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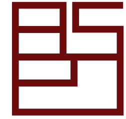

EXPLORING SUSTAINABILITY REPORTING IN ITALIAN LISTED SMES

Fabiana Roberto
University of Napoli Federico II
fabiana.roberto@unina.it

Salvatore Principale
Sapienza University of Rome
salvatore.principale@uniroma1.it

Luigi Andrea Carello
Sapienza University of Rome
luigiandrea.carello@uniroma1.it

Paolo Conte
Sapienza University of Rome
paolo.conte@uniroma1.it

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Abstract

Purpose: *The Corporate Sustainability Reporting Directive (CSRD) requires European listed small and medium-sized enterprises (SMEs) to report environmental, social, and governance (ESG) information starting from 2028. The research aims to explore the extent of sustainability reporting in Italian listed SMEs and to evaluate the determinants that may have influenced the level of disclosure.*
Design/methodology/approach: *An OLS regression was conducted on 65 GRI-based sustainability reports of Italian listed SMEs to assess determinants of the level of ESG disclosure.*
Findings: *The study found that most of the analyzed reports inadequately documented information at the indicator level, with limited improvement in less substantial areas such as social and local community-related disclosures. The findings highlight the need for Italian SMEs to enhance the quality and completeness of their sustainability reporting to meet emerging regulatory requirements and societal expectations. Moreover, the size and sector could be determining factors that influenced the level of disclosure.*
Practical and Social Implication: *This study contributes to understanding SMEs' sustainability reporting practices within the context of evolving standards and regulations.*

1. Introduction

In recent decades, stakeholder demand for companies to demonstrate greater social and environmental responsibility (Carroll and Buchholtz, 2015, Erin et al., 2022) and to disclose sustainability-related information has continued to grow and evolve within the global business community (Folkens and Schneider, 2019; Gray, 2006; Orzes et al., 2020), driven by increased awareness of responsible business behavior and the pursuit of sustainable development principles (Adams et al., 2016; Ottenstein et al., 2022; Stefanescu, 2022) which aim to balance economic growth, environmental protection, and social well-being (Carroll and Shabana, 2010).

The United Nations' 2030 Agenda for Sustainable Development and its associated Sustainable Development Goals (SDGs) emphasize the importance of disclosures regarding ESG activities and policies (Bebbington and Unerman, 2018). This emphasis is crucial for firms to be accountable to their stakeholders and society (Cicchiello et al., 2023).

In this context, there has been a notable increase in corporate practices involving the voluntary and mandatory disclosure of ESG information over the years. On the voluntary front, a range of principles, frameworks, and guidelines has been established to assist companies in reporting ESG information. Among these, the Global Reporting Initiative (GRI) stands out as the most widely accepted and adopted standard globally (Castilla-Polo and Guerrero-Baena, 2023; Larrinaga et al., 2018; IFAC, 2023; KPMG, 2022). On the other hand, recent attention from regulators has been directed towards the topic of sustainability reporting (SR) (La Torre et al., 2018; Lombardi et al., 2022).

Particularly, the European Union (EU) has made significant progress in taking a leading role in this regard compared to other contexts (Esteban-Arrea and Garcia-Torea, 2022).

Examples in the realm of reporting include Directive 2014/95/EU (Non-Financial Reporting Directive) and its recent update, the Corporate Sustainability Reporting Directive (CSRD - Directive 2022/2464/EU). The CSRD broadens the scope of mandatory non-financial reporting by introducing more comprehensive reporting obligations and standardizing SR across the EU. Companies subject to the CSRD will be obligated to report according to European Sustainability Reporting Standards (ESRS). Furthermore, the directive extends the reporting requirements to encompass approximately 50.000 companies, including large non-listed companies and listed SMEs.

Notably, existing literature on SR has primarily focused on large companies, leaving a research gap in the context of SMEs' SR practices. A recent literature review has indeed highlighted this gap and encouraged accounting scholars to address the topic of SR in SMEs (Dinh et al., 2023).

SMEs, constituting the majority of global businesses, play a crucial role in advancing the SDGs (Corazza, 2018; Maglio et al., 2021). Scholars argue that SR can effectively integrate sustainability into SMEs' operations, encouraging the adoption of socially responsible practices over the medium to long-term (Lee et al., 2018).

