



## ECONOMIA MARCHE Journal of Applied Economics

Vol. XLIV, No.1, Giugno 2025

---

# The ESG factor: scenarios and perspectives Observatory on the competitiveness of firms in Marche, Abruzzo and Molise

**M. Cucculelli**, *Università Politecnica delle Marche, Italia*

**N. Giampaoli**, *Università Politecnica delle Marche, Italia*

**M. Renghini**, *Università Politecnica delle Marche, Italia*

**D. Lena**, *Università Politecnica delle Marche, Italia*

---

### Abstract

This paper investigates the integration of Environmental, Social, and Governance (ESG) criteria among firms in the Italian regions of Marche, Abruzzo, and Molise, based on survey data from 2023 and 2024. The findings reveal a marked improvement in governance practices, particularly in board composition, gender diversity, and ESG-linked executive compensation. Environmental and social dimensions show more modest progress, with persistent gaps in certifications and structured initiatives. Larger and more established firms demonstrate higher ESG maturity, though small and medium enterprises are rapidly catching up. Regionally, Abruzzo leads in ESG advancement, while Molise lags, especially in governance. A positive correlation emerges between ESG performance and revenue growth, suggesting that sustainability is increasingly perceived as a strategic asset rather than a regulatory burden. Despite encouraging trends, challenges remain, including limited awareness of financial benefits and resource constraints among smaller firms. The study highlights the need for targeted policy support to foster a more inclusive and effective ESG transition.

**JEL Classification:** L25, L26, Q56, M14, R11

**Keywords:** *Regional development, ESG, ESG Performance, SMEs, Governance Practices*

## Affiliations and attributions

Marco Cucculelli, Department of Economics and Social Sciences, Università Politecnica delle Marche, P.le Martelli 8, 60100 Ancona, Italy. E-mail: [m.cucculelli@univpm.it](mailto:m.cucculelli@univpm.it).  
Money and Finance Research Group (MoFiR), Italy

Noemi Giampaoli, Department of Economics and Social Sciences, Università Politecnica delle Marche, P.le Martelli 8, 60100 Ancona, Italy. E-mail: [n.giampaoli@univpm.it](mailto:n.giampaoli@univpm.it).  
Money and Finance Research Group (MoFiR), Italy

Matteo Renghini,

Department of Economics and Social Sciences, Università Politecnica delle Marche,  
P.le Martelli 8, 60100 Ancona, Italy. E-mail: [m.renghini@univpm.it](mailto:m.renghini@univpm.it).

Department of Economics and Finance, LUISS Guido Carli,  
Viale Pola 12, 00198 Roma, Italy. E-mail: [mrenghini@luiss.it](mailto:mrenghini@luiss.it).

Money and Finance Research Group (MoFiR), Italy

Daniela Lena, Department of Economics and Social Sciences, Università Politecnica delle Marche, P.le Martelli 8, 60100 Ancona, Italy. E-mail: [d.lena@univpm.it](mailto:d.lena@univpm.it).

---

## 1. Introduction

In a rapidly changing global context, the integration of Environmental, Social, and Governance (ESG) factors into corporate strategies has become not only a priority for policymakers and investors, but a critical imperative for businesses seeking long-term resilience and competitiveness. Companies are increasingly required to align their operations with sustainability standards to meet the expectations of regulators, financial markets, and civil society (Carneiro et al., 2024).

A wide literature has studied the strategic relevance of ESG adoption for firms. Companies effectively integrating ESG principles are generally perceived as more transparent and resilient, often benefiting from improved financial performance, stronger stakeholder trust, and enhanced access to capital (Shen, 2023; Reber et al., 2022). ESG strategies are no longer limited to regulatory compliance but are increasingly seen as sources of competitive advantage, allowing firms to attract and retain valuable tangible and intangible resources (Taliento et al., 2019). Several studies have shown that higher ESG scores are associated with superior firm performance and reduced downside risk (Quan & Zhou, 2024; Khan et al., 2016). From a financial market perspective, strong ESG performers tend to experience lower loan spreads and better credit ratings, indicating reduced information asymmetry and operational risk (Friede et al., 2015; Bae et al., 2018). Moreover, ESG disclosure helps mitigate opportunistic behaviours and aligns firm practices with stakeholder interests, thereby enhancing long-term value creation (Bissoondoyal-Bheenick et al., 2023; Veenstra & Ellemers, 2020).

However, the effects are not uniform: for small and non-family firms, ESG initiatives can sometimes entail higher compliance costs and increased disclosure of strategic information, which may undermine competitive positioning (Gjergji et al., 2021).

This study offers an in-depth analysis of ESG integration among companies (included SMESs) in

Central Italy, focusing specifically on the Marche, Abruzzo, and Molise regions. Building on the 2023 survey (Cucculelli et al., 2024), this study expands the sample in two ways. First, we broaden the geographical scope of the survey: in addition to firms located in Marche and Abruzzo, those based in Molise are now also included. Second, it focuses on firms that responded to both the 2023 and 2024 waves. This allows for a fair comparison over time.

This mixed approach allows us to capture both the persistence of structural trends and the emergence of new dynamics in ESG adoption. The findings present a comprehensive picture of ESG evolution, which can be summarized as follows.

**Environmental:** good but not exceptionally good. Despite some progress, significant challenges are still persistent. Many firms still lack certifications or structured audits, and environmental leadership is largely concentrated among larger firms, which are better equipped to manage resources and implement sustainability strategies.

