevertheless, it is essential to mention that this database mainly contains non-financial information related to sustainability and social responsibility issues.

The ESG index is based on three pillars: E-environmental, S-social, and G-corporate governance. Each of the above areas is divided into subcategories: E-3 (resource consumption, emissions, innovation), S-4 (employees, human rights, community, product responsibility), G-3 (governance, shareholders, CSR strategy). The following formula is used to calculate the ESG index (Sikacz and Wołczek, 2018):

$$\text{indicator for ESG score} = \frac{a+b}{c} \quad (1)$$

where:

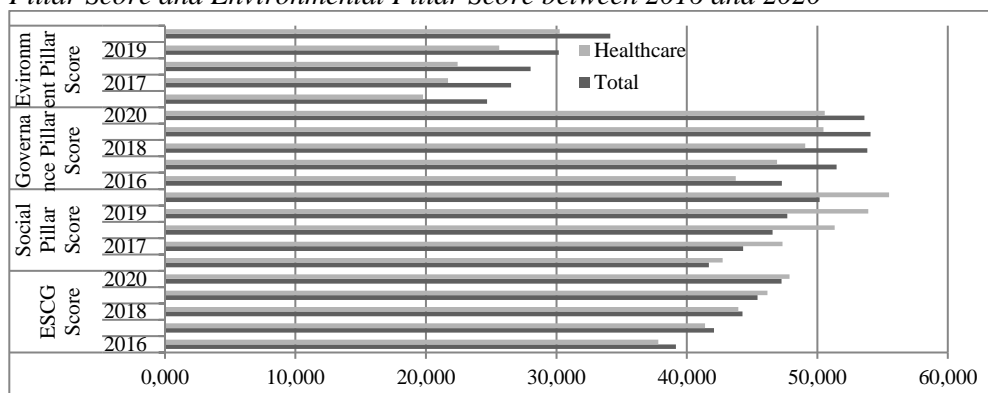
a - number of companies with worse results than the one being assessed, b - number of companies with the same results as the one being assessed, c - number of all companies with results.

The Thomson Reuters Eikon database uses a 12-point ESG rating scale. The study used data from companies that comprehensively described the various ESG elements:

x1 - Weighted Average Cost of Capital, (%) In the last 10 FY; x2 - ESG Score during the previous 10 FY; x3 - Social Pillar Score in the last 10 FY; x4 - Governance Pillar Score in the last 10 FY; x5 - Environmental Pillar Score in the last 10 FY; x6 - WACC Cost of Equity, (%) in the last 10 FY; x7 - WACC Cost of Debt, (%) in the last 10 FY.

The research includes data on 1,263 healthcare companies for the years 2016-2020. It can be noted that 2016-2020 is a period of growth for the ESG Score and its components: Social Pillar Score, Governance Pillar Score, and Environmental Pillar Score (Figure 1). The average difference between the values found for all companies combined and healthcare companies is at an average of 1.19 points. The most significant differences were found in the Environmental Pillar Score in favor of companies in total. In contrast, in the Social Pillar Score, the healthcare companies showed a higher average than companies in total. The average Environmental Pillar Score for both total and healthcare companies nearly doubled. The increase in the score of ESG and its components is indicative of the growing interest of companies in this topic, an increasing range of activities in the implementation of environmental strategies and policies. In this day and age, the customer is of the highest importance for any business, so companies are trying so hard to gain the trust of potential customers. Companies implementing green measures want to meet the legal requirements and avoid the negative image associated with violation of environmental regulations and fines resulting from failure to meet legal requirements.

Figure 1. The average levels of the ESG Score, Social Pillar Score, Governance Pillar Score and Environmental Pillar Score between 2016 and 2020



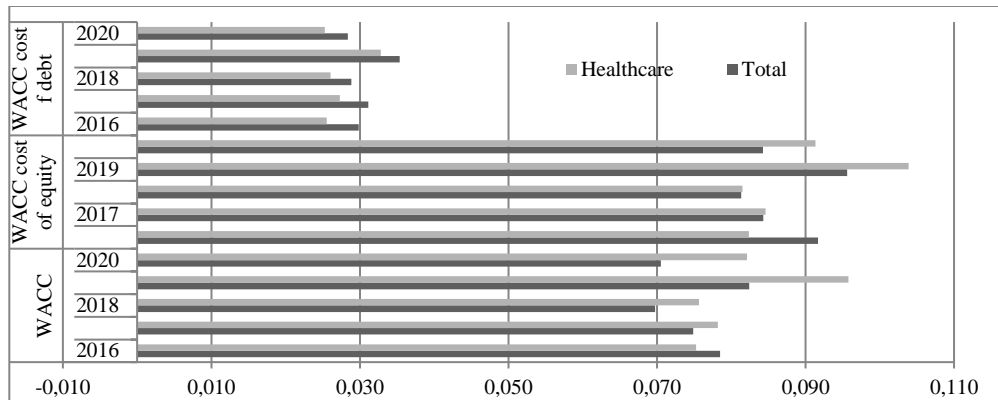
Source: An original compilation based on Eikon Thomson Reuters.

The weighted average cost of capital (WACC) and its components peaked in 2019. The overall weighted average cost of capital WACC and WACC cost of equity for healthcare companies exceeded those for total companies, with the differences growing larger each year. This may be because, in the face of increasing competition, clean technologies, and products, as well as popularization of social campaigns promoting care for the environment, it is essential to change perception, management strategies, raise public awareness of environmental issues, and introduce effective systems of ecological management in enterprises.

