The effect of environmental, social, and governance (ESG) performance and disclosure on cost of debt: The mediating effect of corporate reputation

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Abstract

Prior studies on the relationship between ESG information and cost of debt have found mixed results. They conclude that this relationship may be affected by some characteristics or attributes of the company. In this study, we examine whether corporate reputation mediates the relationship between ESG information and cost of debt. In other words, this study explores how ESG information influences corporate reputation, and how, in turn, corporate reputation affects the cost of debt financing. Data for corporate reputation were obtained from the Fortune "World's Most Admired Companies" List, whereas data on ESG information were extracted from two sources: ESG performance were obtained from Sustainalytics database and ESG disclosure were obtained from Bloomberg database. Data on cost of debt and other control variables were also collected from Bloomberg database. Using Structural Equation Models (SEM), we report a positive effect of both ESG performance and disclosure on corporate reputation. We also find that a good corporate reputation reduces the cost of debt financing and mediates the relationship between ESG performance/disclosure and cost of debt. We therefore conclude that firms that manage and disclose information on ESG issues have a better reputation, which in turn reduces their debt financing costs.

Keywords Environmental, social, and governance (ESG), performance, disclosure, corporate reputation, cost of debt.

Paper Type Research paper

Introduction

Following corporate scandals at the beginning of the millennium (e.g., Enron, Worldcom) the importance of a good corporate reputation has never been greater (Smith *et al.*, 2010; Veh *et al.*, 2019). When a corporation faces suspicious behaviour or allegations of business misconduct and fraud, one of the most important intangible assets the company might have to lose is its reputation, which is fundamental to its business activities and to the firm's stakeholders including customers, suppliers, investors, and lenders, among others (Hemphill, 2006; Gottschalk, 2011; Aguilera-Caracuel and Guerrero-Villegas, 2018). As a result, corporate reporting has been a subject of vigorous debate, and the views often diverge on how to enhance its quality and usefulness to investors, lenders, financial analysts, and other users (CICA, 2010; IFAC, 2012; OECD, 2013; CFA, 2018; CRD, 2019).

According to the Corporate Reporting Dialogue (CRD, 2019), the area that has commonly attracted the attention of several regulatory bodies is the integration of environmental, social, and governance (ESG)[i] factors into corporate reporting. Recent academic studies show that an increasing number of companies disclose ESG information (Eccles *et al.*, 2011; Odriozola and Baraibar-Diez, 2017; Amel-Zadeh and Serafeim, 2017; Yu *et al.*, 2018; Hamrouni *et al.*, 2020) and that the management of ESG issues is high on the agenda of several CFOs in publicly listed corporations (Koehler and Hespenheide, 2013).

According to the Governance & Accountability Institute (2019), 86 % of S&P 500 firms reported on their ESG and related issues in 2018, while the figure was less than 20 % in 2011. The relevance of ESG reporting to investors, lenders, and other stakeholders, however, remains an unresolved question in the literature. A number of recent studies have

examined the effects of ESG information on market value and cost of equity. Their results show that information on ESG factors increases the firm's market value (Eccles *et al.*, 2011; Husser and Bardinet, 2014; Harjoto and Jo, 2015; Yu *et al.*, 2018) and decreases its cost of equity (Dhaliwal *et al.*, 2011; 2014; El Ghoul *et al.*, 2011; Reverte, 2012; Wu *et al.*, 2014; Xu *et al.*, 2015; Gupta, 2018). However, studies dealing with the effect of ESG information on cost of debt found mixed or inconclusive results.

In this study, we argue that the relationship between ESG information and cost of debt[ii] is mediated by the corporate reputation. In doing so, we explore how ESG information influences corporate reputation, and how, in turn, corporate reputation affects the cost of debt financing. In addition, we examine whether corporate reputation mediates the relationship between ESG information and cost of debt.

According to Smith *et al.* (2010), a positive corporate reputation is only possible with ethical behaviour regarding ESG issues. In this sense, companies that engage proactively in ethical initiatives over the long-term (e.g., environmental responsibility, good human resources practices, and honest financial reporting) are expected to build a better reputation and gain the trust of a greater number of stakeholders. On the other hand, extant evidence in the accounting and finance literature suggests that stakeholders like investors, lenders, financial analysts, corporate managers, and others routinely rely on corporate reputation for decision-making purposes (Milgrom and Roberts, 1982; Diamond, 1989; Hammond and Slocum, 1996). In this study, we examine a fundamental issue of whether a corporation that builds a positive reputation also experiences a lower cost of debt financing. If there is such benefit associated with corporate reputation, this would provide significant

motivation to management to develop and maintain a corporate reputation-building strategy (Smith *et al.*, 2010).

To measure ESG information we rely on two reliable data sources: the Sustainalytics ESG performance and the Bloomberg ESG disclosure. Using a sample of U.S. S&P 500 firms included in the list of World's Most Admired Companies from 2013 to 2016, we report a positive association between ESG information (performance and disclosure) and corporate reputation. We also find that a good corporate reputation reduces the cost of debt financing and mediates the relationship between ESG information (performance and disclosure) and cost of debt. We therefore conclude that firms that manage and disclose information on ESG issues have a better reputation, which in turn reduces their debt financing costs. We expect to make several contributions to the literature. First, the prior research on the relationship between ESG and cost of debt has suggested that this relationship may be affected by some characteristics or attributes of the company. In this study, we extend the existing literature by providing empirical evidence that the ESG-cost of debt relationship is mediated by corporate reputation. Second, this study adds to the growing literature on the determinants of corporate reputation by suggesting that corporate audiences construct the reputation of companies by interpreting information signals about the firms' ESG issues. Third, this study also contributes to the growing literature on the consequences of corporate reputation by demonstrating a significant benefit that derives from creating and maintaining a high reputation, namely the reduction in cost of debt.

The rest of this paper proceeds as follows. The next section defines and describes the concepts of ESG and reputation and summarizes the results of prior empirical research on the topic. The third section presents our research objective and develops our research

hypotheses. The methodology section describes the data sources, sample, and variable measures. The following section presents our main findings. Finally, the last section discusses the results and proposes practical implications for various stakeholders as well as directions for future research.

Literature review

Environmental, Social, and Governance (ESG) information

The acronym "ESG" – for environmental, social, and corporate governance issues – was initially proposed by the United Nations Global Compact's (UNGC) "Who Cares Wins" initiative in June 2004[iii] as a way to highlight the importance of these issues to investors, lenders, and other decision-makers (HKEx, 2011).

According to Hong Kong Exchanges and Clearing Limited (HKEx, 2011), there are many terms to refer to corporate reports providing ESG information. One company may call it "corporate social responsibility (CSR) report", "corporate responsibility report", "corporate citizenship report" or "sustainability report". Indeed, there is some confusion in the literature between the terms ESG, CSR, or sustainability. While few authors (Hillenbrand and Money, 2007; Hult, 2011) see a little difference, most agree that these terms are used interchangeably to describe the same concept: "treating the stakeholders of the firm 'ethically' or in a 'responsible' manner that is deemed acceptable in civilized societies" (Hopkins, 2003, page 10).

For example, the World Business Council for Sustainable Development (WBCSD, 1998, page 3) defines CSR as "The continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well

as of the community and society at large". The European Commission (EC, 2011, page 6) also defines CSR as "The responsibility of enterprises for their impacts on society". The Financial Times Lexicon[iv] describes ESG as "a generic term used in capital markets and used by investors to evaluate corporate behaviour and to determine the future financial performance of companies". The Cambridge Business English Dictionary (2011, page 296) also defines ESG as "a way of judging a company by things other than its financial performance, for example its policies relating to the environment and how happy its employees are". Based on these different definitions, we therefore use in this study ESG and CSR terms as synonyms.

The three ESG terms (environmental, social, and governance) are often considered a catch-all designation of corporations integrating sustainability within their overall corporate strategy, with the degree of such application varying by industry, country, and firm size (Schalteger, 2006; Shrivastava and Addas, 2014). Broadly speaking, environmental information refers to the footprint of the organization on the natural environment in which it operates (Wilmshurst and Frost, 2000; Limkriangkrai *et al.*, 2016). This information may relate to corporate environmental policies on energy efficiency, greenhouse gas (GHG) emissions, hazardous waste, environmental litigation risk, environmental fines, and renewable energy where applicable (Shrivastava and Addas, 2014; Yu *et al.*, 2018). Social information refers to equitable treatment of employees and protection of the social ecosystem in which the company operates (Limkriangkrai *et al.*, 2016). It can include the percentage of employee turnover, employee training, percentage of workforce unionized, ratio of lowest wage to minimum wage, workforce satisfaction, and community engagement. Finally, corporate governance is the system by which business corporations

are directed and controlled with ethics, integrity, and transparency (OECD, 2004; Limkriangkrai *et al.*, 2016). Governance information includes board independence and diversity, compensation policies, takeover defences, anticorruption programs, and strength of internal audit and control mechanisms (Shrivastava and Addas, 2014; Yu *et al.*, 2018).

At the start of 2020, about $17 trillion of US-domiciled assets held by asset management firms and community investment institutions use ESG criteria in their investment analysis and portfolio selection. These assets represent more than 33 percent of all investment assets under professional management in the United States (Global Sustainable Investment Alliance, 2020). The increasingly use of ESG criteria in funding projects is also due to easier access to funds from banks and other lenders (Gupta, 2018). The use of ESG criteria becomes more and more important because investors, lenders, and other market participants now recognize that ESG represents opportunities and risks facing the firm (Limkriangkrai *et al.*, 2016).