To address this gap, our study targets Italian-listed SMEs to conduct an empirical investigation. The research aims to assess the extent of sustainability information disclosure in their SR with consideration of the GRI guidelines. Additionally, the study seeks to examine various factors influencing the transparency of ESG information. We performed an OLS regression on 65 SRs that adhere to the GRI Standards. Based on GRI (2016a) elements we developed an index to measure the disclosure level of SRs among Italian listed SMEs.

This research responds to the call for further investigation into SR and SMEs within the framework of current standards and regulations (Bikefe et al., 2020; Ortiz-Martínez and Marín-Hernández, 2020). Our results reveal a generally inadequate level of reporting, with many of the analyzed reports lacking comprehensive documentation at the indicator level.

Based on legitimacy theory, the study provides evidence suggesting the impact of company size and belonging to environmentally sensitive sectors on the ESG transparency of Italian listed SMEs.

This paper's first contribution is to shed light on the practice of Italian listed SMEs voluntarily issuing sustainability reports according to the GRI. By delving into this area, our research offers a different perspective to a field traditionally centered on large companies.

The rest of our paper is organized as follows. Section 2 comprises a literature review, focusing on the regulatory landscape of SR and its importance for SMEs. Section 3 outlines the data and methodology used, introducing the SR Index that we have developed. Section 4 presents and discusses the empirical findings, while Section 5 presents the conclusion, the implications of the research and provides suggestions for future research.

2.Literature Review

2.1 Sustainability reporting regulation: an ongoing process

Companies are increasingly expected to demonstrate increased accountability and transparency to stakeholders concerning their economic, environmental, and social impacts (Erin et al., 2022). Therefore, SR has gained substantial attention in recent years becoming an essential part of corporate sustainability strategies (Stefanescu, 2022). However, despite this emphasis, several studies have highlighted the inadequate transparency of the

disclosed sustainability information over the past two decades, prompting scholars to call for regulatory intervention to enhance SR practices (Korca et al., 2021; Mio et al., 2021; Ottenstein et al., 2022).

Over the years, legislators have increasingly demanded ESG information (Cupertino et al., 2022), resulting in the introduction of different regulations aimed at encouraging companies to integrate sustainability information into their annual reports. In comparison to other regions, the European Union (EU) has demonstrated a strong commitment to sustainability (Schönborn et al., 2019), taking a leading role in SR efforts (Esteban-Arrea and Garcia-Torea, 2022).

In this regard, the EU has developed several guidelines and directives in alignment with the broader legal framework on sustainable finance (Lombardi et al., 2021-2022; Venturelli et al., 2018), thereby supporting the European Green Deal's ambition to achieve climate neutrality by 2050 (EC, 2021; Ortiz-Martínez et al., 2022). The enactment of the DIRECTIVE 2014/95/EU (so called NFRD) in 2014 required large companies and groups, including listed firms and non-listed entities above certain thresholds of assets, turnover, and employees, to disclose non-financial and diversity information in the management report or in a separate document starting from 2017 (García-Benau et al., 2022; Garcia-Torea et al., 2020). Therefore, the NFRD stands as the first supranational regulation mandating companies to adhere to specific criteria for disclosing non-financial information encompassing social, environmental, ethical, and corporate governance aspects through SR (Venturelli et al., 2018; EU, 2014).

Nevertheless, the NFRD still provides companies broad discretion in determining the extent and content of the SR, selecting frameworks, and seeking assurance (Dinh et al., 2023). In response to some limitations of the first version of the NFRD, on 14 December 2022 the European Parliament approved the CSRD (Directive 2022/2464/EU), introducing several new elements aimed at broadening the scope of obligated entities and reducing firms' discretion through specific reporting criteria and standards. In this domain, the European Commission has tasked the European Financial Reporting Advisory Group (EFRAG) with issuing the EU Sustainability Reporting Standards (ESRS) (Aureli et al., 2020; EFRAG, 2021). Furthermore, the European Commission has outlined plans for progressive expansion of obligated organizations by reducing the size thresholds of the previous directive and including SMEs as well (Esteban-Arrea and Garcia-Torea, 2022).

