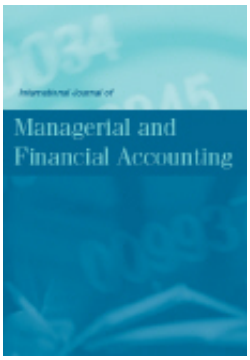

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Exploring the impact of sustainability disclosure on the cost of equity capital in the hospitality and tourism industry

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Abstract: Environmental, social and governance (ESG) disclosure has gained increasing importance in recent years due to its ability to provide an overview of sustainable business behaviour. However, despite the attention paid by investors and stakeholders to sustainability information, the hospitality and tourism (H&T) industry is not characterised by a propensity towards ESG disclosure. This circumstance may be related to the lack of awareness regarding the benefits associated with a wide dissemination of ESG information, resulting from the limited presence of academic contributions on the topic. This study aims to fill this important gap by analysing the impact of ESG disclosure on the cost of equity capital in the H&T industry. The regression analysis, conducted on a sample of 1,750 firm-year observations from 2010 to 2019, demonstrates the existence of a negative relationship between ESG disclosure and the cost of equity capital.

Keywords: sustainability disclosure; ESG disclosure; hospitality and tourism industry; cost of equity capital; COEC.

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1 Introduction

In the last decade, corporate social responsibility (CSR) has been the subject of renewed and growing interest, a consequence of the increasing requests of socio-economic actors to gain knowledge of the economic, legal, ethical and discretionary responsibilities of companies. Companies today are pursuing various goals that are not limited to maximising profit, but also encompass environmental and social issues (Chen and Xie, 2022; García-Sánchez et al., 2021; Raimo et al., 2020; Rossi et al., 2020; Vitolla et al., 2019). This circumstance has resulted in a rethinking of the previously applied business models (Kim et al., 2018; Vitolla et al., 2020a), which today have taken on a new perspective, capable of preserving natural and social capital as well as economic capital.

This new context in which sustainability plays a primary role involves important issues for the hospitality and tourism (H&T) industry (Moneva et al., 2019). The latter is one of the fastest growing industries in the world, particularly in developing economies (Al-Wattar et al., 2019; de Miguel Guzmán et al., 2018; Khaghaany et al., 2019) and includes a number of sectors such as motels and hotels, cruise lines, recreation and leisure, gaming and casinos, and bars and restaurants (Uyar et al., 2020). Although the H&T industry brings different social and economic benefits to destinations (Uyar et al., 2020), it is still subject to criticism due to the associated social and environmental

externalities, mainly pertaining to workers' rights, biodiversity loss, climate change, waste generation, and noise and air pollution (de Grosbois, 2012; Scott et al., 2010).

Specific sectors within the H&T industry are subject to even harsher criticism; this is the case of casinos that favour gambling or fast food restaurants, considered by public opinion as the main cause of obesity in the world (Uyar et al., 2020). Furthermore, following the spread of the COVID-19 pandemic, the attention of consumers towards environmental issues has grown, generating a greater demand for eco-sustainable travel (García-Sánchez et al., 2020). According to Shin et al. (2021, p.1), the H&T industry

> "Is among the hardest hit by the COVID-19 pandemic, and the vast majority of H&T businesses have experienced considerable financial challenges resulting from the loss of demand caused by travel restrictions, national and local lockdowns, social distancing measures, and truncated hours of operation. Despite the palpable obstacles posed to the industry by the pandemic, several hotel companies have proactively engaged in CSR activities to assist frontline workers and others involved in the fight against COVID-19."

Entering a new era, travellers have begun to carefully evaluate the environmental impact of their choices and to increasingly consider sustainable travel solutions. In light of the above, companies operating in the H&T industry is required to pay particular attention to CSR and to adopt a responsible behaviour in order to reduce reputational costs (Rhou and Singal, 2020). Today, in fact, key stakeholders are more aware of the aspects connected to CSR and expect appropriate behaviour and greater accountability from H&T companies (de Grosbois, 2016). In this regard, a comprehensive and credible sustainability disclosure has become essential for H&T companies to maintain stakeholder trust and obtain an adequate level of legitimacy (de Grosbois, 2016).