**Social:** slow but existing growth. The widespread presence of social certifications contrasts with the delayed implementation of concrete initiatives, while attention to social criteria in supplier selection is growing, even though formalization is still limited. Gender diversity is improving slowly, yet leadership roles continue to be predominantly male.

**Governance:** a nice surprise for companies. The governance pillar shows the most notable improvement, with progress in board composition, ESG-linked executive remuneration, and gender representation. However, many companies still approach governance in a reactive way, and initiative-taking strategies remain necessary to ensure future resilience.

**Geographical insights:** Abruzzo emerges as the region with the most significant progress across all ESG pillars, particularly in governance, while Marche shows notable improvements in governance but slight declines in environmental and social dimensions. Molise shows encouraging environmental engagement but faces substantial challenges in governance and social performance.

**Sectoral dynamics:** Sectors such as mineral extraction and water supply have demonstrated significant advances, especially in social and governance dimensions. However, environmental performance remains uneven, with sectors like electricity supply showing notable declines.

**Firm size and age:** Larger and more established firms tend to exhibit more advanced ESG practices, especially in governance. Medium and small firms, while still lagging, have shown remarkable improvements, indicating increasing responsiveness to sustainability challenges. The latter are still behind but they grow at ever faster rates.

**Financial performance:** The perception of financial benefits from ESG adoption remains limited, especially among smaller enterprises. However, the effects are increasingly evident: firms with higher ESG scores generally report stronger revenue growth, reinforcing the positive correlation between sustainability and business success.

**Motivations for ESG adoption:** The main drivers include signalling management quality and enhancing corporate visibility, with a declining emphasis on mere regulatory compliance. This trend suggests a cultural shift toward recognizing ESG as a lever for competitiveness rather than an obligation. Overall, by combining cross-sectional and longitudinal evidence, this paper contributes to the growing literature on ESG by offering a unique regional focus on Central Italy - an area often overlooked in large-scale studies. It highlights territorial and sectoral heterogeneity in ESG adoption and uncovers how firm size, age, and performance shape sustainability strategies over time. Furthermore, it provides new insights into the motivations behind ESG engagement, documenting a shift from regulatory compliance to strategic value creation.

The rest of the paper is structured as follows. Section 2 provides the literature review. Section 3 exhibits a description of the data and the survey. In Section 4 we show an overview of the ESG landscape across the surveyed regions and sectors whereas Section 5 explores the relationship between ESG adoption

and business characteristics, industry and financial performance. Section 6 offers a detailed regional analysis, while Section 7 highlights differences from 2023 to 2024. Finally, Section 8 concludes.

## 2. Literature Review

“Over the past decade, ESG considerations have become central to the strategic agenda of firms, increasingly shaping managerial decisions, investor behaviour, and regulatory frameworks. A growing body of empirical research has documented how strong ESG performance is associated with enhanced firm value, improved risk management, and stronger stakeholder relationships (Carneiro et al., 2024; Shen, 2023). Past studies suggest that firms exhibiting strong ESG performance are often perceived as more transparent, resilient, and forward-looking, which can enhance financial performance, improve risk mitigation, and foster stakeholder trust (Shen, 2023; Reber et al., 2022).

Rather than representing a mere compliance exercise, ESG adoption constitutes a strategic choice with significant implications for corporate reputation, capital access, and operational efficiency (Reber et al., 2022). The integration of ESG factors into corporate decision-making reflects a paradigmatic shift from a shareholder-centric to a stakeholder-oriented model of governance, whereby value is co-created with and for multiple constituencies, including employees, customers, local communities, and public institutions (Bissoondoyal-Bheenick et al., 2023). From a strategic management perspective, initiative-taking engagement with ESG dimensions enables firms to acquire both tangible and intangible resources that can support the development of sustained competitive advantages. These advantages are often path-dependent and difficult for competitors to replicate, thereby enhancing long-term financial performance and firm value (Taliento et al., 2019). Consistent with this view, empirical studies have demonstrated a positive association between high ESG ratings and superior firm performance (Quan & Zhou, 2024).

Financial studies have further highlighted the economic implications of ESG engagement. High-ESG firms tend to exhibit better stock market performance, benefit from lower downside risk, and enjoy improved credit conditions, including narrower loan spreads and better ratings (Friede et al., 2015; Khan et al., 2016; Bae et al., 2018; Henisz & McGlinch, 2019). ESG disclosure also enhances transparency, mitigates agency problems, and fosters more effective internal governance (Boubaker et al., 2020). At the same time, by reducing information asymmetries, ESG reporting can attract long-term investors and lower the cost of external financing (Veenstra & Ellemers, 2020). In fact, ESG disclosure can contribute to more efficient risk-taking by reducing the costs associated with implementing formal governance mechanisms (Boubaker et al., 2020). As such, ESG engagement is increasingly viewed as a credible signal of resilience against left-tail risks and extreme market events (Shafer & Szado, 2020). Furthermore, high-ESG firms tend to benefit from lower costs of debt financing, further substantiating the risk-mitigating effects of ESG strategies (Li et al., 2020; He et al., 2021).