Corporate reputation

Until now, there is no commonly accepted definition of corporate reputation (See Veh *et al.*, 2019). Fombrun (1996, page 72) contends that corporate reputation is "a perceptual representation of a company's past actions and future prospects that describe the firm's overall appeal to all its key stakeholders when compared to other leading rivals". According to several theorists (Milgrom and Roberts, 1982; Deephouse, 2000), corporate reputation is not easy to define because it is based on various stakeholders' views, intentions, and expectations of enterprise performance (Gottschalk, 2011). Indeed, it may vary from one stakeholder to the other depending on their perceptions and expectations,

which are dynamic and likely to change over time. Appendix 1 presents nine attributes that Fortune uses to assess corporate reputation.

The resource-based theory of the firm views corporate reputation as an intangible asset that is built up over time and that represents the value and trust that stakeholders have in the company (Fombrun and Shanley 1990; Deephouse, 2000; Warin and Teodoresco, 2012). This intangible asset is considered today by several economists and organisation theorists as the most important strategic asset to create value for the company and to achieve competitive advantage within an industry (Warin and Teodoresco, 2012; Pfister *et al.*, 2019).

According to the signalling theory, the reputation of a firm acts as an important signal of the firm's organizational effectiveness (Landgraf and Riahi-Belkaoui, 2003; Riahi-Belkaoui, 2004; Hsu, 2012). In this sense, a good reputation should enhance stakeholders' support and loyalty, which helps in doing business and therefore brings economic benefits and competitive advantage to the firm (Riahi-Belkaoui, 2004; Armitage and Marston, 2008; Gottschalk, 2011; Pfister *et al.*, 2019). These advantages may include : (1) customer preference in doing business with the company when other companies' goods and services are available at a similar price and quality (Gottschalk, 2011); (2) the opportunity of charging premium prices for its products to consumers (Landgraf and Riahi-Belkaoui; Riahi-Belkaoui, 2004); (3) the capability to pay suppliers lower prices for purchases (Fombrun and Shanley 1990); (4) the creation of a better image in the capital markets and to investors through a more correct valuation (Landgraf and Riahi-Belkaoui; Riahi-Belkaoui, 2004) and (5) the generation of more loyalty and productivity from employees (Fombrun and Shanley 1990).

Prior research

Prior research on the relationship between ESG (or CSR) and cost of debt is mostly based on the social contract theory. According to this theory, there is an implicit contract between firms and society, which specifies that business entities follow socially accepted and prescribed values and norms (Farache and Perks, 2010). The interaction between firm and society is constantly perceived as a critical element of corporate legitimacy. For example, constraining firms' greenhouse gas (GHG) emissions to an acceptable level (environmental factor), adopting equitable treatment of employees (social factor) or anticorruption programs (governance factor), etc. are acts of complying with social contract through which firms can achieve social legitimacy. In this setting, firms that are lax in decarbonizing the environment or fails to combat corruption or treat employees fairly, etc. are perceived by stakeholders (investors, lenders, etc.) to be acting in ways that are inconsistent with the values underlying the social contract (Deegan, 2002). Theoretically, this could have an effect on the firm's cost of debt financing.

Drawing on social contract theory, the prior empirical studies on the relationship between ESG (or CSR) issues and cost of debt found mixed and inconclusive results. For example, Ye and Zhang (2011) show that the improvement of CSR reduces debt financing costs in China. In a similar study, Cooper and Uzun (2015) show that US firms with strong CSR have a lower cost of debt financing. Huang *et al.* (2018) also document a negative relationship between CSR and cost of bond in China. They conclude that CSR plays a significant role in reducing the risk premium of corporate bonds through an insurance-like effect. Moreover, Oikonomou *et al.* (2014) report that corporate social irresponsibility is penalized by US creditors through higher corporate bond yield spreads. Using a sample of

3,996 loans to US companies, Goss and Roberts (2011) also provide evidence that companies with social responsibility concerns pay between 7 and 18 basis points more than companies that are more responsible. Ge and Liu (2015) also show that better CSR performance is associated with lower yield spreads and better credit ratings in the US. More recently, Hamrouni *et al.* (2020) find that ESG disclosure (used as CSR disclosure proxy) reduces the cost of debt for French companies.

However, Menz (2010) and Hoepner *et al.* (2016) find non-conclusive evidence and no direct influence of CSR on debt financing costs using samples from different countries across the world. Other studies revealed a positive relation between CSR performance and cost of debt, demonstrating that CSR is not a value driver with an impact on the firm's risk profile (e.g., Magnanelli and Izzo, 2017). Therefore, it seems that there is no unanimous consensus in the literature regarding the relationship between CSR and the cost of debt, and this link is still an empirical issue (Bacha *et al.*, 2021). Debate and controversy continue thus to exist about how (i.e. mechanism) CSR influences corporate financial performance (Hasan *et al.*, 2018) and therefore the cost of debt. These inconsistent findings imply that the effect of ESG (or CSR) on the cost of debt may rather be indirect through the other characteristics and attributes of the company. The previous results explain this controversy by the fact that "the strategic effects of CSR on the cost of debt depend on how financial stakeholders and creditors recognize the potentiality of CSR to reduce opacity risk, and perceive its benefits on firm value and reputation" (Bacha *et al.*, 2021, page 138). Attig *et al.* (2013) also argue that the dangers of behaving socially irresponsible are realized through a decrease in firm's intangible assets including reputation. This could affect the financial uncertainty, leading to a higher risk and thus higher cost of debt financing. Many

other authors also suppose that CSR can increase reputation and decrease the firm risks (Desender *et al.*, 2020; Bacha *et al.*, 2021). It seems therefore that corporate reputation, among other factors, might explain the mechanism by which CSR influences cost of debt.

In our study, we predict that the relationship between ESG (or CSR) issues and cost of debt is mediated by corporate reputation. This study can be one of the first to uncover the blackbox connecting CSR and cost of debt, which enhance therefore our understanding of the underlying mechanisms that legitimize CSR and create competitive advantage for the firm. Indeed, previous literature has shown that CSR has a positive effect on corporate reputation. For example, Vilanova *et al.* (2009) developed a model to explain how CSR activities affect financial performance and other dimensions of firm competitiveness. They suggest that CSR positively affects reputation which then improves performance[v]. In this setting, Brammer and Millington (2005) and Stuebs and Sun (2011) report that CSR is positively associated with corporate reputation using UK and US samples, respectively. Their results show that investment in socially responsible initiatives enhances corporate reputation. More recently, Odriozola and Baraibar-Diez (2017) confirm these results by showing that ESG disclosure increases the likelihood of having a higher corporate reputation in Spain. Using a national survey of US consumers, Kim (2019) also documents a positive effect of CSR disclosure on corporate reputation among consumers. Vercic and Coric (2018) find similar results based on the investigation of 550 senior college business students in Croatia. The results show that firms which develop different strategies, policies, and practices with regard to socially responsible behaviour have higher levels of perceived reputation among students. Finally, Axjonow *et al.* (2018) document similar results among

professional stakeholders in the US. Their results show that CSR disclosure influences corporate reputation among this category of stakeholders.

As to the relationship between corporate reputation and cost of debt, the research is very scarce, despite the fact that this relationship is intuitively appealing. To the best of our knowledge, Himme and Fisher (2014) is the only prior published[vi] study which has examined that relationship. Using Fortune magazine's survey of corporate reputation, their results show that reputation exerts large impact on cost of debt financing in the US. Some other studies have examined the link between corporate reputation and firm valuation or cost of equity financing. Overall the results of these studies suggest that companies with better reputations enjoy a higher market value (Black and Carnes, 2000; Riahi-Belkaoui, 2004; Smith *et al.*, 2010) and a lower cost of equity financing (Cao *et al.*, 2015; Pfister *et al.*, 2019).

Research objective and Hypotheses

Overall, previous research dealing with the relation between ESG (or CSR) and the cost of debt are rather mixed or inconclusive. However, other research dealing with ESG information report a positive relation between ESG and corporate reputation. Finally, to the best of our knowledge, only one published research study (Himme and Fischer, 2014) has suggested that reputation lower cost of debt financing.

We point out that the relationship between the three variables – ESG, reputation and cost of debt – has not been analyzed and this is what we propose to analyze in this research in order to test whether reputation plays a mediating role between ESG information and cost of debt.

ESG information and corporate reputation

While opponents of social responsibility argue that social responsibility expenditures are a poor use of shareholder money, proponents argue that social responsibility can improve the reputation of the firm (Linthicum *et al.*, 2010). Indeed Porter and Kramer (2002) state that the fulfillment of economic and/or non-economic social responsibilities, such as making positive contributions to the betterment of society and the environment, can be a strategic device for corporate reputation building (Walsh *et al.*, 2009; Park *et al.*, 2014).

In this sense, an increasing number of CEOs and senior managers rely on investments in social responsibility initiatives as a way to protect and build their firm's reputation (Pharoah, 2003; MacLellan, 2019). For instance, Fortune considers social responsibility to the community and the environment to be one of the main attributes of corporate reputation (See Appendix 1). Social responsibility is viewed as a key driver of reputation by the corporation's commitment to integrate economic, social, and environmental consideration into their quest for a competitive advantage (Warin and Teodoresco, 2012). Commitment to social responsibility is also based on the belief that companies should be responsible in their use of resources, whether natural, human, community, etc. (Larkin, 2003; Warin and Teodoresco, 2012). Socially-responsible firms expect to face fewer labour problems, fewer complaints from the community, and fewer environmental concerns from governmental agencies. These CSR firms may also have improved relationships with their stakeholders including investors, lenders, and government officials (Stuebs and Sun, 2011).