With a focus on SMEs, Europe is advancing sustainability practices and reporting, through a combination of mandatory and voluntary measures, encompassing both listed and non-listed SMEs (EFRAG, 2023). Under the CSRD, listed SMEs are mandated to adopt the ESRS by the calendar year 2027, using data from the financial year 2026. Recognizing the unique characteristics of SMEs, the European Commission plans to adopt delegated

acts within the next year to provide SR standards that are proportionate and relevant to SMEs' capacities, characteristics and the scale and complexity of their operations (EU Directive 2022/2464). Consequently, EFRAG is developing the simplified LSME ESRS as a standalone document, building upon the initial set for large enterprises and adjusting it as necessary.

On the other hand, unlisted SMEs are indirectly affected by the CSRD. Although they are not directly obligated to produce and publish sustainability reports under the CSRD, they may find themselves required to provide specific information to their business partners, particularly if they are part of the value chain of a large company subject to the CSRD's requirements. Notably, the CSRD mandates companies to report on sustainability matters not only within their own operations but also across their entire value chain, and stakeholders such as banks or investors may require them to disclose information about the sustainability of their business and along their value chain (Dinh, et. Al., 2023). As a result, SMEs exempt from reporting obligations under the CSRD have multiple voluntary SR options. In addition to various international standards, they can opt for the simplified ESRS or the voluntary ESRS tailored for SMEs.

2.2 Sustainability reporting for SMEs

In recent years, there has been a growing recognition that SMEs, like other organizations, must not only prioritize short-term economic profits but also consider the environmental and social value they create or destroy (Caputo et al., 2017; Ottenstein et al., 2022). Undoubtedly, SMEs can exert a significant impact on the environment and society through the cumulative effect of their activities (Corazza, 2018), similar to large companies (Morsing and Perrini, 2009; Shields and Shelleman, 2020). For instance, within Europe, SMEs are estimated to account for 60-70% of industrial pollution (OECD, 2018). As a result, the responsible conduct of SMEs, particularly regarding their environmental footprint, is now a critical element in fostering a greener economy and achieving a more sustainable planet (Isensee et al., 2023). Therefore, ensuring the long-term sustainability and growth of SMEs is paramount, given their potential to bolster national economic stability and advance national SD objectives (Das et al., 2020).

Unlike their larger counterparts, SMEs face greater challenges in allocating explicit resources to sustainability due to their limited resources (Trianni et al., 2019) and a lack of awareness and expertise necessary for effective sustainability integration (Trianni et al., 2019). Furthermore, a common trend among SMEs is to prioritize the economic dimensions of sustainability, addressing environmental and social aspects primarily to meet regulatory requirements imposed by stakeholders (Choi and Lee, 2017; Trianni et al., 2019).

Engaging in SR can offer SMEs several advantages, including the de-

velopment of risk management strategies, the enhancement of responsible business practices, and the exploration of new opportunities in the global marketplace. Additionally, SR can facilitate the integration of sustainability into SMEs' operations and encourage them to adopt a long-term perspective (GRI, 2016b). However, existing literature have underlined that SMEs disclosure of sustainability practices is not always straightforward (Lee et al., 2018). Most sustainability management and reporting tools have been tailored for and by large companies, presenting challenges for SMEs in their adoption (Johnson and Schaltegger, 2016).

Moreover, the lack of suitable guidelines and the absence of mandatory SR requirements for SMEs (Dias et al., 2018; Mahoney and Thorne, 2014) may explain the lower levels of reporting observed in these companies compared large counterparts (Lee et al., 2018). Possible reasons for this gap include SMEs limited financial and managerial resources for reporting, their relatively lower visibility in comparison to larger firms (Dienes et al., 2016), the perception that their social and environmental impacts are insignificant (Cantele and Zardini, 2020), minimal external pressure from stakeholders (Scagnelli et al., 2013), or a lack of awareness regarding the benefits of reporting (Revell and Blackburn, 2007).

Despite the growing body of literature on corporate sustainability and SR, there has been a lack of attention on the practice of reporting sustainability-related issues within SMEs (Dinh et al., 2023; Massa et al., 2015). Thus, it is crucial to examine the non-financial information provided by SMEs, particularly in Europe where they constitute the majority of companies (Ortiz-Martínez and Marín-Hernández, 2020), serving as the backbone of member countries' economies (Cicea et al., 2019; EC 2021-2023).