Despite the attention paid by investors and stakeholders to sustainability information, the H&T industry's propensity towards the adoption of the guidelines of the Global Reporting Initiative and towards a comprehensive sustainability disclosure remains limited (Khaghaany et al., 2019). More precisely, although the main companies adopt an environmental and CSR framework, there seems to be little cognisance of the value of the CSR reporting process in achieving the objectives of the companies (Mihalič et al., 2012; Raimo et al., 2022). This circumstance may be related to the limited presence of academic studies and empirical evidence on the subject. Indeed, while several studies have examined the drivers of financial performance of H&T companies (Mjongwana and Kamala, 2018), only a few works have explored the financial benefits associated with extensive sustainability disclosure in the industry. In this regard, Khaghaany et al. (2019), examining tourism companies, found that sustainability reporting is value relevant for the change in share price. In other words, the authors found a positive effect of the level of sustainability information on the share price of tourism companies. However, we identify an important gap in studies examining the relationship between sustainability disclosure and the cost of capital, a key aspect of corporate survival and success.

The ultimate goal of this work is to bridge the aforementioned gap by examining the influence of environmental, social and governance (ESG) disclosure on the cost of equity capital (COEC). In recent years, investors increasingly consider this type of information to assess the quality of management (Eccles et al., 2011). In fact, a correct representation of ESG information allows investors to accurately assess the transparency, risks, opportunities and future firm performance (Albarrak et al., 2019). Therefore, in light of the attention that investors pay to ESG disclosure, it is reasonable to expect that a wide dissemination of ESG information will foster a reduction in the COEC. Under this

perspective, greater knowledge about the impact of ESG disclosure on the COEC could boost the spectrum of disclosure and transparency in the H&T industry.

The rest of this work presents the following structure: Section 2 reviews relevant literature and develops our key hypothesis, Section 3 outlines our methodology, Section 4 and Section 5 present and discuss our empirical findings respectively, while Section 6 offers the conclusions.

2 Literature review and hypothesis development

2.1 Literature review

The literature review, in line with the goal of this work, focuses first on CSR and sustainability disclosure in the H&T industry and secondly, due the absence of studies in the H&T industry, on the relationship between sustainability disclosure and the COEC.

Although academic literature has mainly examined CSR in highly polluting sectors (Uyar et al., 2020), the recent growing concern about environmental and social impacts has prompted researchers to extend CSR studies to the H&T industry (de Grosbois, 2012; Uyar et al., 2020). Nevertheless, there are still few studies on the latter (Mihalič, 2016) compared to those aimed at examining highly polluting sectors (Moyeen et al., 2019). Studies have mainly analysed the effects of CSR on different types of performance of H&T companies, such as employees' work engagement (Gürlek and Tuna, 2019), customer loyalty (Gürlek et al., 2017), productivity (Ghaderi et al., 2019), reputation (Ghaderi et al., 2019), corporate citizenship (He et al., 2019; Aljarah, 2020) and financial results (Benavides-Velasco et al., 2014; González-Rodríguez et al., 2019; Moneva et al., 2019; Kang et al., 2010; Singal, 2014; Theodoulidis et al., 2017), while less attention has been dedicated to the factors influencing CSR practices and performance of the H&T companies (Uyar et al., 2020).

A limited number of studies, on the other hand, examined the communication of CSR activities (de Grosbois, 2012), or in other words, sustainability disclosure in the H&T industry. Most of them focused on specific sectors within the broader H&T industry. In this regard, Bonilla-Priego et al. (2014) and de Grosbois (2016) examined sustainability disclosure in the cruise line sector, de Grosbois (2012) analysed sustainability information disclosure in the largest lodging companies in the world, and finally, Persic et al. (2013) focused on CSR reporting of hotels in Croatia. Particularly relevant is the study conducted by Font et al. (2012), who by examining ten European international hotel groups, sheds light on the disclosure-performance gap in the field of CSR. Specifically, the authors compared the self-reported sustainability information with data collected through site visits, demonstrating that hotel groups did not behave in line with what was declared. Guix et al. (2018), instead, questioned the role of CSR reporting in the tourism sector, concluding that it is more a legitimisation exercise than one of accountability. Nyahunzvi (2013) examined the content of sustainability disclosure through a content analysis of corporate websites, mission statements and annual reports of the Zimbabwe hotel groups and found a prevalence of financial information over environmental and social information. He also found a serious delay in the CSR reporting processes of Zimbabwe hotel groups compared to competitors from other countries. Medrado and Jackson (2016) further examined the content of sustainability disclosure by making comparisons between different sectors within the H&T industry. They found that