In this setting, ESG information is valuable because it helps a company demonstrate that it is managing its risks and has a track record of paying attention to its ESG issues (Koehler and Hespenheide, 2013; Axajonow *et al.*, 2018). Indeed, it can be argued that firms that

constantly manage and make timely and informative disclosures are more likely to avoid withholding value-relevant unfavourable information (Landgraf and Riahi-Belkaoui, 2003). Being recognized as a well-managed and high-quality reporting firm can enhance the organization's reputation and foster greater trust with its stakeholders (IFAC, 2012).

A high level of ESG performance and disclosure can therefore be perceived as a signal of firm or product quality, i.e., corporate reputation and brand equity (Hsu, 2012). Indeed, it is argued that ESG information is not primarily or exclusively designed for investors, but that it is rather aimed at satisfying the information needs of all corporate stakeholders (CICA, 2010; IFAC, 2012; Koehler and Hespenheide, 2013). Given that the reputation of the firm is shaped by stakeholders' perceptions, we expect that ESG performance and disclosure will have an impact on corporate reputation (see Figure 1). In other words, if a firm does well in the design of its corporate governance system and the implementation of sound social and environmental responsibility practices, this will translate into good reputation (Lev *et al.*, 2010; Odriozola and Baraibar-Diez, 2017). We conclude that the large majority of ESG factors are contributors to building and developing corporate reputation. We therefore formally state our first hypothesis:

Hypothesis 1: There is a positive relationship between ESG performance/disclosure and corporate reputation.

[Insert Figure 1 here]

Corporate reputation and cost of debt

The prior literature has, to a large extent, associated a company's reputation with its debt payment history or its credit rating (e.g., Diamond 1989, 1991). The company's payment

track record or its credit rating is called “hard” information. However, Stein (2002) suggests that other “soft” information can also play a valuable role in screening loan applicants and determining borrowing costs. Soft information tends to involve qualitative (non-financial) information and may include a lender’s judgment about the quality of the firm’s managers and products, the innovativeness of the firm, and the talent of its workforce, i.e. the company reputation. In other words, corporate reputation may represent soft information not captured by financial statements, which is nonetheless valuable to lenders (Anginer *et al.*, 2019).

According to Larkin (2003), the investment in establishing a good reputation is similar to having an insurance coverage which can provide protection for well-regarded companies in times of intense pressure. Furthermore, Coombs and Holladay (2006) also consider that companies with a favourable reputation are deemed as similar to having a bank account containing reputation capital. Companies with good reputations are also perceived to enjoy the benefit of the doubt with stakeholders in the event of negative circumstances or bad news about the company (Warin and Teodoresco, 2012). According to Hammond and Slocum (1996), socially responsible firms may have lower perceived market risk because they are able to anticipate and ‘control’ their changing environment.

As a consequence, we can expect that when a firm is viewed as socially responsible, it also may have a relatively low financial risk as a result of its more favourable relationship with the financial community. In contrast, less socially responsible firms may be considered to be riskier investments because of the possibility of government intervention (Hammond and Slocum, 1996). In this setting, it is suggested that reputation risk is considered as the most important risk facing companies by CEOs, directors, and publication relation

professionals (Economist Intelligence Unit, 2005; EisnerAmper, 2011; Warin and Teodoresco, 2012).

The financial impact of reputation loss can be significant, whether through a decline in revenue, a depletion of asset value, an increasing cost of capital, or eventually bankruptcy (Warin and Teodoresco, 2012). Inversely, a positive reputation can improve creditor trust and increase the company's ability to obtain financing at consistently favourable rates (Armitage and Marston, 2008), therefore lowering financial costs (Stuebs and Sun, 2011). This leads to our second hypothesis:

Hypothesis 2: There is a negative relationship between corporate reputation and cost of debt.

Corporate reputation as a mediator of the ESG–cost of debt relationship

In this article, it has been argued that the ESG performance/disclosure have an impact on corporate reputation. It has been further argued that corporate reputation has an impact on cost of debt financing. Accordingly, it is expected that corporate reputation mediates[vii] the relationship between ESG performance/disclosure and cost of debt. In other words, companies that manage and disclose information on ESG factors are expected to have better reputations, which in turn reduce their costs of debt financing. We state this prediction formally as our third hypothesis:

Hypothesis 3: Corporate reputation mediates the relationship between ESG performance/disclosure *and cost of debt.*

Methodology

Data and sample selection

Data for corporate reputation (mediator variable) were obtained from the Fortune "World's Most Admired Companies" list, whereas data on ESG information (independent variable), were extracted from two sources: ESG performance were obtained from Sustainalytics database and ESG disclosure were obtained from Bloomberg database. Data on cost of debt (dependent variable) and other control variables were also collected from Bloomberg database.

Our initial sample is based on all US S&P 500 firms included in the "World's Most Admired Companies" rankings by Fortune from 2013 to 2016 (940 firm-year observations). From this initial sample, we eliminated firms which were missing some data on at least one of the databases (40 firm-year observations), which reduced our final sample to 900 firm-year observations (see Table 1).

[Insert Table 1 here]

Table 2 presents the sample distribution by sector. This table shows that consumer discretionary, IT, industrials, financials, and health care sectors made up the largest proportion of firms in our sample (18.11%, 17.11%, 15.44%, 13.44%, and 12.22%, respectively). The consumer staples, utilities, real estate, energy, materials, and telecommunications services sectors made up the smallest proportions (7.22%, 5.78%, 3.78%, 3.11%, 2.89%, and 0.89%, respectively). These figures are in accordance with previous studies which used Fortune's rankings of "World's Most Admired Companies" (e.g., Cao *et al.*, 2015; Anginer *et al.*, 2019), but also with the composition of the S&P 500

index which is dominated by IT, Consumer discretionary, health care and financials sectors.

[Insert Table 2 here]

Variables measurements

Dependent variable: Cost of debt

To measure the cost of debt we used the Bloomberg calculation method. According to Bloomberg (2013, page18), the "weighted average cost of debt for the security is calculated using government bond rates, a debt adjustment factor, and the proportions of short and long term debt to total debt. The debt adjustment factor represents the average yield above government bonds for a given rating class. The lower the rating, the higher the adjustment factor. The debt adjustment factor (AF) is only used when a company does not have a fair market curve (FMC). When a company does not have a credit rating, an assumed rate of 1.38 (the equivalent rate of a BBB+ Standard & Poor's long term currency issuer rating) is used".

Cost of debt = [[(Short term debt / Total debt) × (Pre-tax cost of short term debt × Debt adjustment factor)] + [(Long term debt / Total debt) × (Pre-tax cost of long term debt × Debt adjustment factor)]] × [1- Effective tax rate].

Independent variable: ESG information

To measure ESG information we used two different data sources: Sustainalytics ESG performance score and Bloomberg ESG disclosure score.

The Sustainalytics ESG performance score measures how well companies proactively manage the ESG issues that are the most material to their business. Performance against ESG issues is analysed by looking at a comprehensive set of core and sector-specific

metrics, which are scored and weighted to determine a company's overall ESG performance. The score ranges from 0 for "poor" ESG performance to 100 for "good" ESG performance[viii].

The Bloomberg ESG disclosure score measures the amount of ESG data a company reports publicly. The score ranges from 0.1 for companies that disclose a minimum amount of ESG data to 100 for those that disclose every data point collected by Bloomberg. In other words, the higher the disclosure score, the more information is disclosed. Each data point is weighted in terms of importance, with data such as Greenhouse Gas Emissions carrying greater weight than other disclosures. The scores are also tailored to different industry sectors. In this way, each company is only evaluated in terms of the data that is relevant to its industry sector[ix]. According to many authors (Eccles *et al.*, 2011; Shrivastava and Addas, 2014; Yu *et al.*, 2018; Hamrouni *et al.*, 2020; Lopez-de-Silanes *et al.*, 2020), Sustainalytics and Bloomberg ESG data are arguably the most comprehensive data set on the sustainability measures offered by data providers.

Mediator variable: Corporate reputation

We measure corporate reputation using rankings in the "World's Most Admired Companies" list, which is an annual list of company reputation rankings issued by Fortune. The "World's Most Admired Companies" rankings are based on assessments from more than 4,000 senior executives, outside directors, and financial analysts of nine attributes of corporate reputation (see Appendix 1). These ratings were used to produce a list of the top-ranked companies in each industry, for each criterion, and an overall rating of the company's total reputation. The reputation score is the mean score averaging ratings ranging from zero (poor) to ten (excellent). Higher scores represent better reputation. The

"World's Most Admired Companies" list is by far the most widely-used measure of company reputation in academic research, presumably because it is an independent, publicly available[x] measure that covers a large number of companies and embodies the construct of "reputation" (Fombrun and Shanley 1990; Roberts and Dowling 2002; Smith *et al.*, 2010; Veh *et al.*, 2019).

Control variables

Like the previous studies we include in our empirical models the following control variables to control their effects on corporate reputation and cost of debt.