2.2.1 Development of the hypotheses

Accounting scholars employed various theories to explore companies SR, with the stakeholder theory and legitimacy theory being prominent among them (Lombardi et al., 2022).

The legitimacy theory suggests that organizations recognize the importance of aligning their operations with societal and stakeholder expectations to establish and maintain legitimacy (O'Donovan, 2002). Legitimacy, within this framework, refers to the perception that an organization acts fairly and appropriately within society, thereby warranting its existence. This theory emphasizes that organizations must address societal expectations while balancing the pursuit of their objectives and meeting external demands.

In the context of SR, the legitimacy theory suggests that companies are driven to disclose sustainable information to uphold their legitimacy in the view of stakeholders and society (Guthrie and Parker, 1989). A lack of

transparency regarding sustainable practices could jeopardize an organization's legitimacy, thereby impacting public perception and stakeholder trust (Belal et al., 2015).

Several studies suggest that firm size can significantly impact its SR practices. The prevailing consensus in the literature is that larger companies tend to disclose higher quality information and exhibit greater transparency (Karaman et al., 2018). Some authors emphasize that larger companies possess more resources at their disposal compared to smaller ones, making them more inclined to allocate resources towards providing comprehensive information. Furthermore, larger companies may need to satisfy a larger number of stakeholders in terms of information dissemination.

Even among SMEs, dynamics similar to those recognized in the literature for large enterprises may hold proportional significance. A recent study conducted on a sample of manufacturing companies showed that size can be a determinant of sustainability disclosure to a degree comparable to that observed in large companies (Cardoni et al., 2023). Consistent with recent evidence, we hypothesize that larger SMEs may be more transparent regarding ESG issues.

Hp1: There is a positive relationship between Size and ESG information transparency in SMEs

Several studies have underscored the importance of the industry sector regarding the extent and transparency of ESG information (Busco et al., 2019). Some scholars argue that companies directly impacting the environment and society may be more sensitive to these issues. Such organizations encounter substantial pressures from various stakeholder groups due to their operational activities. Drawing on legitimacy theory, these studies suggest that companies respond to significant external pressures by providing more ESG information (Bhatia et al., 2020). SR serve as a strategic tool to manage stakeholder expectations, demonstrate a commitment to sustainable practices, and maintain corporate legitimacy in contexts with high environmental and social exposure. In line with the prevailing view, we argue that environmentally sensitive companies would tend to disclose more ESG information to address external pressures. Therefore, we developed the following hypothesis:

Hp2: There is a positive relationship between Environmental-sensitive industries and ESG information transparency in SMEs

3. Research method

3.1 Sample and data

The study analyzes a sample of listed SMEs, selecting Italy as the study's focal point among various European countries. Within the EU, Italian SMEs hold a prominent position, representing the highest number of such enterprises. Additionally, Italy has demonstrated significant commitment to sustainability and environmental responsibility, making it a relevant choice for investigating SR practices (Rossi and Luque-Vílchez, 2021). Furthermore, Italian SMEs have shown a strong interest in developing and adopting sustainable practices (Del Baldo, 2017). Our study focuses on Italian listed SMEs that voluntarily provide sustainability reports based on GRI standards.

The selection of the company sample was carried out following the steps outlined below. The Aida database by Bureau Van Dijk was employed to identify Italian-listed companies that meet the size requirements of SMEs according to the European legislation (EU recommendation 2003/361). Aida is widely used by scholars in the fields of business and accounting due to its comprehensive coverage of financial data for Italian companies. The output from Aida revealed the presence of 300 listed SMEs. Subsequently, the coders verified which companies had published a sustainability report, resulting in a reduced sample of 72 firms. Among these, companies that had not adopted the GRI standard were excluded. The final sample consists of 65 companies.

Table 1 displays the geographical distribution of the main headquarters of the companies in the sample. The table indicates that, excluding 16 companies situated in Campania and Lazio, the legal headquarters of the remaining 75% of companies are in the central-northern regions of the Country.