lodging companies provide more sustainability information than companies operating in the cruise line and food and beverage industries. The authors confirmed the lag of H&T's sustainability disclosure policies and found that the CSR topics most dealt with are energy conservation, water usage, waste generation and community involvement activities. In relation to the major issues discussed regarding CSR disclosure, Ettinger et al. (2018) found a predominance of information relating to environmental issues and supplier relations. Regarding the effects of CSR disclosure, Khaghaany et al. (2019) found a positive relationship between the amount of CSR information and share price.

The literature review conducted in the H&T industry highlights limited attention to the issue of sustainability disclosure. Thus, the absence of contributions aimed at analysing the relationship between sustainability disclosure and the COEC is evident. However, although there are no studies on the relationship between sustainability disclosure and the COEC in the H&T industry, this relationship has been the object of numerous studies in other sectors. Dhaliwal et al. (2011) found that the dissemination of sustainability information fosters a reduction in the COEC. Dhaliwal et al. (2014) enhanced their analysis of the same twenty-three sectors and confirmed the negative relationship between sustainability disclosure and the COEC, adding that this relationship is more pronounced for firms belonging to stakeholder-oriented countries. Plumlee et al. (2015) performed an analysis on a sample of US firms operating in the oil and gas, food and beverage, chemical, electric utilities, and pharmaceutical sectors to analyse the relationship between environmental disclosure and the COEC. Findings highlighted the existence of a negative relationship between the level of environmental disclosure and the COEC. Michaels and Grüning (2017) studied a sample of 264 German listed companies operating in different industries, providing evidence of a negative relationship between CSR disclosure, information asymmetry and the COEC. Albarrak et al. (2019) examined a sample of firms belonging to different industries to analyse the effect of carbon footprint disclosure on the cost of capital, supporting a negative relationship. Chen et al. (2023) analysed a sample of 1,532 Chinese listed companies between 2010 and 2020, suggesting that ESG disclosure lowers the COEC. Clarkson et al. (2013), on the other hand, examining five different sectors (pulp and paper, chemical, oil and gas, metals and mining, and utilities), found that the effect of environmental information on the COEC is not statistically significant. Furthermore, by examining social disclosure, Richardson and Welker (2001) found a positive relationship between social information and the COEC, thus suggesting that broad social disclosure increases the COEC.

Shifting the focus to sectoral studies, Raimo et al. (2020) examined the relationship between ESG disclosure and the COEC on a sample of companies operating in the food and beverage industry, finding a negative relationship between ESG information and the COEC. The literature review on the relationship between sustainability disclosure and the COEC shows an almost total absence of contributions aimed at examining specific sectors, including the H&T focus of this study.

2.2 Theoretical background and hypothesis development

Voluntary disclosure theory suggests that the voluntary dissemination of information represents a means available to well-performing firms to differentiate themselves from low performers and avoid adverse selection problems (Verrecchia, 1983; Vitolla et al., 2022). Under this light, better-performing firms divulge more information as they expect

to benefit from financial markets (Michaels and Grüning, 2017; Reverte, 2012). Conversely, the worst-performing firms tend to disseminate less information to avoid negative effects related to the greater financial risk that investors will associate as a result (Dhaliwal et al., 2011). These circumstances also concern ESG disclosure for investors, who are increasingly considered the main recipients of such disclosure (Dhaliwal et al. 2011; Michaels and Grüning, 2017; Plumlee et al., 2015). Lower cost of capital is considered one of the main potential consequences of ESG disclosure (Dhaliwal et al., 2011), and in line with the voluntary disclosure theory, represents one of the main advantages associated with the dissemination of ESG information (Michaels and Grüning, 2017).