- *Firm size*$_{it}$ measured by logarithm of total assets of firm *i* at the end of year *t* (Brammer *et al.*, 2009; Brammer and Millington, 2005; Orens *et al.*, 2010; Goss and Roberts, 2011; Zhu, 2014).
- *Performance*$_{it}$ measured as net income scaled by total assets of firm *i* at the end of year *t* (Black and Carnes, 2000; Landgraf and Riahi-Belkaoui, 2003; Brammer *et al.*, 2009; Brammer and Millington, 2005; Zhu, 2014).
- *Leverage*$_{it}$ measured as total debt scaled by total equity of firm *i* at the end of year *t* (Brammer *et al.*, 2009; Brammer and Millington, 2005; Orens *et al.*, 2010; Goss and Roberts, 2011).
- *Growth sales*$_{it}$ measured by the percentage increase or decrease of sales revenue of firm *i* by comparing current year *t* with same period prior year *t* (Black and Carnes, 2000; Brammer *et al.*, 2009; Lorca *et al.*, 2011).
- *Volatility*$_{it}$ measured by the standard deviation of the monthly stock returns of firm *i* in year *t* (Black and Carnes, 2000; Anderson *et al.*, 2004; Brammer *et al.*, 2009; Maaloul, 2018).

- *Sector fixed effect*. The GICS sectors are consumer discretionary, consumer staples, energy, financials, health care, industrials, IT, materials, real estate, telecommunications services, and utilities.
- *Year fixed effect*. The years are 2013, 2014, 2015, and 2016.

All our measures of control variables were extracted from Bloomberg database.

Results

Descriptive statistics

Table 3 provides descriptive statistics (mean, standard deviation, minimum, and maximum) of the study variables. The cost of debt ranges from 0% to 5.01% for the companies in our sample with a mean of 0.93%, which is in line with prior studies (e.g., Zhu, 2014; Maaloul, 2018). The mean of corporate reputation score is 6.32 out of 10 and ranges from 3.86 (lowest reputation score) to 8.8 (best reputation score), which is also in accordance with previous studies (e.g., Cao *et al.*, 2015; Anginer *et al.*, 2019). The mean of ESG performance score is 61.22 out of 100 and ranges from 38 (poorest ESG performance score) to 86.35 (best ESG performance score), which is also in line with prior studies (e.g., Lopez-de-Silanes *et al.*, 2020; Eliwa *et al.*, 2021). As for the ESG disclosure score, it ranges from 10.74 (minimum ESG disclosure score) to 74.79 (maximum ESG disclosure score) with a mean of 35.10 out of 100, which is also in accordance with previous studies (e.g., Yu *et al.*, 2018; Hamrouni *et al.*, 2020).

Regarding the control variables, Table 3 shows that the mean value of firm size ranges from 7.307 (equivalent of 1.3 billion $US) to 14.761 (equivalent of 2,573 billion $US) with a mean of 10.338 (equivalent of 102 billion $US), which indicates that our sample is made up of companies of different sizes. The mean value of financial performance is 6.371 and

ranges from -50.544 to 41.926, showing that our sample contains performing and nonperforming firms. The mean value of leverage, growth sales, and volatility are 1.762, 4.319, and 21.27, respectively, which are comparable with prior studies (e.g., Goss and Roberts, 2011; Lorca *et al.*, 2011; Maaloul, 2018).

[Insert Table 3 here]

Univariate analyses

Before performing the correlation and multivariate analyses to test our hypotheses, we performed, in a first step, univariate analyses. First, we grouped our sample into 3 groups according to the extent of ESG performance/disclosure (maximum, medium, and minimum), and then into 3 other groups according to the reputation score (excellent, medium, and poor). The results of one-way ANOVA are reported in Table 4 (Panel A for the relationship between ESG performance/disclosure and cost of debt, Panel B for the relationship between ESG performance/disclosure and corporate reputation, and Panel C for the relationship between corporate reputation and cost of debt). In accordance with expectations, the results show that there is no significant difference across ESG performance or disclosure groups (maximum, medium, and minimum) with respect to cost of debt (Panel A). In other words, there is no direct relationship between ESG performance or disclosure and cost of debt. However, the results show a significant difference at the 1 percent level across ESG performance/disclosure groups (maximum, medium, and minimum) with respect to reputation (Panel B). In other words, companies that manage and disclose a maximum of ESG information have a better reputation than companies that manage and disclose a minimum of ESG information, which supports our Hypothesis 1 (H1). Finally, the results in Panel C show a significant difference at the 1 percent level

across corporate reputation groups (excellent, medium, and poor) with respect to cost of debt. In other words, companies with an excellent reputation benefit from a lower cost of debt than companies with a poor reputation, which supports our Hypothesis 2 (H2). In economic terms, the cost of debt for companies with a poor reputation is approximately 42% higher than for companies with an excellent reputation.

[Insert Table 4 here]

Correlation analyses

Table 5 reports the correlation matrices for variables used in this study. The Pearson correlation matrix is on the top, and the *Spearman* correlation matrix is on the bottom. Like previous studies (e.g., Lopez-de-Silanes *et al.*, 2020; Eliwa *et al.*, 2021), our results show that ESG performance score and ESG disclosure score are highly correlated (Pearson's r = 0.677, p<0.01 (*Spearman's Rho = 0.686, p<0.01*)), which supports the validity of these two scores as good proxies for ESG information measurement. As expected, our results also show that there is no direct relationship between ESG performance or disclosure (independent variable) and cost of debt (dependent variable) (ESG performance: r = 0.009, n.s. (*Rho = 0.039, n.s.*); ESG disclosure: r = -0.013, n.s. (*Rho = 0.029, n.s.*)). However, the results show a positive and significant relationship between both ESG performance and disclosure (independent variable) and corporate reputation (mediator variable) (ESG performance: r = 0.184, p<0.01 (*Rho = 0.186, p<0.01*); ESG disclosure: r = 0.174, p<0.01 (*Rho = 0.174, p<0.01*)) which supports our H1. The results also show a negative and significant relationship between corporate reputation (mediator variable) and cost of debt (dependent variable) (r = -0.113, p<0.01 (*Rho = -0.082, p<0.05*)) which also supports our H2. The support of H1 and H2 reinforces Hypothesis 3 (H3) according to which the

relationship between ESG performance/disclosure and cost of debt may be indirect through corporate reputation (mediator variable); however, we cannot test it at this analysis stage. H3 will be tested in the following multivariate analyses.

[Insert Table 5 here]

Regarding the control variables, the results presented in Table 5 show that reputation is positively and significantly correlated with firm size (r = 0.206, p<0.01 (*Rho = 0.206, p<0.01*)) and financial performance (r = 0.267, p<0.01 (*Rho = 0.250, p<0.01*)), which is in line with prior studies (e.g., Landgraf and Riahi-Belkaoui, 2003; Brammer and Millington, 2005; Miller and Triana, 2009; Brammer *et al.*, 2009). The results also show that reputation is negatively and significantly correlated with leverage (*Rho = -0.159, p<0.01*) and volatility (r = -0.153, p<0.01 (*Rho = -0.101, p<0.01*)), which is also in accordance with prior studies (e.g., Brammer and Millington, 2005; Brammer *et al.*, 2009). However, the corporate reputation does not seem to be significantly correlated with a growth in sales.

As for the control variables of cost of debt, the results show that it is positively and significantly correlated with leverage (*Rho = 0.224, p<0.01*) and volatility (r = 0.115, p<0.01 (*Rho = 0.076, p<0.05*)), which is in line with prior studies (e.g., Anderson *et al.*, 2004; Orens *et al.*, 2010; Maaloul, 2018). The results also show that cost of debt is negatively and significantly correlated with financial performance (r = -0.075, p<0.05 (*Rho = -0.099, p<0.01*)), which is also in accordance with prior studies (e.g., Goss and Roberts, 2011; Zhu, 2014; Maaloul, 2018). However, the cost of debt does not seem to be significantly correlated either with firm size or with a growth in sales.

Finally, Table 5 shows that all correlations between explanatory variables are smaller than 0.4, thus indicating that multicollinearity was not a serious threat in our multivariate analyses. In addition, multicollinearity diagnostics do not reveal any problems in the following multivariate analyses.

Multivariate analyses

The correlation analyses constitute an initial approach for testing our H1 and H2. We will now continue testing these hypotheses and H3 (mediation/indirect effect) using structural equations models (SEM) as multivariate analyses. The mediation/indirect effect is based on a bootstrap analysis (Preacher and Hayes, 2004) and performed on AMOS software in a first step. The bootstrap analysis outdated the limits of the approach of Baron and Kenny (1986), traditionally used in the analysis of mediation, and in particular the statistical power problem (Edwards and Lambert, 2007) and the diminution in type I error (Preacher and Hayes, 2008). The analyses are based on 5,000 replications generated by the bootstrap method with a 95% confidence interval. The results are reported in Table 6 (direct and indirect effects). In addition, we used in a second step the Hayes' (2018) PROCESS macro for SPSS software, which is also based on a bootstrap analysis, as a robustness test. The results are presented in Table 7 (direct and indirect effects).

Results based on AMOS

Direct effects: The results presented in Panel A of Table 6 demonstrate that, after controlling for the effects of control variables, both ESG performance and ESG disclosure (independent variable) have a positive and significant effect on corporate reputation (mediator variable) (ESG performance: $\beta = 0.140$, $p<0.01$; ESG disclosure: $\beta = 0.101$, $p<0.01$). This result supports our H1 that an increase in ESG performance and disclosure

would be positively associated with corporate reputation. In other words, an extensive information about ESG issues translates into better corporate reputation among stakeholders. It is worth to note that the effect of ESG performance on corporate reputation is more pronounced than that of ESG disclosure ($\beta = 0.140 > \beta = 0.101$).