Table 1 Geographical location of the sample SMEs

Region	**Sample SMEs**
Campania	6
Emilia-Romagna	8
Lazio	8
Liguria	2
Lombardia	28
Marche	1
Piemonte	3
Toscana	4

Veneto	5
Total	65

Source: own elaboration

3.2 Methodology

We adopted a quantitative approach, specifically performing an OLS regression, which is a common method in accounting studies. Additionally, to analyze the sustainability reports, we conducted a content analysis (Krippendorff, 2018), a method frequently used by accounting scholars to examine texts or documents, particularly in the context of information disclosure through corporate reports (Lu et al., 2017). Content analysis involves systematically categorizing and interpreting the content of the reports to identify key themes, trends, and patterns related to sustainability practices and disclosures. It enables researchers to gain insights into the companies' ESG performance and their commitment to sustainability initiatives. Through the application of content analysis, the study aims to draw meaningful and objective conclusions from the information presented in the sustainability reports of the selected SMEs.

Before coding the sustainability reports, the coders convened to establish the criteria for the analysis. Once the research protocol was defined, the coders underwent a training period using a sample of companies to minimize potential discrepancies and ensure reliability.

To assess the level of ESG disclosure among SMEs, we developed a disclosure index composed of three sub-indexes concerning the Environment, Governance and Social dimensions of sustainability information.

The methodological approach proposed by Helfaya and Whittington (2019) guided the adoption of the scoring index to assess the extent of the disclosure in SMEs sustainability reports. The construction of these three indicators utilized metrics derived from the GRI. This methodological approach enables a comprehensive evaluation of sustainability disclosures, aligning with established frameworks to facilitate a rigorous and standardized analysis of the reports. Table 2 presents the topics for the three dimensions. Specifically, the E dimension consists of 41 items, the S dimension contains 40 items, and the G dimension has 25 items, resulting in a total of 106 items per company. Each item can take a value of 0 or 1 depending on

the absence or presence of the corresponding GRI indicator in the analysed sustainability reports. The final indicator for each company is derived using the following formula:

$$ESGscore = \sum_{i=0}^{41} E_i + \sum_{i=0}^{40} S_i + \sum_{i=0}^{25} G_i$$

Table 2 ESG Disclosure Measurement Scheme

Environmental (E) (41 items)	**Social (S)** (40 items)	**Governance (G)** (25 items)
Material Energy Water Emission Effluents and Waste Environmental Compliance Supplier Environmental Assessment	Employment Labor/Management relation Occupational Health and Safety Training and Education Diversity and Equal Opportunity Local communities Supplier Social Assessment	Governance structure Conflicts of interest/Risk management Stakeholder engagement Remuneration

Source: own elaboration

Table 3 reports the independent and control variables. To evaluate hypotheses 1 and 2 we selected the variables Size (natural logarithm of total assets) and environmentally sensitive (if the company belongs to an environmentally sensitive sector) (Karaman et al., 2018; Cardoni et al., 2023; Peters and Romi, 2013). Some control variables were included in the model based on good practices present in the literature. Specifically, leverage, ROA, ROE, cash and cash equivalents were considered in the model (Cardoni et al., 2023; Qian and Xing, 2018). By accounting for these financial and operational factors, we aim to isolate the relationship between firm size, sector sensitivity to environmental issues, and ESG disclosure.

Leverage, measured as the ratio of debt to equity, is included to account for the financial structure of the firm, as higher leverage may indicate greater financial risk (Tsuruta, 2017; Lu et al., 2017). ROA and ROE are important financial performance indicators that cap-

ture the efficiency of resource utilization and the profitability of the firm, respectively (Venturelli et al., 2021). Based on literature, including these variables allows us to control for variations in financial performance that may influence ESG disclosure practices.

Furthermore, the inclusion of cash and cash equivalents as control variables helps to capture the liquidity position of the firm, which can impact its ability to invest in sustainable practices and meet environmental compliance requirements (Cardoni et al., 2023; Cowling et al.,2020).