In addition to performance and risk-related advantages, ESG practices play a critical role in reducing market frictions - particularly information asymmetries - between firms and their external stakeholders. Enhanced ESG disclosure limits the scope for opportunistic behaviour by corporate insiders and contributes to improved monitoring by investors (Siew et al., 2016). The incremental information conveyed through ESG reports may attract a broader and more diverse investor base, alleviate financing constraints, and ultimately foster value creation (Veenstra & Ellemers, 2020). Nonetheless, despite this generally positive picture, recent literature has emphasized that ESG adoption entails costs and trade-offs, especially for small and medium-sized enterprises (SMEs). For these firms, ESG engagement can imply significant reporting burdens, greater exposure of strategic information, and limited capacity to absorb implementation costs (Gjergji et al., 2021). Moreover, the effects of ESG initiatives are context-

dependent and influenced by firm-specific characteristics, such as size, age, ownership, and by sectoral and geographical dynamics. Moreover, while much of the existing research relies on large and/or listed companies or international datasets, fewer studies have examined ESG adoption among smaller, unlisted firms in specific regional contexts. In this respect, the Italian case - and particularly the Central Italy region - offers an important yet underexplored setting to investigate how ESG strategies are interpreted, implemented, and evolve over time.

### 3. Data and Methods: the survey

The sample of companies included in the survey consists of the top 1000 companies by size (revenue) from the Marche region and the top 500 companies by revenue from the Abruzzo and Molise regions. The sample size and the size of the companies included ensure effective coverage of a significant portion of the economies of the two regions. The companies included are small, medium, and large in size, with a minimum revenue threshold of 7 million euros in 2021.

Information on the adoption and implementation levels of ESG practices was obtained from data gathered through a questionnaire consisting of 41 questions divided into five categories: i) Respondent demographics; ii) General questions, transversal to ESG topics; iii) Environment section; iv) Social section; v) Governance section.

The aim of the questionnaire was to extract the necessary information to assign a score to each company and create a ranking based on their sensitivity to ESG issues. To this end, the questionnaire responses were converted into scores by assigning a weight to each response ranging from 1 to 4. The score obtained from the aggregation of the 41 weighted responses constitutes the company's ESG score. The maximum score achievable from completing the questionnaire is 100 points, distributed as follows: 25 points for general questions, 32 points for the Environmental section, 19 points for the Social section, and 24 points for the Governance section. See Table 1 for more details.

**Table 1:** Questionnaire structure.

Question	Number of Questions	Max Points
Company Info	2	0
General Info	9	25
Environmental	11	32
Social	6	19
Governance	13	24
Total	41	100

*Source: own elaborations*

Each question was assigned a different score depending on the selected response option, the number of options selected, and the relevance of the subject. The sum of the scores for the individual responses allowed the attribution of a sustainability score to each company. Based on this score, five distinct sustainability categories were identified: Insufficient; Sufficient; Average; Good; Excellent (Table 2).

**Table 2:** Definition of the classes of sustainability.

Class of Sustainability	Points
Insufficient	0-10 points
Sufficient	11-20 points
Average	21-30 points
Good	31-40 points
Excellent	More than 40 points

**Source:** own elaborations

The score assigned to each company was then associated with a series of complementary information regarding the respondent's demographics, the company's legal name, and the VAT number. Finally, the questionnaire data – and the corresponding scores – were linked to the company's financial statements for the past ten years, in order to define its economic-financial profile and assess the relationships between sustainability indicators and financial data from the sample. At the end of the survey, a total of 230 records were obtained in 2023 and 220 in 2024. Out of the total records, we randomly select companies participated in both surveys to get a closed sample of firms.

The first survey has been conducted between November 2022 and March 2023, and has been finalized in the "*Osservatorio sulla competitività delle imprese marchigiane e abruzzesi: Il fattore ESG: scenari e prospettive*" (See Cucculelli et al., 2024). The survey was carried out with the help of four researchers and took place between November 2023 and March 2024. The second survey, relating to ESG data for 2024, was carried out in the same months but with a year of difference.

## 4. Limitation

In this section, we examine the evolution of ESG practices adoption among the surveyed firms by comparing the distribution of scores in 2023 and 2024. The results reported in Figure 1 show a distribution of average scores across the three ESG topic. In addition to the three areas (E, S, G), we also include a general assessment of the firm's sensitivity to these issues (General Info). With respect to 2023, the survey reveals a stable trend in the General Info, Environment, and Social<sup>1</sup> areas, while the most significant improvement is observed in the Governance area, which increased by 130.5% relative to 2023. Specifically, the changes in average scores between the two surveys are -3.2% for General Info, +1.2% for Environment, and +2.5% for Social. Therefore, a significant shift in the attention that firms devote to investments and practices in the Governance area is clearly observable.