The results presented in Panel B of Table 6 also show that, after controlling for the effects of control variables, corporate reputation (mediator variable) has a negative and significant effect on cost of debt (dependent variable) ($\beta = -0.145$, $p<0.01$ when we use ESG performance or disclosure in the model). This finding also supports our H2 that corporate reputation would be negatively associated with cost of debt. In other words, firms with better reputation are perceived as less risky by lenders, which results in a lower cost of debt financing. It should be noted that, as expected, there is no significant direct relationship between ESG performance or disclosure (independent variable) and cost of debt (dependent variable) (ESG performance: $\beta = 0.007$, n.s.; ESG disclosure: $\beta = 0.009$, n.s.), which lead us to test the indirect (mediating) effect of corporate reputation in this relationship.

[Insert Table 6 here]

Indirect (mediation) effect: The results of bootstrap conducted on AMOS to examine the mediating effect of corporate reputation on the relationship between ESG performance/disclosure and cost of debt are presented in Panel C of Table 6. These results show that, after controlling for the effects of control variables, the indirect effect of ESG performance and disclosure (independent variable) on cost of debt (dependent variable) via corporate reputation (mediator variable) is significantly negative (ESG performance: $\beta = -0.020$, $p<0.01$; ESG disclosure: $\beta = -0.015$, $p<0.01$). These findings support our H3 that

corporate reputation would mediate the relationship between the ESG performance/disclosure and cost of debt. In other words, firms that manage and disclose information on ESG issues have a better reputation, which in turn reduces their debt financing costs. It is worth to note that the mediating effect of corporate reputation in the ESG-cost of debt relationship is more pronounced for ESG performance than for ESG disclosure ($\beta = -0.020 > \beta = -0.015$).

Another indicator of the significance of the indirect effect is the upper and lower values. The Bias-Corrected Bootstrap method, which contains a correction for the bias created by the central tendency of the estimate (Fritz and MacKinnon, 2007), was used to verify the significance of mediation. An effect is considered statistically significant if zero was not included in the confidence interval (Fritz and MacKinnon, 2007). The results reported in Panel C of Table 6 indicate that the upper and lower interval do not contain zero (CI = [-0.009, -0.007] for ESG performance and [-0.005, -0.003] for ESG disclosure), which supports the mediating effect and therefore H3: ESG performance/disclosure have an indirect effect on cost of debt through corporate reputation.

Results based on the SPSS PROCESS macro

Direct effects: The results presented in Panel A of Table 7 reveal that, after controlling for the effects of control variables, both ESG performance and ESG disclosure (independent variable) were positively and significantly related to corporate reputation (mediator variable) (ESG performance: $\beta = 0.014$, $p<0.01$; ESG disclosure: $\beta = 0.006$, $p<0.01$), supporting our H1. It is worth to note that the effect of ESG performance on corporate reputation is more pronounced than that of ESG disclosure ($\beta = 0.014 > \beta = 0.006$).

The results in Panel B of Table 7 also indicate that corporate reputation (mediator variable) was negatively and significantly related to cost of debt (dependent variable) (β = -0.186, $p<0.01$ when we use ESG performance in the model; β = -0.185, $p<0.01$ when we use ESG disclosure in the model), providing support for H2. It should be noted that, as expected, there is no significant direct relationship between ESG performance or disclosure (independent variable) and cost of debt (dependent variable) (ESG performance: β = 0.001, n.s.; ESG disclosure: β = 0.001, n.s.), which lead us to test the indirect (mediating) effect of corporate reputation in this relationship.

[Insert Table 7 here]

Indirect (mediation) effect: The results of bootstrap conducted on the SPSS PROCESS macro (Hayes, 2018) to examine the mediating effect of corporate reputation on the relationship between ESG performance/disclosure and cost of debt are presented in Panel C of Table 7. These results show that, after controlling for the effects of control variables, the indirect effect of ESG performance and disclosure (independent variable) on cost of debt (dependent variable) via corporate reputation (mediator variable) is significantly negative (ESG performance: β = -0.013, $p<0.01$; ESG disclosure: β = -0.012, $p<0.01$). It is worth to note that the mediating effect of corporate reputation in the ESG-cost of debt relationship is slightly more pronounced for ESG performance than for ESG disclosure (β = -0.013 > β = -0.020). The results also indicate that the upper and lower interval do not contain zero (CI = [-0.001, -0.005] for ESG performance and [-0.002, -0.004] for ESG disclosure), supporting our H3: corporate reputation mediates the relationship between ESG performance/disclosure and cost of debt[xi].

Conclusion

This study examines the mediating effect of corporate reputation on the link between ESG information and the cost of debt financing. Previous research has mainly focused on the direct association between sustainability reporting and cost of debt, and has reported mixed evidence (Menz, 2010; Goss and Roberts, 2011; Ye and Zhang, 2011; Oikomonou *et al.*, 2014; Ge and Liu, 2015). In this paper, we conjecture that ESG performance and disclosure have an indirect effect on cost of debt. ESG performance and disclosure enhance corporate reputation which translates into lower financing costs.

To test for the mediating effect of corporate reputation, we used structural equation models (SEM) on a sample of US S&P 500 firms included in the "World's Most Admired Companies" rankings by Fortune from 2013 to 2016. Consistent with our prediction, we find that both ESG performance and disclosure have a positive effect on corporate reputation. We also report that a good corporate reputation is negatively related to the cost of debt financing and plays the role of a mediator of the relationship between ESG performance/disclosure and cost of debt.

We make several contributions to extant knowledge in management. First, we add to the existing literature on the relationship between ESG factors and cost of debt financing by showing that this relationship is mediated by corporate reputation. Second, we contribute to the literature on the drivers of corporate reputation by showing that a good management and transparent disclosure about material ESG issues enhances corporate reputation. Third, we also contribute to the existing literature on the consequences of corporate reputation by showing its beneficial effects on financing costs.

Our research has several implications for managers, lenders, regulators, and accountants. First, our results could be helpful in making managers aware of the potential benefits of ESG management and disclosure. Not only can they obtain reputational gains, but they also can get better debt financing when they manage and disclose ESG information. In other words, firms should actively manage and disclose information about their ESG activities to the public in order to project their positive image to lenders and other stakeholders. Second, our results also suggest that lenders indirectly take into account ESG information through corporate reputation when assessing the creditworthiness of borrowers, and that corporate reputation is an important consideration in the pricing of corporate debt. Third, for regulators, the finding that the debt market values ESG information via corporate reputation provides further support for policies that encourage or enforce the commitment of firms to ESG. Finally, it is important for accountants and auditors to take into consideration the importance of ESG and reputation as strategic variables in the business model for the new economy for which new tools and procedures must be developed and implemented in order to optimize their management and their reporting as well as their audit and their control processes.

Similar to prior research on this issue, our study is not without limitations. Our study focuses on a single country (US). Future research may extend our conclusions by exploring this issue in an international/multi-country setting. It would be interesting to examine whether the mediating effect of corporate reputation on the link between ESG information and cost of debt varies according to the country's stakeholder/shareholder orientation.

References

Aguilera-Caracuel, J. and Guerrero-Villegas, J. 2018. How corporate social responsibility helps MNEs improve their reputation. The moderating effects of geographical diversification and operating in developing regions. *Corporate Social Responsibility and Environmental Management* 25: 355-372.

Amel-Zadeh, A. and Serafeim, G. 2017. Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal* 74 (3): 87-103.

Anderson, R.C.; Mansi, S.A. and Reeb, D.M. 2004. Board characteristics, accounting report integrity and the cost of debt. *Journal of Accounting and Economics* 37: 315-342.

Anginer, D.; Mansi, S.; Warburton, A.J. and Yildizhan, C. 2019. Firm reputation and the cost of debt capital. Working Paper. www.ssrn.com.

Armitage, S. and Marston, C. 2008. Corporate disclosure cost of capital and reputation: Evidence from finance directors. *The British Accounting Review* 40: 314-336.

Attig, N.; El Ghoul, S.; Guedhami, O. and Suh, J. 2013. Corporate social responsibility and credit ratings. *Journal of Business Ethics* 117: 679-694.

Axjonow, A., Ernstberger, J. and Pott, C. 2018. The impact of corporate social responsibility disclosure on corporate reputation: A non-professional stakeholder perspective. *Journal of Business Ethics* 151: 429-450.

Bacha, S., Ajina, A. and Ben Saad, S. 2021. CSR performance and the cost of debt: does audit quality matter? *Corporate Governance* 21 (1): 137-158.

Baron, R. and Kenny, D. 1986. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 51 (6): 1173-1182.

Black, E.L. and Carnes, T.A. 2000. The market valuation of corporate reputation. *Corporate Reputation Review* 3 (1): 31-42.

Bloomberg. 2013. *What is weighted average cost of capital (WACC)?.* Bloomberg Finance LP: 1-25.

Brammer, S.; Millington, A. and Pavelin, s. 2009. Corporate reputation and women on the board. *British Journal of Management* 20 (1): 17-29.

Brammer, S. and Millington, A. 2005. Corporate reputation and philanthropy: An empirical analysis. *Journal of Business Ethics* 61: 29-44.

Cambridge. 2011. *Cambridge Business English Dictionary*, Cambridge University Press, UK.

Canadian Institute of Chartered Accountants – CICA. 2010. *Environmental, social and governance (ESG) issues in institutional investor decision making*, Toronto, ON.