Table 3 Description and measurement of the variables

Abb.	Variable	Measure	Reference
ESG	ESG score	Scoring 0-106 items	Own elaboration
Gov	Governance score	0-25 items	Own elaboration
Soc	Social Score	0-40 items	Own elaboration
Env	Environmental score	0-41 items	Own elaboration
Size	Company Size	Natural log of total assets	(Karaman et al., 2018)
Lev	Leverage	Leverage ratio	(Lu et al., 2019)
ROA	Return of Assets	Return on Assets	(Buallay et al., 2020)
ROE	Return on Equity	Return on Equity	(Alvarez, 2012)
Cash	Cash and cash equivalents	Natural logarithm of cash and cash equivalents	(Cardoni et al., 2023)
ESI	Environmentally sensitive sector	1 if the company operates in an environmental sensitive industry, 0 otherwise	(Peters et al., 2013)

4. Results

Table 4 presents the average results for the three dimensions across the entire sample. On average, Italian listed SMEs disclose ESG information at a level of 0.45 (on a scale from 0 to 1). Although this figure cannot be considered positive, it aligns with the findings of previous studies. Due to their size and lack of skills, SMEs face challenges in embarking on a path toward full transparency in sus-

tainability reporting (Trianni et al., 2019).

Analyzing the three dimensions, the results show that Italian listed SMEs reported more information in the S dimension (0.54), followed by the E dimension (on average 0.47), and the G dimension (0.27). Despite the minimal difference between the E and G dimensions, this finding contrasts with previous studies that investigated the disclosure of larger companies in the Italian context. Those studies revealed that Italian companies tended to disclose more environmental information than social-related topics (Leopizzi et al., 2020).

Table 4 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESG	65	.454	.198	.094	.84
Env	65	.473	.263	.025	1
Soc	65	.547	.249	.073	.902
Gov	65	.272	.16	0	.96
Size	65	12.289	1.856	9.162	18.191
Lev	65	117.276	118.401	0	563.505
ROA	65	1.476	5.722	-24.514	11.517
ROE	65	1.826	23.749	-119.986	33.333
Cash	65	9.761	1.929	4.421	13.619
ESI	65	.273	.449	0	1

The table 5 presents the average results for each topic within the three dimensions. Concerning dimension E, except for the Waste topic (average 0.62), there are no significant differences among the remaining topics. SMEs, on average, reported fewer pieces of information regarding Water (0.44), Emission (0.45), and Supplier (0.46). The lower emphasis on emissions is not surprising due to the high costs, both in terms of financial resources and organizational efforts, required to continuously map emissions along the value chain (Lee et al. 2018). Similarly, the mapping of environmental impacts of Suppliers requires resources typically available to larger companies (Meqdadi et al., 2012). Given their wider financial, human, and technological resources, larger companies can allocate more resources and investments to conduct comprehensive assessments of their suppliers' environmental impacts. On the other hand, SMEs often operate with limited resources, both financial and human, and may lack access to the same advanced technologies and knowledge used by larger companies to map supplier environmental impacts. Consequently, they face difficulties in gathering and analyzing the necessary data to evaluate supplier environmental impacts and imple-

ment sustainability measures in the supply chain.

Regarding dimension S, companies, on average, provided more information on Diversity and Equal Opportunity and Employment. The increasing attention towards Diversity is positive, especially considering the SDGs, particularly Goal 5 "Gender equality". Similar to the E dimension, information disclosed by companies on their suppliers in the S dimension is also lacking. An unexpected finding was the low amount of information on local communities. Italian SMEs are often family-owned businesses, and the literature has highlighted the strong link between family SMEs and the communities in which they operate (Venturelli et al., 2021).

Finally, the G dimension received the least attention from companies. Most of the information focuses on stakeholder engagement (average 0.77), with few or no details on governance structure (0.09), risk management (0.09), and remuneration (0.07). International standards and regulators are increasingly pushing for better governance practices in handling ESG issues. This trend is evident in the CSRD which, unlike the NFRD, mandates reporting on the G dimension. Following the path set by the Task Force on Climate-related Financial Disclosures (TCFD), the IFRS foundation, through standards S1 and S2, also requires information on governance's attention to ESG topics (e.g., climate-related information in IFRS S2). Furthermore, the lack of information on risk management is a significant issue. Unlike large companies, SMEs may not be aware of the importance of a well-structured risk management system or may be limited in resources to implement risk management systems. Consequently, they often neglect documentation and disclosure of risk management activities.