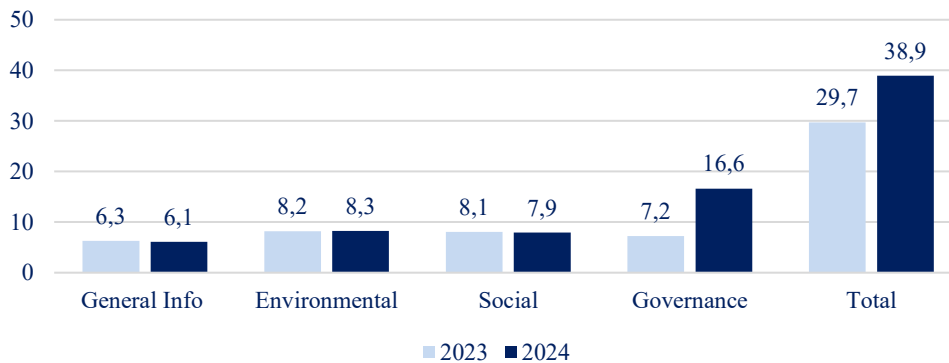
The significant increase in the Governance pillar, relative to the Environmental and Social dimensions, highlights the substantial transformation currently underway among firms in the Marche, Abruzzo, and Molise regions. While improvements in the other ESG components remain modest, the marked growth in governance-related policies reflects a strong strategic shift within these enterprises. This transformation indicates a growing commitment to reshaping business models and decision-making processes. A more robust and ESG-oriented governance framework serves as a key driver, enabling firms to implement investments that are not only environmentally sustainable but also responsive to the broader socio-economic ecosystem. Although this analysis is limited to a regional context, the observed developments offer encouraging signals regarding the potential for a more comprehensive

<sup>1</sup> The scoring system allocates a maximum of 100 points across the four ESG areas, distributed as follows: 25 points for *General Information*, 32 points for *Environmental* criteria, 19 points for the *Social* dimension, and 24 points for *Governance*. These weights reflect the importance assigned to each pillar in the overall ESG assessment framework.

and future-oriented ESG transition among local enterprises.

The substantial improvement consequently leads to an increase in the overall average score, with firms transitioning from a total score of 29.7 to 38.9, representing a 30.9% increase.

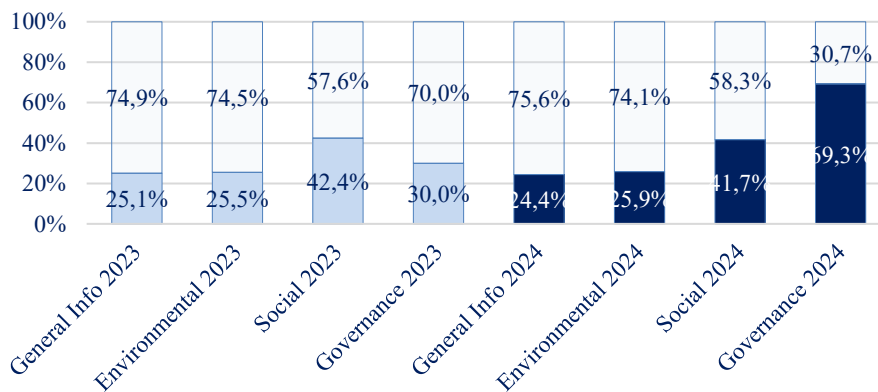
**Figure 1:** Average ESG scores by area.



**Source:** *Own elaborations*

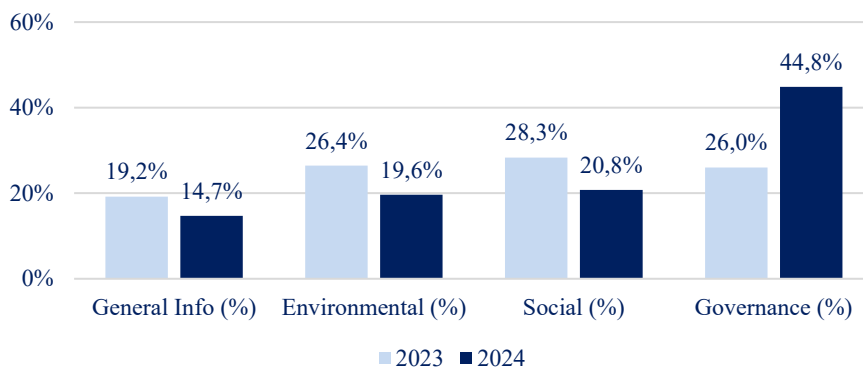
Figure 2 clearly illustrates the state of ESG practice adoption, highlighting the potential for firms to further enhance and strengthen these practices. Specifically, we plot the distribution of the average score relative to the maximum achievable score (in percentages, %). The results align with the previous discussion. In 2024, "Governance" achieved the highest score, reflecting firms' active engagement in this area. In other words, this indicates that the companies have achieved 69.3% of the highest possible score in this area. However, firms still have significant margin for improvement in the remaining ESG domains, particularly in the Environment and General Info areas, where the potential for enhancement is greatest (74.1% and 75.6% in 2024, respectively).

**Figure 2:** Progress in ESG: Percentage over maximum attainable score.



**Source:** *Own elaborations*

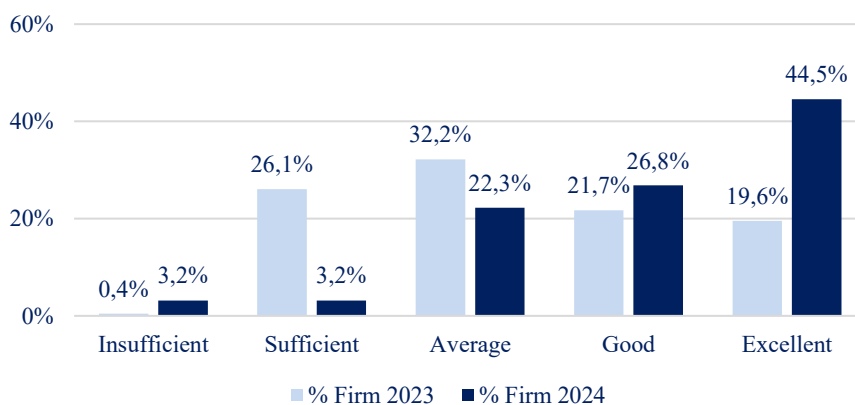
It is also insightful to examine the evolving weight of each thematic area within our analysis. Figure 3 presents the percentage contribution of each of the four pillars considered to the overall score in each year. In 2023, Environmental, Social, and Governance each accounted for approximately one-quarter of the total evaluation. However, by 2024, Governance has increased to around 45% of the assessment, while the other components have declined to approximately 20%. General Information follows the trend of the remaining thematic areas, decreasing from 19% to 14%.