Cao, Y.; Myers, J.N.; Myers, L.A. and Omer, T.C. 2015. Company reputation and the cost of equity capital. *Review of Accounting Studies* 20 (1): 42-81.

Chartered Financial Analysts – CFA. 2018. Positions on environmental, social and governance integration. CFA Institute.

Coombs, W.T. and Holladay, S.J. 2006. Unpacking the halo effect: Reputation and crisis management. *Journal of Communication Management* 10 (2): 123-137.

Cooper, E. W. and Uzun, H. 2015. Corporate social responsibility and the cost of debt. *Journal of Accounting and Finance* 15 (8): 11-29.

Corporate Reporting Dialogue – CRD. 2019. Driving alignment in climate-related reporting. Year one of the better alignment project. September 2019.

Deegan, C. 2002. The legitimising effect of social and environmental disclosures – a theoretical foundation. *Accounting, Auditing & Accountability Journal* 15: 282-311.

Deephouse, D.L. 2000. Media reputation as a strategic resource: An integration of mass communication and resource-based theories. *Journal of Management* 26 (6): 1091-1112.

Desender, K.A., LópezPuertas-Lamy, M., Pattitoni, P. and Petracci, B. 2020. Corporate social responsibility and cost of financing—The importance of the international corporate governance system. *Corporate Governance: An International Review* 28: 207–234.

Dhaliwal, D.S., Li, O.Z., Tsang, A. and Yang, Y.G. 2011. Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review* 86 (1): 59-100.

Dhaliwal, D., Li, O.Z., Tsang, A. and Yang, Y.G. 2014. Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. *Journal of Accounting and Public Policy* 33: 328-355.

Diamond, D.W. 1991. Monitoring and reputation: The choice between bank loans and directly placed debt. *Journal of Political Economy* 99: 689-721.

Diamond, D.W. 1989. Reputation acquisition in debt markets. *Journal of Political Economy* 97: 828-862.

Eccles, R.G., Serafeim, G. and Krzus, M.P. 2011. Market interest in nonfinancial information. *Journal of Applied Corporate Finance* 23 (4): 113-127.

Economist Intelligence Unit. 2005. *Reputation: Risk of risks*. The Economist, London.

Edwards, J. R. and Lambert, L.S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods* 12 (1): 1-22.

Eisner Amper. 2011. *Concerns about risks confronting boards. Second annual board of directors survey*. New York, NY.

El Ghoul, S., Guedhami, O.; Kwok, C. and Mishra, D.R. 2011. Does corporate social responsibility affect the cost of capital?. *Journal of Banking & Finance* 35: 2388-2406.

Eliwa, Y., Aboud A. and Saleh, A. 2021. ESG practices and the cost of debt: Evidence from EU countries. *Critical Perspectives on Accounting* 79 (Forthcoming).

European Commission – EC 2011. *A renewed EU strategy 2011-14 for corporate social responsability*. Brussels, EU.

Farache, F. and Perks, K.J. 2010. CSR advertisements: a legitimacy tool?. *Corporate communications: An International Journal* 15 (3): 235-248.

Fombrun, C.J. 1996. *Reputation: Realizing value from the corporate image*. Harvard Business School Press, Boston, MA.

Fombrun, C.J. and Shanley, M. 1990. What's in a name? Reputation building and corporate strategy. *Academy of Management Journal* 33: 233-258.

Fritz, M.S. and MacKinnon, D.P. 2007. Required sample size to detect the mediated effect. *Psychological Science* 18 (3): 233-239.

Ge, W. and Liu, M. 2015. Corporate social responsibility and the cost of corporate bonds. *Journal of Accounting and Public Policy* 34 (6): 597-624.

Global Sustainable Investment Alliance 2020. Global sustainable investment review 2020. http://www.gsi-alliance.org/wp-content/uploads/2021/08/GSIR-20201.pdf (Accessed 22nd September 2021).

Goss, A. and Roberts, G.S. 2011. The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking & Finance* 35: 1794-1810.

Gottschalk, P. 2011. *Corporate social responsibility, governance and corporate reputation*. World Scientific Publishing.

Governance & Accountability Institute. 2019. Flash report: 86% of S&P 500 Index® companies publish sustainability / responsibility reports in 2018. https://www.ga-institute.com/press-releases/article/flash-report-86-of-sp-500-indexR-companies-publish-sustainability-responsibility-reports-in-20.html (Accessed 22nd November 2020).

Gupta, K. 2018. Environmental sustainability and implied cost of equity. *Journal of Business Ethics* 147: 343-365.

Hammond, S.A. and Slocum, J.W. 1996. The impact of prior firm financial performance on subsequent corporate reputation. *Journal of Business Ethics* 15: 159-165.

Hamrouni, A., Uyar, A. and Boussaada, R. 2020. Are corporate social responsibility disclosures relevant for lenders? Empirical evidence from France. *Management Decision*, 58 (2): 267-279.

Harjoto, M.A. and Jo, H. 2015. Legal vs. normative CSR: Differential impact on analyst dispersion, stock return volatility, cost of capital and firm value. *Journal of Business Ethics* 128 (1): 1-20.

Hasan, I., Kobeissi, N., Liu, L., and Wang, H. 2018. Corporate Social Responsibility and Firm Financial Performance: The Mediating Role of Productivity. *Journal of Business Ethics* 149: 671–688.

Hayes, A.F. 2018. *Introduction to mediation, moderation, and conditional process analysis, Second Edition: A regression-based approach*. Guilford Publications.

Hemphill, T.A. 2006. Corporate internal investigations: balancing firm social reputation with board fiduciary responsibility. *Corporate Governance* 6 (5): 635-642.

Hillenbrand, C. and Money, K. 2007. Corporate responsibility and corporate reputation: two separate concepts or two sides of the same coin. *Corporate Reputation Review* 10 (4): 261-277.

Himme, A., and Fischer, M. 2014. Drivers of the cost of capital: The joint role of non-financial metrics. *International Journal of Research in Marketing* 31: 224-238.

Hoepner, A., Oikonomou, I., Scholtens, B. and Schröder, M. 2016. The effects of corporate and country sustainability characteristics on the cost of debt: An international investigation. *Journal of Business Finance & Accounting* 43 (1&2): 158-190.

Hong Kong Exchanges and Clearing Limited – HKEx. 2011. *Consultation paper: Environmental, social and governance reporting guide*. Hong Kong.

Hopkins, M. 2003. *The planetary bargain. Corporate social responsibility matters*. Taylor & Francis Group, UK.

Hsu, K-T. 2012. The advertising effects of corporate social responsibility on corporate reputation and brand equity: Evidence from the life insurance industry in Taiwan. *Journal of Business Ethics* 109: 189-201.

Huang, J., Hu, W. and Zhu, G. 2018. The effect of corporate social responsibility on cost of corporate bond: Evidence from China. *Emerging Markets Finance & Trade* 54: 255-268.

Hult, G.T.M. 2011. Market-focused sustainability: market orientation plus!. *Journal of the Academy of Marketing Science* 39 (1): 1-6.

Husser, J. and Bardinet, F.E. 2014. The effect of social and environmental disclosure on companies' market value. *Management international* 19 (1): 61-84.

International Federation of Accountants – IFAC. 2012. *Investor demand for environmental, social, and governance disclosures: implications for professional accountants in business*. New York, NY.

Kim, S. 2019. The process model of corporate social responsibility (CSR) communication: CSR communication and its relationship with consumers' CSR knowledge, trust, and corporate reputation perception. *Journal of Business Ethics* 154: 1143-1159.

Koehler, D.A. and Hespenheide, E.J. 2013. Finding the value in environmental, social, and governance performance. *Deloitte Review* 12: 97-111.

Landgraf, E. and Riahi-Belkaoui, A. 2003. Corporate disclosure quality and corporate reputation. *Review of Accounting and Finance* 2 (1): 86-95.

Larkin, J. 2003. *Strategic reputation risk management*. Palgrave MacMillan, Hampshire, UK.

Lev, B., Petrovits, C. and Radhakrishnan, S. 2010. Is doing good good for you? How corporate charitable contributions enhance revenue growth?. *Strategic Management Journal* 31: 182-200.

Limkriangkrai, M., Koh, S. and Durand, R.B. 2016. Environmental, social, and governance (ESG) profiles, stock returns, and financial policy: Australian evidence. *International Review of Finance* 17 (3): 461-471.

Linthicum, C.; Reitenga, A.L. and Sanchez, J.M. 2010. Social responsibility and corporate reputation: The case of the Arthur Anderson Enron audit failure. *Journal of Accounting and Public Policy* 29: 160-176.

Lopez-de-Silanes, F.; McCahery, J.A. and Pudschedl, P.C. (2020). ESG performance and disclosure: A cross-country analysis. European Corporate Governance Institute – Law Working Paper No. 481/2019. www.ssrn.com.

Lorca, C., Sanchez-Ballesta, J.P. and Garcia-Meca, E. 2011. Board effectiveness and cost of debt. *Journal of Business Ethics* 100: 613-631.

Maaloul, A. 2018. The effect of greenhouse gas emissions on cost of debt: Evidence from Canadian firms. *Corporate Social Responsibility and Environmental Management* 25 (6): 1407-1415.

MacLellan, L. 2019. *Nearly 200 CEOs just agreed on an updated definition of "the purpose of a corporation"*. Quartz at Work, Deloitte, August 19. https://qz.com/work/1690439/new-business-roundtable-statement-on-the-purpose-of-companies/ (Accessed 22nd November 2020).