Academic literature has highlighted different ways through which the dissemination of information affects the COEC. Some studies highlighted the ability of disclosure to mitigate the degree of investor uncertainty and to allow for more accurate risk assessments (Barry and Brown, 1984, 1985; Brown and Dacin, 1997; Coles et al., 1995; Salvi et al., 2020a; 2022), while other studies highlighted its ability to reduce information asymmetry between investors and firms (Arvidsson, 2011; Baiman and Verrecchia, 1996; Chen et al., 2023; Chen and Xie, 2022; Diamond and Verrecchia, 1991; Salvi et al., 2020b; Verrecchia, 2001; Vitolla et al., 2020b). In addition, Lombardo and Pagano (2002) underlined the ability of disclosure to mitigate monitoring and controlling costs incurred by investors, with the consequent expectation of a lower return. Finally, another stream of academic studies has suggested that wide disclosure fosters long-term investor attraction (Lombardo and Pagano, 2002; Merton, 1987).

Although current literature provides wide theoretical support regarding the negative relationship between disclosure and the COEC, empirical findings are less consistent (Botosan, 2006; Clarkson et al., 2013; Healy and Palepu, 2001; Richardson and Welker, 2001; Zhou et al., 2017). This circumstance may be due to different elements, such as omitted variables (Francis et al., 2005; Zhou et al., 2017), the existence of intermediaries (Griffin and Sun, 2013) and the type and frequency of information dissemination (Botosan and Plumlee, 2002; Kothari et al., 2009).

The mechanisms through which disclosure affects the COEC can also be applied to ESG disclosure. It is clear that ESG information has the potential to reduce the uncertainty of investors who are increasingly concerned by social, environmental and governance issues. An accurate representation of ESG performance further allows to reduce information asymmetry between companies and investors (Raimo et al., 2020). In fact, ESG information is not captured by financial disclosure, and therefore, material risk and value information is not sufficiently covered by the latter, leaving grounds for ESG disclosure policies (Michaels and Grüning, 2017; Tamimi and Sebastianelli, 2017). In addition, ESG disclosure allows investors to correctly assess corporate transparency, opportunities and above all the risks associated with business activity (Albarrak et al., 2019; Ng and Rezaee, 2015; Yu et al., 2018).

Corporate sustainable efforts may reduce market and operational risk, and are particularly appreciated by investors (Chen et al., 2023). Notably, ESG disclosure can reduce firms-specific crash risk:

1 increasing the amount of information disclosed by companies to investors

2 providing material information to shareholders (for example, information about litigation risks and concerning environmental and social liabilities)

3 discouraging misappropriation of corporate resources

4 accelerating the transformation process of the business model (da Silva, 2022).

According to Chen and Xie (2022, p.3), "companies that disclose CSR have fewer negative press reports and lawsuits and receive more government subsidies." He et al. (2022) corroborated these findings by providing evidence that ESG engagement can reduce companies' idiosyncratic risk by disclosing a greater amount of non-financial information in order to decrease investors' divergence. Finally, ESG disclosure also augments the base of long-term investors. In this regard, Amel-Zadeh and Serafeim (2018) demonstrated that most investors take ESG disclosure into account in their investment decisions, as they consider ESG information material for future returns of investments. Besides, according to Kotsantonis et al. (2016), firms can enhance the number of long-term investors to the detriment of transient ones through broader ESG disclosure policies.

The ability of ESG disclosure to reduce investor uncertainty, mitigate information asymmetry, allow accurate risk assessment and attract long-term investors can be reasonably expected to reduce the cost of capital. This circumstance may also apply in the H&T industry, which is characterised by significant levels of information asymmetries (Crase and Jackson, 2000). In light of what has been discussed thus far, we formulate the following hypothesis:

H1 ESG disclosure negatively affects the COEC in the H&T industry.

3 Research methodology

3.1 Sample

The sample of this study comprises listed firms operating in the H&T industry, data for which we draw from the Bloomberg database. Specifically, the 'leisure facilities and services' category represents our starting point. This category includes 1,719 firms divided into six different sectors:

1 casinos and gaming

2 cruise lines

3 entertainment facilities

4 lodging

5 restaurants

6 travel services.

All companies for which ESG disclosure data are not available are removed, leaving us with a sample of 321 companies. We further exclude 56 companies for lack of data on our independent variable, reaching a final sample of 265 international listed companies headquartered in five different regions. The time period of this study spans from 2010 to 2019 and generates an unbalanced panel dataset of 1,750 firm-year observations. Tables 1 and 2 summarise the sample breakdown, in terms of sector and region.