**Figure 3:** Average ESG scores (in percentage) by area.

*Source: Own elaborations*

#### 4.1. Assessing the ESG

In this section, we assess the adoption of ESG practices to clarify and evaluate the claims made by firms. First, we classify firms into five distinct categories: *Insufficient*, *Sufficient*, *Average*, *Good*, and *Excellent*. Figure 4 illustrates the distribution of these classifications in 2023 and 2024. The shift in the distribution toward higher evaluation classes (Good and Excellent) is notable. Specifically, the most significant change is observed in the Excellent category, where there is a substantial increase in concentration, rising from 19.6% in 2023 to 44.5% in 2024 (+24.9 percentage points). This is followed by a 5.1 percentage point (pp, henceforth) increase in the Good classification. Notably, the Average category, which accounted for the largest share of firms in 2023 (32.2%), has contracted, with its percentage dropping to approximately 22.3%. Anyway, the surveyed firms not only demonstrate engagement in ESG initiatives overall but also implement these practices efficiently and effectively. In other words, their commitment to ESG appears credible.

**Figure 4:** Percentage of enterprises per ESG score obtained.

*Source: Own elaborations*

While the average score is much higher, there are differences within the three ESG pillars. In Figure 5, we show the distribution of scores obtained in each ESG area in 2024. A notable degree of heterogeneity emerges across ESG dimensions. The distribution of firms in their General Info score indicates that, on average, management is actively engaged in ESG matters. However, the score distribution highlights significant margin for improvement. In fact, the density of firms is skewed toward the lower score classes, with 21 companies in the first class, 11 in the second, and 40 in the third. While a considerable



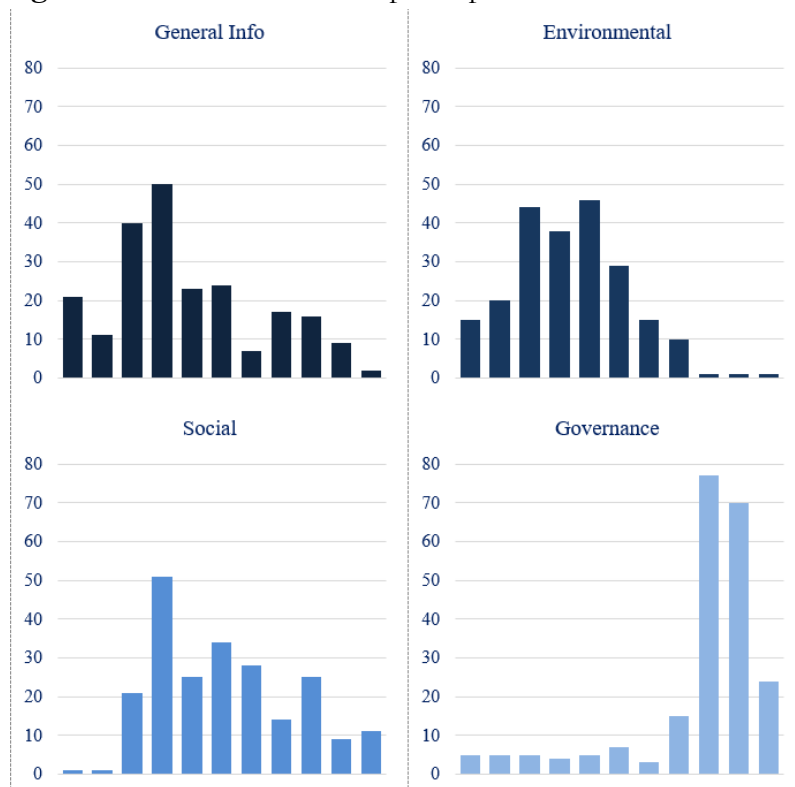
number of firms (approximately 50) fall into the fifth class, the upper classes display a declining trend, with progressively fewer firms achieving higher scores.

The distribution of scores in the Environment area is broader and more dispersed than in other categories. Most firms receive mid-to-low scores in environmental performance, suggesting both a need for greater awareness of green issues and increased investment in sustainability initiatives. A particularly concerning finding is the total absence of firms in the highest score range of the surveyed companies qualify as leaders in environmental practices. This underscores the urgency of encouraging firms to prioritize environmental considerations, especially in an economic context increasingly driven by sustainability and the transition toward a greener economy.

By contrast, the score distribution in the Social area is skewed toward higher values, with most firms concentrated in the upper score classes. Unlike the Environment dimension, no firm records minimum scores in social-related activities. While there is still margin for improvement, the overall evaluation in this category is positive, reflecting the implementation of welfare measures for employees and initiatives aimed at fostering local development.