Magnanelli, B.S. and Izzo, M.F. 2017. Corporate social performance and cost of debt: the relationship. *Social Responsibility Journal* 13 (2): 250-265.

Menz, K-M. 2010. Corporate social responsibility: Is it rewarded by the corporate bond market? A critical note. *Journal of Business Ethics* 96: 117-134.

Milgrom, P. and Roberts, J. 1982. Predation, Reputation, and Entry deterrence. *Journal of Economic Theory* 27: 280-312.

Miller, T. and Triana, M.C. 2009. Demographic diversity in the boardroom: Mediators of the board diversity – firm performance relationship. *Journal of Management Studies* 46 (5): 755-786.

Odriozola, M.D. and Baraibar-Diez, E. 2017. Is corporate reputation associated with quality of CSR reporting? Evidence from Spain. *Corporate Social Responsibility and Environmental Management* 24: 121-132.

Oikonomou, I., Brooks, C. and Pavelin, S. 2014. The effects of corporate social performance on the cost of corporate debt and credit ratings. *Financial Review* 49 (1): 49-75.

Orens, R.; Aerts, W. and Cormier, D. 2010. Web-based non-financial disclosure and cost of finance. *Journal of Business Finance & Accounting* 37 (9&10): 1057-1093.

Organisation for Economic Co-operation and Development – OECD. 2013. *New sources of growth: Knowledge-based capital key analyses and policy conclusions*. Synthesis Report. Paris.

Organisation for Economic Co-operation and Development – OECD. 2004. *OECD principles of corporate governance*. OECD Publications, Paris.

Park, J.; Lee, H. and Kim, C. 2014. Corporate social responsibilities, consumer trust and corporate reputation: South Korean consumers' perspectives. *Journal of Business Research* 67 (3): 295-302.

Pfister, B., Schwaiger, M. and Morath, T. 2019. Corporate reputation and the future cost of equity. *Business Research* 13: 343-384.

Pharoah, A. 2003. Corporate reputation: the boardroom challenge. *Corporate Governance: The international journal of business in society* 3 (4): 46-51.

Porter, M.E. and Kramer, M.R. 2002. The competitive advantage of corporate philanthropy. *Harvard Business Review* December: 57-68.

Preacher, K.J. and Hayes, A.F. 2004. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers* 36 (4) 717-731.

Preacher, K.J. and Hayes, A.F. 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods* 40 (3): 879-891.

Reverte, C. 2012. The impact of better corporate social responsibility disclosure on the cost of equity capital. *Corporate Social Responsibility and Environmental Management* 19: 253-272.

Riah-Belkaoui, A. 2004. Corporate reputation, internalization and the market valuation of multinational firms. Scientific *Journal Administrative Development* 2: 93-111.

Roberts, P. and Dowling, G. 2002. Corporate reputation and sustained superior financial performance. *Strategic Management Journal* 23: 1077-1093.

Schalteger, S. 2006. *Managing the business case of sustainability: The integration on social, environmental and economic performances*. Greenleaf Publications. London.

Shrivastava, P. and Addas, A. 2014. The impact of corporate governance on sustainability performance. *Journal of Sustainable Finance & Investment* 4 (1): 21-37.

Smith, K.T.; Smith, M. and Wang, K. 2010. Does brand management of corporate reputation translate into higher market value?. *Journal of Strategic Marketing* 18 (3): 201-221.

Stein, J.C. 2002. Information production and capital allocation: Decentralized vs. hierarchical firms. *Journal of Finance* 57: 1891-1921.

Stuebs, M. and Sun, L. 2011. Corporate social responsibility and firm reputation. *Journal of Accounting, Ethics & Public Policy* 12 (1): 33-56.

Veh, A., Göbel, M. and Vogel, R. 2019. Corporate reputation in management research: a review of the literature and assessment of the concept. *Business Research* 12: 315-353.

Vercic, A.T. and Coric, D.S. 2018. The relationship between reputation, employer branding and corporate social responsibility. *Public Relations Review* 44: 444-452.

Vilanova, M., Lozano, J.M. and Arenas, D. 2009. Exploring the nature of the relationship between CSR and competitiveness. *Journal of Business Ethics* 87: 57-69.

Walsh, G., Mitchell, V.W., Jackson, P.R. and Beatty, S.E. (2009), "Examining the antecedents and consequences of corporate reputation: A customer perspective", *British Journal of Management*, Vol. 20 No. 2, pp.187-203.

Warin, N.M. and Teodoresco, S. 2012. *Corporate reputation: Is your most strategic asset at risk?*. Burgundy Report. CIRANO, Montreal, QC.

Wilmshurst, T.D. and Frost, G.R. 2000. Organizational environmental reporting: A test of legitimacy theory. *Accounting, Auditing & Accountability Journal* 13 (1): 10-26.

World Business Council for Sustainable Development – WBCSD. 1998. *Corporate social responsibility*. Meeting changing expectations. Switzerland.

Wu, S.W.; Lin, F. and Wu, C.M. 2014. Corporate social responsibility and cost of capital: An empirical study of the Taiwan stock market. *Emerging Markets Finance & Trade* 50: 107-120.

Xu, S., Liu, D. and Huang, J. 2015. Corporate social responsibility, the cost of equity capital and ownership structure: An analysis of Chinese listed firms. *Australian Journal of Management* 40 (2): 245-276.

Ye, K. and Zhang, R. 2011. Do lenders value corporate social responsibility? Evidence from China. *Journal of Business Ethics* 104: 197-206.

Yu, E.P., Guo, C.Q. and Luu, B.V. 2018. Environmental, social and governance transparency and firm value. *Business Strategy and the Environment* 27: 987-1004.

Zhu, F. 2014. Corporate governance and cost of capital: An international study. *International Review of Finance* 14 (3): 393-429.

Tables:

Table 1: Sample selection process

Sample	2013	2014	2015	2016	Firm-year observations
Initial sample: US S&P 500 firms included in Fortune's *World's Most Admired Companies* rankings	211	235	238	256	940
Firms with missing some data on at least one of the databases	(15)	(12)	(8)	(5)	(40)
Final sample	196	223	230	251	900

Table 2: Sample distribution by sector

Sector*	Firm-year observations	%
Consumer discretionary	163	18.11
Consumer staples	65	7.22
Energy	28	3.11
Financials	121	13.44
Health Care	110	12.22
Industrials	139	15.44
Information technology	154	17.11
Materials	26	2.89
Real Estate	34	3.78
Telecommunications services	8	0.89
Utilities	52	5.78
Total	900	100

*GICS sector classification.

Table 3: Descriptive statistics

Variables	Mean	S.D.	Minimum	Maximum
Cost of debt (*%*)	0.93	1.125	0	5.01
Reputation (*Score*)	6.32	0.848	3.86	8.80
ESG performance (*Score*)	61.22	8.713	38.00	86.35
ESG disclosure (*Score*)	35.10	14.741	10.74	74.79
Size (*log*)	10.338	1.397	7.307	14.761
Total assets (in millions of $US)	102498	284718	1381	2573126
Performance (*%*)	6.371	6.374	-50.544	41.926
Leverage (*%*)	1.762	1.039	0	26.233
Growth sales (*%*)	4.319	16.590	-55.870	285.255
Volatility (*S.D.*)	21.270	9.127	6.460	109.058

Notes: N=900 firms. Please see Appendix 2 for variable definitions.

Table 4: A one-way between groups ANOVA

Panel A: ESG information and cost of debt								
Variable	***Maximum*** ESG performance/disclosure *n1* = 300		***Medium*** ESG performance/disclosure *n2* = 300		***Minimum*** ESG performance/disclosure *n3* = 300			
	Mean	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	***F***	**Sig.**
Cost of debt	0.94/ 0.93	1.19/ 1.17	0.91/ 0.92	1.11/ 1.12	0.95/ 0.93	1.10/ 1.09	0.007/ 0.006	0.995/ 0.994
Panel B: ESG information and corporate reputation								
Variable	***Maximum*** ESG performance/disclosure *n1* = 300		***Medium*** ESG performance/disclosure *n2* = 300		***Minimum*** ESG performance/disclosure *n3* = 300			
	Mean	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	***F***	**Sig.**
Reputation	6.52/ 6.47	0.90/ 0.88	6.40/ 6.39	0.88/ 0.87	6.13/ 6.11	0.77/ 0.75	15.152/ 15.146	0.000***/ 0.000***
Panel C: Corporate reputation and cost of debt								
Variable	***Excellent*** Reputation *n1* = 300		***Medium*** Reputation *n2* = 300		***Poor*** Reputation *n3* = 300			
	Mean	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	***F***	**Sig.**
Cost of debt	0.78	0.99	0.89	1.11	1.11	1.24	6.743	0.001***

Notes: N= 900 firms. Please see Appendix 2 for variables definitions. ***Significant at 1 per cent level.