Table 1 Sample distribution by sector

Sector	*Frequencies*	
	Absolute	*Relative (%)*
Casinos and gaming	55	20.75
Cruise lines	7	2.64
Entertainment facilities	45	16.99
Lodging	51	19.24
Restaurants	91	34.34
Travel services	16	6.04
Total	*265*	*100.00*

Table 2 Sample distribution by region

Region	*Frequencies*	
	Absolute	*Relative (%)*
Africa	8	3.02
America	82	30.94
Asia	124	46.79
Europe	34	12.83
Oceania	17	6.42
Total	*265*	*100.00*

3.2 Dependent variable

The dependent variable of this work is represented by the COEC. It measures the rate of return that investors require to buy and maintain shares in their investment portfolio. This parameter is based on the perceived risk relating to future cash flows by financial markets and investors (Atan et al., 2018; Witmer and Zorn, 2007). The COEC "incorporates investors' estimated discounted future cash flows and the anticipated rate of return for investing in the firm" [Bui et al., (2020), p.9].

The COEC estimation is a debated topic in finance literature, essentially because it is not directly observable, and its estimation is based on other estimated data (Botosan, 2006). Consequently, there is a lack of consensus among researchers regarding the best way to estimate this parameter (Botosan and Plumlee, 2005; Chen et al., 2023; Martínez-Ferrero and García-Sánchez, 2017; Rossi, 2016). In this perspective, academic literature has mainly used two approaches to estimate the COEC: the average realised returns and the residual income valuation model (Reverte, 2012).

Researchers agree that average realised returns are a weak proxy of expected returns, providing a biased estimation of the COEC. Elton (1999) pointed out that average realised returns have been lower than the risk-free rate for some period, while Fama and French (1992) failed to provide a correlation between market beta and realised returns.

The implied approach to estimate the ex-ante COEC, instead, is widely adopted among academics and practitioners and represents a more reliable alternative to compute the COEC (Pástor et al., 2008; Reverte, 2012). According to this approach, it is possible to estimate the ex-ante COEC impounded in current market prices and analysts' earnings

forecasts. To this purpose, Botosan and Plumlee (2005), revised and empirically tested the reliability of five methodologies for estimating the ex-ante COEC and their findings highlighted that the target price method (Botosan and Plumlee, 2002) and the price earnings growth (PEG) method (Easton, 2004) dominate other alternatives (Mazzotta and Veltri, 2014).

Our proxy of COEC is obtained using the PEG ratio method, which, despite its simplicity of application, provides a robust proxy of the COEC (Botosan, 2006). Following Bui et al. (2020), we use a single proxy of COEC for two reasons: firstly, our study is not about the superiority of one model over the other, and secondly, previous studies (e.g., Dhaliwal et al., 2014; El Ghoul et al., 2011; Hail and Leuz, 2006) have shown consistency among different proxies computed using different methodologies. Accordingly, it is possible to compute the ex-ante implied COEC as the inverse of the price-earnings-growth ratio, which is the square root of the difference between the analysts' earnings per share (eps) forecasts at time $t + 2$ and $t + 1$, scaled by stock price at time t, as reported in the following equation (1):

$$COEC = \sqrt{\frac{eps_{i,t+2} - eps_{i,t+1}}{P_{i,t}}} \tag{1}$$

where $eps_{i,t+2}$ and $eps_{i,t+1}$ represent analysts' forecasts of earnings per share for firm i for two-years and one-year ahead, respectively; $P_{i,t}$ represents the stock market price of the share at the forecast date, at the end of the firm's fiscal year-end.

This model requires positive one-year-ahead and two-year-ahead earnings forecasts, as well as a positive change in the earnings forecast.

3.3 Independent variable

Our independent variable is measured by the environmental, social and governance disclosure score (ESGDS), provided by the Bloomberg database. Bloomberg determines the ESGDS by analysing a wide range of sources of information and considering several indicators related to the sustainability aspects (Li et al., 2018). ESGDS is computed considering the ESG information that companies provide through CSR reports, annual reports, and company websites and on the basis of surveys directly conducted by Bloomberg. Furthermore, Bloomberg takes into account the sustainability peculiarities of the different sectors in determining the score (Giannarakis et al., 2014; Raimo et al., 2021). In light of this, ESGDS reflects a specific level of sustainability disclosure and varies from 0.1 to 100, where 0.1 is assigned to firms who disclose a minimum amount of ESG data, and 100 is assigned to firms that disclose every data point collected by Bloomberg (McBrayer, 2018). The ESGDS provided by Bloomberg have been widely used by researchers interested to analyse the impact of sustainability disclosure on corporate financial performance, facilitating comparisons between different studies (Albitar et al., 2020; Baldini et al., 2018; Eccles et al., 2011; Giannarakis et al., 2014; Halbritter and Dorfleitner, 2015; Nollet et al., 2016).