Finally, the distribution in the Governance area is highly concentrated at the top scores. The firm distribution peaks at 70 companies in the eighth and ninth classes, indicating that more than 60% of the total sample achieves exceptionally high governance scores. Few firms appear to have significant margin for improvement in this area. This result is particularly noteworthy: advancements in ESG governance practices could generate spillover effects, fostering the adoption of ESG measures in other areas, such as Environment and Social. A management team more attuned to ESG can facilitate a cultural shift within the company, steering it toward a stronger ESG-oriented mindset. However, this positive outcome for governance should be interpreted with caution. It may also signal a degree of complacency among firms in the Marche, Abruzzo, and Molise regions. Unlike the Social and Environment dimensions - which require substantial financial resources and strategic management - governance improvements can be implemented more immediately and with lower economic effort.

**Figure 5:** Distribution of enterprises per score obtained in 2024 in each area.



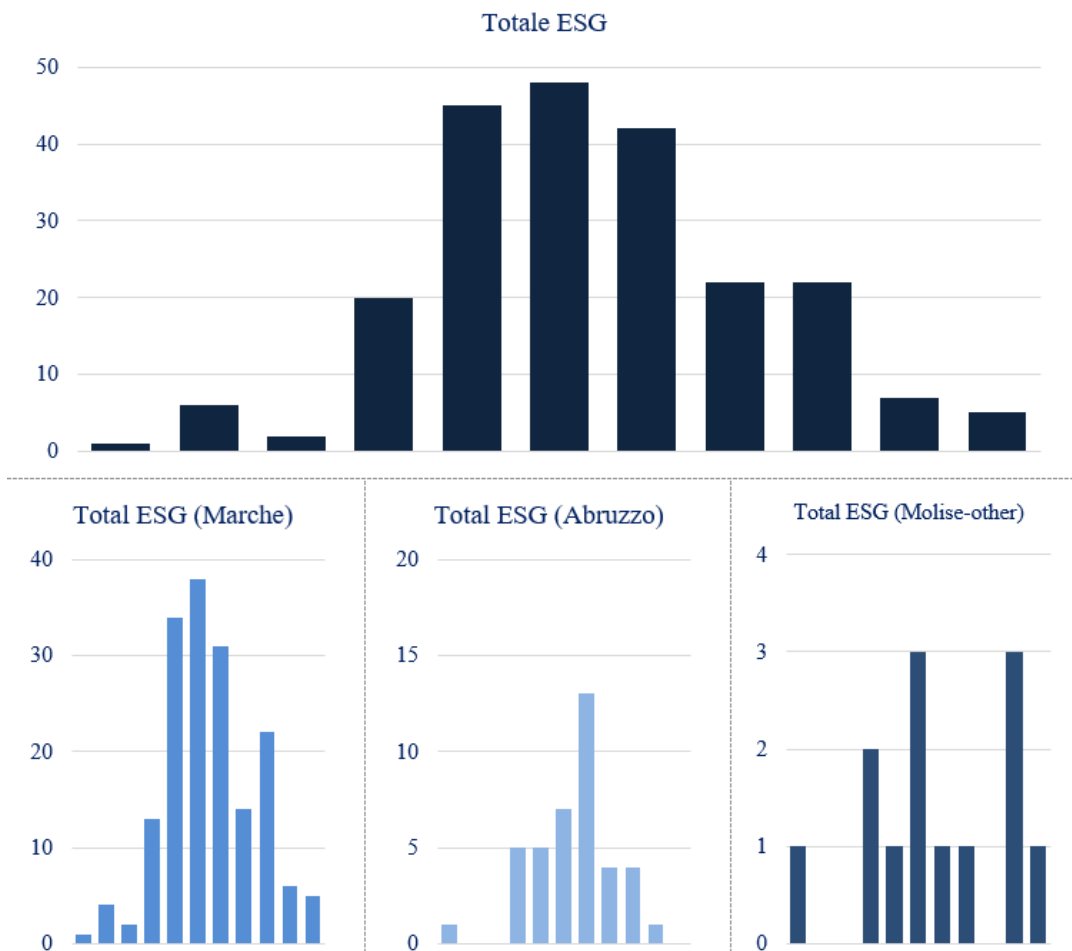
**Source:** *Own elaborations*

At last, we replicate the previous analysis by examining the distribution of firms based on their total ESG score and then breaking down the analysis at the regional level. Figure 6 presents the results. Regarding the total ESG score, the distribution of firms follows a normal pattern, with the majority of companies surveyed falling within the mid-range score categories. To better capture regional heterogeneity, we further explore the results from a territorial perspective.

At the regional level, no significant differences emerge. The distribution of firms across homogeneous score classes largely mirror the overall pattern. However, in Abruzzo, there is a noticeable spike in the seventh score class, while the distribution remains relatively uniform across the other classes. This anomaly may be attributable to differences in sample size across regions.

Overall, both regions exhibit a strong concentration of firms in the intermediate score ranges, suggesting that substantial progress has been made in ESG adoption. However, these findings also indicate that ESG practices remain “a work in progress,” requiring further efforts both to harmonize adoption across regions and to enhance firms’ ESG positioning in an economic environment that is increasingly focused on sustainability and social responsibility.