However, it is crucial to emphasize that risk management is a fundamental component for the sustainability and resilience of SMEs. In an ever-changing economic environment with uncertainties, effective risk management can help SMEs prevent and mitigate potential negative impacts on their businesses, reducing the likelihood of financial or reputational losses. Moreover, proper risk management can provide competitive advantages by enhancing an organization's ability to navigate market changes and adapt to new opportunities.

Table 5 Average ESG disclosure by sub-dimensions

E		S		G	
Material	0.47	Employment	0.65	Governance structure	0.26

Energy	0.54	Labor/Management relation	0.43	Risk management	0.09
Water	0.44	Occupational Health and Safety	0.62	Stakeholder engagement	0.77
Emission	0.45	Training and Education	0.57	Remuneration	0.071
Waste	0.62	Diversity and Equal Opportunity	0.68		
Environmental compliance	0.56	Local communities	0.35		
Supplier Environmental Assessment	0.46	Supplier Social Assessment	0.45		

Before conducting the regression analysis, a correlation analysis was performed to assess the goodness of the model. As evident from table 6, no value exceeds 0.7, thus ruling out the presence of multicollinearity phenomena.

Table 6 Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ESG	1.000									
(2) Gov	0.305	1.000								
(3) Soc	0.896	0.103	1.000							
(4) Env	0.936	0.156	0.763	1.000						
(5) Size	0.501	0.086	0.428	0.502	1.000					
(6) Lev	0.077	-0.148	0.141	0.024	0.121	1.000				
(7) ROA	0.111	0.108	0.130	0.009	0.168	-0.142	1.000			
(8) ROE	0.026	0.036	0.095	-0.074	0.163	-0.071	0.592	1.000		
(9) Cash	0.346	0.020	0.246	0.390	0.856	-0.040	0.273	0.236	1.000	
(10) ESI	0.002	-0.006	0.030	-0.002	-0.013	-0.206	0.232	0.223	-0.053	1.000

Table 7 displays the results of linear regressions. The outcomes highlight the confirmation of Hp1. In all four models, the Size variable positively impacts the three dimensions: environmental (β=0.272, $p<0.01$), social (β=0.422, $p<0.01$) and governance (β=0.130 $p<0.05$). Additionally, in model 4, the variable also has a positive and significant coefficient (β=0.278, $p<0.01$). Hp2 is partially confirmed.

The significance in all the conducted models underscores the relevance of company size in terms of information transparency. Larger SMEs may

have greater resources and could use them to enhance ESG information transparency (Cardoni et al., 2023). These businesses might leverage their increased resources to position themselves against competitors, thereby benefiting their reputation (Venturelli et al., 2021).

Only in Model 1 the ESI variable is significant and has a positive coefficient (β=0.0365, p <0.05). As highlighted by other studies, Italian SMEs belonging to environmentally sensitive sectors would also tend to provide more information about environmental issues (Pizzi et al., 2021). These companies, due to the direct impacts on the environment, might use reporting as a tool to legitimize themselves in the eyes of stakeholders.

Table 7 Regression Results

	(1)	(2)	(3)	(4)
	Env	Soc	Gov	lnesg
Size	0.272** (0.006)	0.424** (0.001)	0.130* (0.120)	0.278** (0.001)
Lev	-0.000309 (0.663)	0.000293 (0.751)	-0.000834 (0.175)	-0.0000969 (0.872)
ROA	0.0404 (0.182)	0.0474 (0.229)	0.0325 (0.212)	0.0465 (0.072)
ROE	-0.0130 (0.071)	-0.00784 (0.397)	-0.00569 (0.355)	-0.0108 (0.077)
Cash	-0.0907 (0.302)	-0.251* (0.032)	-0.109 (0.156)	-0.144 (0.056)
ESI	0.0365* (0.844)	0.0122 (0.960)	-0.101 (0.529)	-0.00199 (0.990)
_cons	-3.194*** (0.000)	-3.792*** (0.000)	-1.829*** (0.001)	-2.921*** (0.000)
N	65	65	65	65
R^2	0.278	0.251	0.092	0.281
adj. R^2	0.193	0.163	-0.017	0.197

p-values in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$

4.1 Robustness test

Following best practices in the literature, we conducted an additional test to corroborate the results of Table 7. A logistic regression was performed, constructing 4 dependent variables for each model. In all 4 models, the dependent variables take a value of 1 if the value

of the 4 dimensions exceeds the standard deviation, and 0 otherwise. The results of Table 8 appear to confirm Hp1. The coefficients of the Size variable are positive and significant in the first 3 models. Hp2 also seems partially confirmed in this analysis. The coefficients of the ESI variable are significant and positive in Model 1 (β=0.140, $p < 0.05$) and model 4 (β=0.984, $p < 0.05$).