3.4 Control variables

A set of control variables have been added to the econometric analysis in order to avoid biased results. Following the literature in the field (Botosan and Plumlee, 2005; Chen

et al., 2023; Dahiya and Singh, 2020; García-Sánchez and Noguera-Gámez, 2017; Kim et al., 2015; Mazzotta and Veltri, 2014; Reverte, 2012; Salvi et al., 2018), we control the effect of the following factors: market beta (BETA), firm size (FS) and market-to-book ratio (MTBR).

BETA represents the firm's systematic risk and measures the volatility of the stock price relative to the volatility of the market index. It is obtained using the market model and estimated over the 60 months prior to a firm-year observation at fiscal year end. We expect a positive relationship between BETA and COEC because a higher value of the BETA coefficient implies a greater firm risk level, and investors demand, as consequence, a higher COEC to compensate for this additional risk (Sharpe, 1964). FS is a measure of firm dimension and was computed as the natural logarithm of total assets. The expected relationship between FS and COEC is negative because larger firms have more analyst coverage and tend to disclose a greater amount of information to their stakeholders; this mechanism should foster the information asymmetry reduction, lowering the COEC (Bowen et al., 2008). Finally, MTB ratio is a measure able to capture growth opportunities (Dhaliwal et al., 2011). Companies characterised by greater growth opportunities tend to disclose more information to their stakeholders to reduce agency and information asymmetry issues (García-Sánchez and Noguera-Gámez, 2017). Investors tend to overvalue firms with higher MTB ratio asking for a lower risk premium to hold these stocks in their portfolio (Fama and French, 2006). Thus, we expect a negative relationship between MTB and COEC.

3.5 Model specification

To test our research hypothesis, we run a fixed effects panel analysis, using a sample of 265 international listed companies from 2010 to 2019, generating an unbalanced panel dataset including 1,750 firm-year observations. To test the reliability of our dependent variable, we regress in Model 1 the *CEOC* on *BETA*, *F*S and *MTB* as reported in equation (2):

$$COEC = B_0 + B_1 BETA_{i,t} + B_2 FS_{i,t} + B_3 MTB_{i,t} + \in_{i,t} \quad (2)$$

To test the relationship between *ESGDS* and *COEC*, following the literature in the field (García-Sánchez and Noguera-Gámez, 2017; Mazzotta and Veltri, 2014; Reverte, 2012) we implement Model 2 adding the explanatory variable *ESGDS* at equation (2), as reported in equation (3):

$$COEC = B_0 + B_1 ESGDS_{i,t} + B_2 BETA_{i,t} + B_3 FS_{i,t} + B_4 MTB_{i,t} + \in_{i,t} \quad (3)$$

We run the Hausman test to choose the best fit between random and fixed-effects models. Results support the use of the fixed effects model both for Model 1 and Model 2. As consequence, we conducted a panel regression analysis with fixed effects (Bernardi and Stark, 2018; Johnson, 2020; Kim et al., 2014) and robust standard error (White, 1980). Furthermore, we included in our regressions year and country effects (Reverte, 2012).

4 Results

Table 3 presents the descriptive statistics and correlation analysis of our study. With regards to the descriptive statistics, in line with previous studies (Dahiya and Singh, 2020; Gerged et al., 2021; Lemma et al., 2019), the mean value of our proxy of COEC is 9.39% (standard deviation 2.91). Besides, still in line with previous contributions (Dahiya and Singh, 2020; Li et al., 2018; McBrayer, 2018; Nollet et al., 2016), the mean ESGD score is 20.83 (standard deviation 11.26).