**Figure 6:** Distribution of enterprises per ESG score obtained in 2024 overall and in regions.



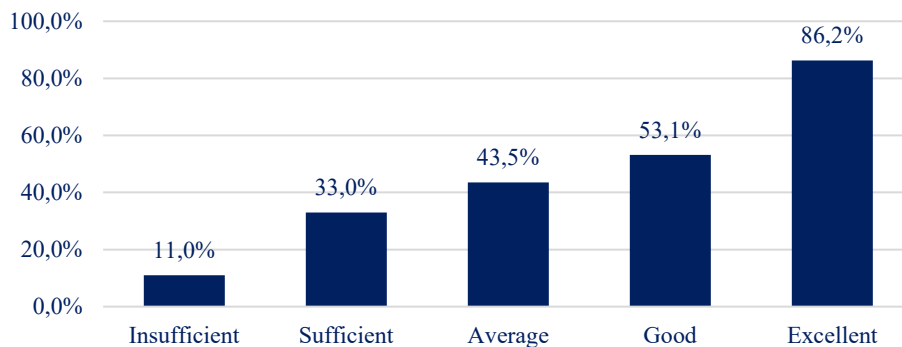
*Source: Own elaborations*

## 4.2. ESG by company size

While the previous sections have provided an overview of the ESG landscape, detailing the current state of adoption, a comprehensive analysis of this phenomenon cannot overlook financial performance and firm size. Hence, we further investigate ESG adoption by considering sales' growth as a proxy for financial performance and the number of employees and firm age as proxies for company size.

Figure 7 presents the distribution of firms' ESG scores based on their sales growth rate from 2019 to 2023. We want to see if having a high revenue growth rate involves having a high grade, so belonging to the upper-grade classification (from insufficient to excellent). In 2024, the figures show a positive relationship. When the growth rate of revenues increases progressively across years, it also increases the number of companies falling in the upper-grade category; we see a range growth of revenue from 11.0% in the "Insufficient" category to 86.2% in the "Excellent" category and increasing of number of firms belonging to "Excellent" class. This suggests a strong correlation between higher grades and better revenue growth. So, the companies with a high growth rate in the last 5 years are falling in the "Excellent" class, meaning that they are doing well in ESG practice. Companies that have a growth rate of around 40% to 50% fall into the "Average" and "Good" classes. The "Sufficient" (33.0%) class has relatively moderate growth, suggesting a steady but not extraordinary improvement. With its 11.0% growth rate, the "Insufficient" category suggests margin for growth and improvement. Overall, the distribution of the companies according to their revenue growth suggests that companies with high and rapid growth are more likely to implement robust sustainability practices than those with a slow growth rate.

**Figure 7:** Turnover growth rate (2019-2023) per ESG score obtained in 2024.



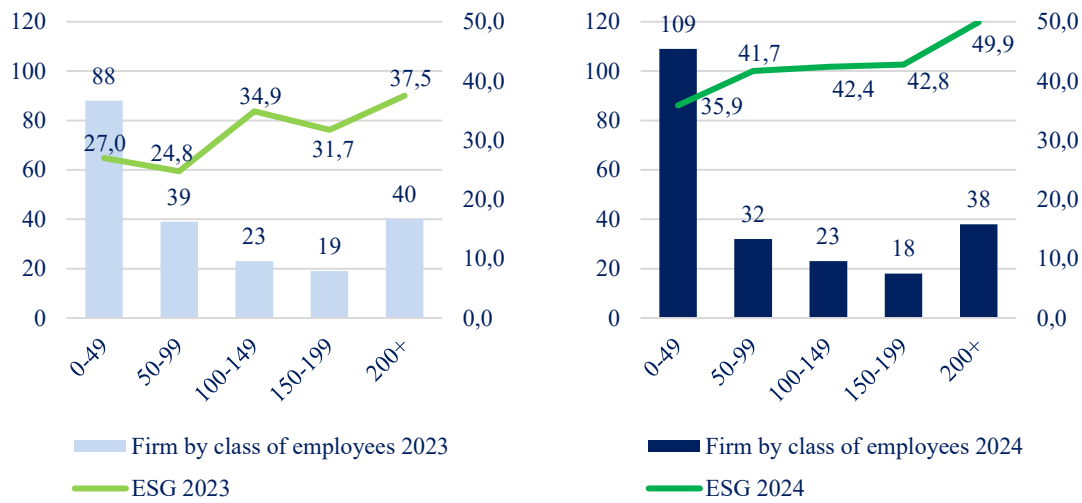
**Source:** *Own elaborations*

Figures 8 and 9 examine the adoption of ESG practices based on company features. Specifically, Figure 8 focuses on the number of employees, while Figure 9 analyses ESG performance according to firm age. The evidence from Figure 8 indicates that, despite an expanded sample of firms surveyed, the overall distribution remains relatively stable between the two years. However, this consistency in sample structure highlights a significant shift in ESG dynamics across different firm sizes. In both years, firm size clearly plays a crucial role in ESG adoption. While the 2023 exhibits mixed signals regarding this relationship, the 2024 provides a clearer picture: firms with a larger workforce are not only more likely to adopt ESG practices but also implement them more intensively. The correlation becomes particularly pronounced among medium-sized firms (50-199 employees) and strengthens further for large firms (200+ employees).