Table 8 Logistic regression

	(1)	(2)	(3)	(4)
	Env	Soc	Gov	lnesg
Size	0.103* (0.51)	0.262** (1.30)	0.478* (1.90)	0.238 (0.93)
Lev	-0.000665 (0.26)	0.00501 (1.50)	0.00437 (1.17)	0.0111 (1.58)
ROA	0.394* (2.31)	0.135 (1.21)	0.736** (3.00)	0.506* (2.20)
ROE	-0.0801 (-1.91)	-0.0234 (-0.86)	-0.372** (-3.23)	-0.195* (-2.04)
Cash	-0.176 (-0.07)	0.194 (0.07)	-0.122 (-0.03)	-0.227 (-0.79)
ESI	0.140* (-0.18)	1.237 (1.57)	0.566 (0.65)	0.984* (0.93)
_cons	2.261 (0.89)	-3.234 (-1.33)	-4.057 (-1.38)	-1.800 (-0.57)
N	65	65	65	65
Log-likelihood	-31.52	-38.825	-23.074	-19.90

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5. Implications, conclusions, and Future Research Agenda

Sustainability reporting is becoming increasingly widespread among companies, extending to SMEs as well. The CSRD, compared to the previous NFRD, introduced novelties in terms of types of information and extended the obligations to additional companies, including listed SMEs. This study aims to investigate the state of the

art of SR among Italian listed SMEs and the determinants of their level of transparency on ESG issues. The results highlight the challenges faced by Italian SMEs in undertaking virtuous sustainability disclosure processes. Currently, approximately 75% of listed SMEs do not voluntarily publish sustainability reports, and those that do so exhibit inadequate levels of transparency. Information related to governance is particularly lacking, while contrary to findings from studies on large Italian companies (Venturelli et al., 2021), SMEs on average disclose more information in the S pillar than in the E pillar. In line with legitimacy theory, the paper provides evidence of a positive relationship with the company size and partially of the sector to which it belongs.

The paper has significant theoretical and practical implications. We contribute to studies on SR by providing evidence on the behavior adopted by listed SMEs. The highlighted results on determinants are not dissimilar from the context of large companies. It is worth noting, however, that the analyzed sample consists of companies that tend to align more with large companies rather than small ones. In addition, the results offer valuable evidence on the level of disclosure among Italian listed SMEs and serve as a foundation for future studies. Furthermore, it can contribute to a better understanding of the challenges and opportunities faced by SMEs in pursuing sustainable practices, leading to the development of tailored tools and regulations to meet their specific needs.

The results also have practical implications for preparers and regulators. Preparers can learn from the best practices of Italian SMEs in sustainability reporting and adapt them to their specific needs and resources, thereby enhancing the quality and effectiveness of SR. On the other hand, regulators can benefit from the findings as they reveal that the European Commission's decision to delay obligations for SMEs until 2028 and provide elements of simplification for smaller companies was appropriate. EFRAG's task should now be to provide guidelines suitable for SMEs' specificities and serve as a useful support tool to enhance corporate transparency.

The study does have some limitations that future research could address. The analysis only examines disclosure for a single year; future studies could observe and measure the phenomenon over multiple years. Our study does not account for potential impacts on SMEs involved in supply relationships with companies directly affected by the CSRD. Future studies could delve into this aspect for a more comprehensive understanding.

Additionally, the study focuses exclusively on Italian listed SMEs; future research could explore the topic in other contexts to gain insights in different settings. In this regard, a comparative analysis across regions could be of interest. Finally, further studies could investigate the determinants of the level of transparency of SMEs.

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