To achieve the goal presented in the introduction to the article, descriptive statistics were applied, including correlation and regression analysis. These methods allow verifying the relationship between the ESG score and its components and the weighted

average cost of capital and the cost of equity and debt separately. The study assumes the presence of relationships between variables from different periods. All hypotheses for testing the significance of the correlation coefficients and the parameters of the regression function were verified at the 5% significance level.

Figure 2. The average levels of WACC, WACC Cost of Equity, WACC Cost of Debt between 2016 and 2020



Source: An original compilation based on Eikon Thomson Reuters.

4. Results and Discussion

The relationship between ESG score and its components and the weighted average cost of capital, WACC cost of equity, WACC cost of debt for both healthcare companies and total companies show the same negative direction of the relationship between the variables. The significance of this relationship for healthcare was noted for ESG and WACC for all years analyzed, Governance Pillar Score, and WACC for all years (year-on-year and with a time lag). There was no significant relationship between the WACC cost of debt and total ESG and its components for entire healthcare companies.

In the next step, regression function parameters were estimated in which dependent variables were Weighted Average Cost of Capital, WACC Cost of Equity, WACC Cost of Debt, respectively. And the independent variables were ESG Score, Social Pillar Score, Governance Pillar Score, and Environmental Pillar Score.

Of the endogenous variables, only Governance Pillar Score showed a significant (negative) effect on weighted average total cost (WACC) and WACC Cost of Equity for healthcare companies. This impact was only significant in 2019 and 2020. The Social Pillar Score's positive (significant) impact on the WACC Cost of Debt in 2016 can also be observed. Nevertheless, the lack of significant correlation between the WACC Cost of Debt and ESG score and its components is confirmed by the results on the regression function.

Table 2. Regression function parameters for the dependent variables: Weighted Average Cost of Capital, WACC Cost of Equity, WACC Cost of Debt for companies in the healthcare sector

	Dependent variable: Weighted Average Cost of Capital			Dependent variable: WACC Cost of Equity			Dependent variable: WACC Cost of Debt			
	b*	Standard error	p	b*	Standard error	p	b*	Standard error	p	
2020										
Constant term	0.092	0.01	0.000	0.102	0.010	0.000	0.029	0.008	0.000	
E	0.069	0.115	0.552	0.028	0.113	0.806	-0.209	0.123	0.091	
S	-0.006	0.094	0.947	0.027	0.093	0.77	0.116	0.101	0.251	
G	-0.431	0.123	0.001	-0.46	0.121	0.000	0.058	0.131	0.661	
2019										
Constant term	0.104	0.011	0.000	0.109	0.012	0.000	0.028	0.006	0.000	
E	0.119	0.114	0.298	0.054	0.118	0.648	0.001	0.122	0.996	
S	-0.07	0.1	0.487	-0.001	0.104	0.994	0.135	0.108	0.213	
G	-0.396	0.128	0.002	-0.313	0.132	0.02	-0.044	0.137	0.75	
2018										
Constant term	0.082	0.010	0.000	0.086	0.010	0.000	0.018	0.004	0.000	
E	0.181	0.113	0.112	0.157	0.116	0.179	0.047	0.117	0.69	
S	-0.207	0.105	0.051	-0.163	0.108	0.134	0.192	0.108	0.079	
G	-0.241	0.129	0.064	-0.185	0.132	0.163	0.027	0.133	0.84	
2017										
Constant term	0.089	0.009	0.000	0.091	0.009	0.000	0.019	0.005	0.000	
E	0.109	0.12	0.365	0.072	0.124	0.565	0.057	0.124	0.647	
S	-0.193	0.102	0.062	-0.111	0.106	0.296	0.192	0.106	0.072	
G	-0.244	0.13	0.062	-0.168	0.134	0.212	-0.019	0.134	0.888	
2016										
Constant term	0.078	0.007	0.000	0.078	0.007	0.000	0.016	0.006	0.006	
E	-0.011	0.124	0.929	-0.01	0.126	0.937	0.028	0.125	0.826	
S	0.048	0.109	0.659	0.182	0.11	0.102	0.246	0.11	0.027	
G	-0.265	0.14	0.06	-0.225	0.141	0.114	-0.061	0.14	0.666	

Source: An original compilation based on Eikon Thomson Reuters.

5. Conclusion

The environment and the scope of activities aimed at building a proper green policy for the development of a company are dictated by society's increasing level of environmental awareness. Nowadays, being 'green' or 'sustainable' is not so much fashionable as necessary. Consumers pay ever-growing attention to corporate social responsibility issues. Companies are forced to expand their information on non-financial aspects of their activity. This non-financial activity manifests itself in environmental protection, social responsibility, and corporate governance. Creating some reports on CSR/ESG practices has now become indispensable.

As an objective, the authors set out to investigate a relationship between ESG and its components and the cost of equity, debt, and their weighted average. Correlation analysis and multiple regression analysis were used to achieve this goal, where the dependent variables were costs. Their results confirmed the assumption about the relationships between the information presented by ESG score and WACC. Significant negative correlations were found between ESG score and G - Governance Pillar Score in the examined healthcare industry. The remaining correlations were found insignificant, although also negative.

The authors found that the time lag approach allowed to capture the actual relationships between the variables analyzed. The impact of information presented in the financial statements of a given year is visible for the recipients of the words with a delay, after the books have been closed, de facto in the following financial year at the earliest.

Particularly noteworthy is the comprehensiveness of the research conducted by the authors, which allowed to demonstrate the existence of parallel relationships between the CSR/ESG itself and the weighted average cost of capital and the cost of equity and debt. This research also facilitated an analysis of the relationship of each ESG element to the relevant, previously mentioned cost categories.

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