Table 3 Descriptive statistics and matrix correlation

	Mean	*St. dev.*	*CEC*	*ESGDS*	*BETA*	*FS*	*MTB*
COEC	9.3899	2.9115	1.00				
ESGDS	20.8347	11.2628	0.0262	1.00			
BETA	1.1104	5.6344	0.0785***	–0.0381*	1.00		
FS	8.5995	1.5484	–0.0589***	0.0677***	0.0167	1.00	
MTB	3.0738	2.4068	0.0310	0.0203	0.0099	–0.0877***	1.00

Note: ***Significant at the 1% level, **significant at the 5% level and *significant at the 10% level.

With regards to the correlation analysis, the coefficients are on average quite low, suggesting that multicollinearity is not an issue for the model. Furthermore, results on the variance inflation factor (VIF) analysis (untabulated) confirm the absence of multicollinearity issues.

Table 4 Regression analysis

	Model 1			*Model 2*		
	Coefficient	*Robust S.E.*	*p value*	*Coefficient*	*Robust S.E.*	*p value*
Constant	*17.08013****	*1.353417*	*0.000*	*13.81941****	*1.425439*	*0.000*
ESGDS	-	-	-	–0.0687408***	0.0122165	0.000
BETA	0.042813***	0.0110944	0.000	0.0390434***	0.0107941	0.000
FS	–0.8499285***	0.1549893	0.000	–0.3175408*	0.1721317	0.065
MTB	–0.0887797**	0.0375175	0.018	–0.0911968**	0.0379436	0.016
N. of obs.	1,750			1,750		
Prob. > F	0.0000			0.0000		
Year fixed effects	Yes			Yes		
Country fixed effects	Yes			Yes		

Note: ***Significant at the 1% level, **significant at the 5% level and *significant at the 10% level.

Model 1, reported in Table 4, tests the reliability of our proxy of *COEC* obtained using the PEG method. Our findings, in line with the academic literature (Fama and French, 1992; Mazzotta and Veltri, 2014), confirm the existence of a positive and statistically significant relationship between *BETA* and *COEC*, and a negative and statistically

significant impact of *FS* and *MTB* on *COEC*. In particular, *BETA* positively affects *COEC* (0.043) with a 1% level of statistically significance confirming our initial expectations: the cost of equity is increasing in beta (Botosan and Plumlee, 2005). *FS* is negatively associated with *COEC* (–0.850), with the relationship being statistically relevant at 1%. These findings reinforce the existence of an inverse relationship between size and *COEC* (Berk, 1995). Larger firms disclose more accurate and consistent information flow to their stakeholders, reducing information asymmetry and *COEC* (Mazzotta and Veltri, 2014). Finally, *MTB* negatively affects *COEC* (–0.089) with the relationship being statistically relevant despite a lower significance level (5%). Our results are in line with previous studies in the field, supporting the hypothesis according to which higher levels of *MTB* reflect lower uncertainty about the company's future growth opportunities and earnings. Investors ask for a lower risk premium in order to hold these stocks in their portfolio (Fama and French, 2006; Lee et al., 2008).

Table 4 also reports the findings from the estimation of Model 2, where the *ESGDS* is added to Model 1. Confirming our initial expectation, the findings show the existence of a negative (–0.0687) and statistically significant (p = 0.000) relationship between ESGDS and COEC, providing evidence that the ESG disclosure can be considered a useful tool able to reduce the firm COEC. All the control variables confirm their significance also in Model 2.

5 Discussion

Findings indicate that a broader ESG disclosure allows H&T firms to obtain a reduction in the COEC. These findings confirm the effectiveness of ESG disclosure to generate financial benefits. Furthermore, they enlarge the academic literature on the relationship between information and the cost of capital by extending the analysis to an unexplored industry.

Our empirical findings may be explained through the two fundamental mechanisms according to which disclosure can reduce the COEC: mitigating information asymmetry and attracting a greater number of long-term investors. These mechanisms, although applicable in different sectoral contexts, assume particular relevance in the H&T industry.

In general, ESG disclosure includes information related to waste, pollution, emissions, human rights, gender policies, board composition, labour standards, corporate governance practices and control procedures. This information plays an increasingly important role in investor investment decisions. In the H&T industry, ESG disclosure includes information relating to eco-friendly structures, climate change, the use of organic products, the presence of means of transport with low environmental impact, the conservation and enhancement of natural heritage, human rights and social commitment of tourist facilities.