Table 5: Correlation matrices (Pearson's r on the top, and *Spearman's Rho on the bottom*)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cost of debt (1)	1	-0.113***	0.009	-0.013	-0.052	-0.075**	0.050	-0.037	0.115***
Reputation (2)	*-0.082***	1	0.184***	0.174***	0.206***	0.267***	0.016	0.033	-0.153***
ESG performance (3)	*0.039*	*0.186****	1	0.677***	0.120***	0.058*	0.029	-0.117***	0.014
ESG disclosure (4)	*0.029*	*0.174****	*0.686****	1	0.377***	-0.024	0.039	-0.211***	-0.024
Size (5)	*0.039*	*0.206****	*0.120****	*0.371****	1	-0.294***	-0.017	-0.159***	-0.087***
Performance (6)	*-0.099****	*0.250****	*0.104****	*-0.020*	*-0.387****	1	0.007	0.169***	-0.211***
Leverage (7)	*0.224****	*-0.159****	*0.071***	*0.109****	*0.126****	*-0.305****	1	-0.010	0.005
Growth sales (8)	*-0.050*	*0.047*	*-0.212****	*-0.284****	*-0.222****	*0.147****	*-0.141****	1	-0.013
Volatility (9)	*0.076***	*-0.101****	*-0.019*	*-0.037*	*-0.083***	*-0.123****	*-0.011*	*0.001*	1

Notes: N= 900 firms. Please see Appendix 2 for variables definitions. ***,**,*Significant at 1, 5 and 10 per cent level, respectively.

Table 6: Direct and indirect effects of ESG information on corporate reputation and cost of debt, performed on AMOS

Variables	Standardized **direct** effects								Standardized **indirect** effect			
	Panel A (H1)				***Panel B (H2)***				***Panel C (H3)***			
	Corporate reputation				Cost of debt				Corporate reputation as a mediator Cost of debt as a dependent variable			
	(1)		(2)		(1)		(2)		*β*	Bias-Corrected Bootstrap 95% CI		
	β	*t-value*	*β*	*t-value*	*β*	*t-value*	*β*	*t-value*		Lower	Upper	SE
Size	0.321***	11.926	0.314***	11.608	0.098***	2.912	0.096***	2.849				
Performance	0.035	1.315	0.032	1.193	0.017	0.529	0.016	0.512				
Leverage	0.001	0.026	0.001	0.011	0.044	1.395	0.044	1.394				
Growth sales	0.110***	4.085	0.109***	4.008	-0.045	-1.420	-0.045	-1.407				
Volatility	-0.223***	-8.274	-0.219***	-8.090	0.114***	3.511	0.115***	3.520				
Sector effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
(1) ESG performance	0.140***	5.174			0.007	0.285			-0.020***	-0.007	-0.009	0.007
(2) ESG disclosure			0.101***	3.733			0.009	0.285	-0.015***	-0.003	-0.005	0.006
Reputation					-0.145***	-3.729	-0.145***	-3.748				
Adj. R^2	0.350		0.340		0.112		0.111					
N	900											

Notes: Please see Appendix 2 for variables definitions. ***Significant at 1 per cent level.

Table 7: Direct and indirect effects of ESG information on corporate reputation and cost of debt, performed on SPSS PROCESS macro

Variables	Standardized **direct** effects								Standardized **indirect** effect			
	Panel A (H1)				***Panel B (H2)***				***Panel C (H3)***			
	Corporate reputation				Cost of debt				Corporate reputation as a mediator Cost of debt as a dependent variable			
	(1)		(2)		(1)		(2)		*β*	Bootstrap 95% CI		
	β	*t-value*	*β*	*t-value*	*β*	*t-value*	*β*	*t-value*		Lower	Upper	SE
Size	0.208***	8.640	0.204***	7.898	0.076*	2.390	0.074*	1.871				
Performance	0.001	1.190	0.001	1.075	0.001	0.440	0.001	0.430				
Leverage	0.001	0.026	0.001	0.031	0.001	1.140	0.001	1.144				
Growth sales	0.006***	3.750	0.006***	3.770	-0.003	-1.450	-0.003	-1.451				
Volatility	-0.022***	-7.390	-0.022***	-7.247	0.011**	2.380	0.011**	2.389				
Sector effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
(1) ESG performance	0.014***	4.707			0.001	0.250			-0.013***	-0.005	-0.001	0.001
(2) ESG disclosure			0.006***	3.118			0.001	0.276	-0.012***	-0.004	-0.002	0.005
Reputation					-0.186***	-3.720	-0.185***	-3.735				
Adj. R^2	0.260		0.247		0.071		0.071					
N	900											

Notes: Please see Appendix 2 for variables definitions. ***,**,*Significant at 1, 5 and 10 per cent level, respectively.

APPENDIX 1: Fortune's World's Most Admired Companies

	Attributes of corporate reputation:
1.	Ability to attract and retain talented people
2.	Quality of management
3.	Social responsibility to the community and the environment
4.	Innovativeness
5.	Quality of products or services
6.	Wise use of corporate assets
7.	Financial soundness
8.	Long-term investment value
9.	Effectiveness in doing business globally.

APPENDIX 2: Variable definitions

Cost of debt$_{it}$	The cost of debt for firm *i* in year *t* is measured as following: Cost of debt = [[(Short term debt / Total debt) × (Pre-tax cost of short term debt × Debt adjustment factor)] + [(Long term debt / Total debt) × (Pre-tax cost of long term debt × Debt adjustment factor)]] × [1- Effective tax rate].
ESG information:	
ESG performance$_{it}$	The Sustainalytics ESG performance score for firm *i* in year *t* ranges from 0 (poor) to 100 (good).
ESG disclosure$_{it}$	The Bloomberg ESG disclosure score for firm *i* in year *t* ranges from 0.1 (minimum) to 100 (maximum).
Reputation$_{it}$	The corporate reputation score for firm *i* in year *t* ranges from 0 (poor) to 10 (excellent).
Size$_{it}$	Size measured by logarithm of total assets of firm *i* at the end of year *t*.
Performance$_{it}$	Performance measured as net income scaled by total assets of firm *i* at the end of year *t*.
Leverage$_{it}$	Leverage measured as total debt scaled by total equity of firm *i* at the end of year *t*.
Growth sales$_{it}$	Growth sales measured by the percentage increase or decrease of sales revenue of firm *i* by comparing current year *t* with same period prior year *t*.
Volatility$_{it}$	Volatility measured by the standard deviation of the monthly stock returns of firm *i* in year *t*.
Sector	Sector fixed effect. The GICS sectors are consumer discretionary, consumer staples, energy, financials, health care, industrials, IT, materials, real estate, telecommunications services, and utilities.
Year	Year fixed effect. The years are 2013, 2014, 2015, and 2016.

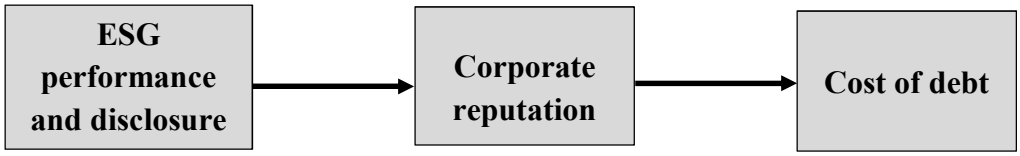

Figure 1: Conceptual model

Notes

[i] In this paper, we use ESG as a generic term subsuming all different sustainability terminologies, such as "corporate social responsibility (CSR)", "corporate responsibility", "corporate citizenship", "sustainability", etc.

[ii] According to the Financial Times Lexicon, "the cost of debt is the effective rate that a firm pays on its current loans, bonds and various other forms of debt. The measure provides an idea as to the overall rate being paid by the firm to use debt financing". A higher cost of debt implies that the firm has poor credit and higher risk, whereas a lower cost of debt means that the firm has good credit and less risk (Maaloul, 2018).

[iii] http://www.unglobalcompact.org.uk/issues/financial-markets/ (accessed the 22nd November 2020).

[iv] http://lexicon.ft.com/Term?term=ESG (accessed the 22nd November 2020).

[v] Corporate reputation is considered as a key mediator in the relationship between a firm's CSR and financial performance.

[vi] In an unpublished study, Anginer *et al.* (2019) have also examined the relationship between corporate reputation and cost of debt. Their results show that reputation plays an important role in determining corporate cost of debt in the US.

[vii] In this study, we expect that corporate reputation acts as *mediator* variable and not as *moderator* variable in the relationship between ESG performance/disclosure and cost of debt. In another words, we expect that ESG performance/disclosure have an indirect effect on cost of debt through reputation (mediator variable) (see Figure 1). In a *mediating* relationship, as in our model, the independent variable (ESG performance or disclosure) is an antecedent of the *mediator* variable (reputation) and the latter is an antecedent of the dependant variable (cost of debt). The *mediator* variable (reputation) therefore has the status of dependent or independent variable depending on the angle from which it is observed. A *moderator* variable, on the other hand, systematically remains an independent variable regardless of the angle of analysis, which is not the case in this study since our results confirm our first hypothesis according to which both ESG performance and disclosure have a positive and significant effect on corporate reputation (see results).

[viii] Sustainalytics' ESG rating research methodology: Company ESG research (2017): https://wrds-www.wharton.upenn.edu/documents/303/Sustainalytics_ESG_Ratings_Methodology_Quick_Overview_2017.pdf (accessed the 22nd September 2021).

[ix] Bloomberg Professional Services: https://www.bloomberg.com/professional/solution/bloomberg-terminal/ (accessed the 22nd September 2021).

[x] The Fortune World's Most Admired Companies List was publicly available "free of charge" until 2016, the last year of our sample. From 2017, this list is included in paid databases.

[xi] In robustness tests, we calculated the industry-adjusted cost of debt and re-estimated all our equations, replacing the cost of debt by the industry-adjusted cost of debt. The industry-adjusted cost of debt is the difference between the cost of debt of a firm in a given year and the median cost of debt of its industry in that year. The results are quite similar to those based on cost of debt (untabulated results).