Very often, information asymmetry between H&T companies and investors concern the aspects of risk and value that are not captured by traditional financial disclosure. In this regard, a broad ESG disclosure by H&T companies can mitigate asymmetry and uncertainty and provide investors with a comprehensive view of the firm's status quo. In particular, a correct representation of aspects, such as the use of organic products, the presence of eco-friendly structures, the conservation and enhancement of natural heritage and social commitment allows an accurate assessment of the future prospects of H&T

companies by investors improves risk assessment, and this, increases attractiveness as potential investments.

The use of eco-friendly facilities, organic products, the conservation and enhancement of natural heritage and social commitment are factors able to create and strengthen the competitive advantage of H&T firms and ensuring their maintenance over time. A correct representation of this information through a broad ESG disclosure conveys to investors the ability of H&T companies to create value in the medium and long-term. Under this perspective, a broad ESG disclosure may further attract a greater number of long-term investors to the detriment of the transient ones. These investors, by definition, are particularly interested in the creation of long-term value and pay particular attention to information that shows indications about the future performance of companies. The perception of a lower level of risk will lead to a lower rate of return expected for investments. These circumstances illustrate the rationale according to which ESG disclosure reduces the cost of equity increasing the base of long-term investors.

6 Conclusions

This work analysed the effect of ESG disclosure on the cost of equity in the H&T industry. Empirical findings showed a negative relationship between ESG disclosure and the COEC, demonstrating that a wider dissemination of ESG information allows H&T firms to obtain a better access to financial resources. These findings extend the academic literature that indicates a negative impact of ESG disclosure on the cost of capital in other sectors by focusing on a specific industry. Furthermore, this study extends the scope of voluntary disclosure theory, accordingly framing the relationship between ESG disclosure and the COEC according to this theoretical perspective.

The results obtained provide several implications for H&T companies. In fact, in light of the financial benefits associated with a reduction in the cost of equity, companies should pay more attention to transparency and the dissemination of ESG information. More specifically, H&T companies should collect and disclose material information for investors, such as performance relating to eco-friendly structures, climate change, use of organic products, presence of means of transport with low environmental impact, conservation and to the enhancement of natural heritage, human rights and social commitment. H&T companies should also pay attention to both the level and quality of ESG information provided to investors. In fact, only a correct and articulated representation of ESG aspects allows investors a full understanding of the sustainability strategies, policies and results of H&T companies, triggering the virtuous circle that leads to a reduction in the cost of equity.

In particular, H&T companies may enhance disclosure effectiveness through visual tools such as pictures and graphs capable of facilitating the understanding of ESG aspects and should opt for the adoption of a simple language, easy to understand even for users without a technical background in sustainability. They may further seek to provide corporate reports with a high degree of readability. In addition, H&T companies should expand the communication channels through which they provide ESG information in order to facilitate accessibility and reach a greater number of users. In this regard, they should go beyond the simple dissemination of corporate documents such as integrated or sustainability reports and disseminate ESG information also through corporate websites

and press releases, direct communications and social networks. These communication channels allow investors to access ESG information at low cost and in real time.

Our findings offer additional important implications for policymakers. In light of the importance that ESG information assumes for investors, regulators may opt for a minimum level of ESG information disclosure requirement (including H&T companies).

Concluding, this work is not without limitations. The main issue involves the use of secondary data (retrieved from the Bloomberg database) to operationalise the ESG disclosure. In fact, although the Bloomberg database is a highly recognised source and the scores related to the ESG disclosure are widely used in management and accounting literature, the use of primary data could significantly increase the robustness of the work. However, this limitation does not reduce the general quality of this work, which offers important insights for future research. More specifically, future studies may replicate this study, developing disclosure indexes calculated through content analysis techniques to measure the level of ESG disclosure of H&T companies. Future works may further examine the impact of the quality of ESG disclosure on the COEC, going beyond the quantitative analysis of such information. Additionally, researchers may extend the analysis to other industries and carry out comparative analyses with the H&T industry, as well as investigate the mediating and/or moderating effect of key factors in the relationship between ESG disclosure and the COEC. Finally, future research may examine alternative financial effects of ESG disclosure in the H&T industry, such as those on the cost of debt and firm value.

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