Focusing on 2024, the difference in ESG evaluation between small and large firms is substantial, with a variation of approximately 40%. This gap suggests that larger companies benefit from greater resources, more structured ESG strategies, and resolute teams, enabling them to implement and refine

sustainability initiatives more effectively. Conversely, smaller businesses may encounter greater challenges in addressing ESG concerns, potentially due to resource constraints or less formalized sustainability frameworks.

**Figure 8:** ESG score and number of enterprises by class of employees.

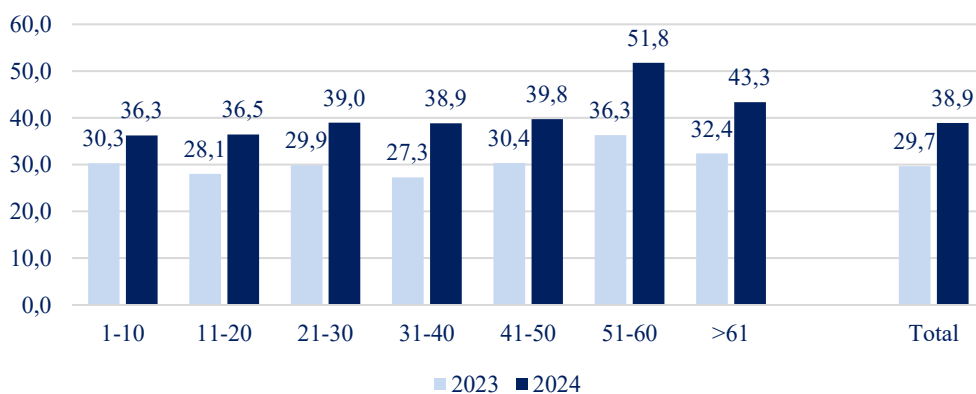


**Source:** Own elaborations

Looking at company age, the previous findings are further confirmed (Figure 9). Comparing the 2023 and 2024 results, older firms exhibit a greater propensity to adopt ESG practices. Namely, older firms, which are generally larger, tend to benefit from greater resources and stronger competitive advantages, allowing them to respond more effectively to new market and regulatory demands - such as the implementation of corporate policies or investments in green initiatives.

The positive correlation between firm age and ESG adoption becomes even more evident in 2024. Companies aged 51–60 years achieved the highest average ESG score, reaching almost 52 in 2024. This contrasts with 2023, when the highest ESG scores were recorded by the same group of firms but with a much lower score (36.3 points). These findings suggest that older and more established companies are more likely to develop greater awareness and capacity to integrate ESG principles into their operations. The upward trend in average ESG scores across all age groups may reflect an increasing focus on sustainability and the gradual maturation of the Italian business landscape in relation to ESG commitments.

**Figure 9:** Average ESG scores by age groups of enterprises (year of establishment).



**Source:** Own elaborations

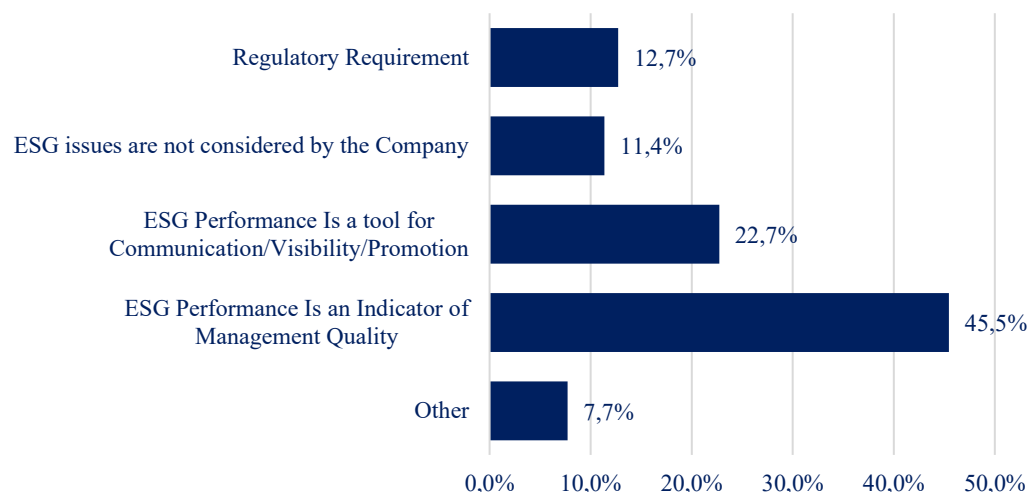
### 4.3. ESG Areas

#### 4.3.1. General Info

The decisions that drive firms to implement significant organizational and investment changes can be influenced by multiple factors. Capturing the underlying motivations behind these choices through a survey is inherently challenging. However, our questionnaire seeks to bridge this gap by explicitly asking whether a specific motivation drives firms to adopt ESG criteria.

Figure 10 presents the firms' responses. The primary driver for ESG adoption appears to be related to signalling factors. Specifically, 45.5% of firms view ESG performance as an indicator of management quality, while an additional 22.7% perceive ESG criteria as a tool for communication, visibility, and promotion. Only a marginal share of firms (12.7%) adopts ESG criteria due to regulatory requirements, while 7.7% cite other motivations. A noteworthy finding is that only the 11.4% of respondents do not consider ESG criteria at all within their company. This underscores the need for greater efforts to promote an updated corporate and managerial vision aligned with evolving stakeholder expectations, including suppliers, customers, financial institutions, and other key players.

**Figure 10:** Rationale for adopting ESG criteria.

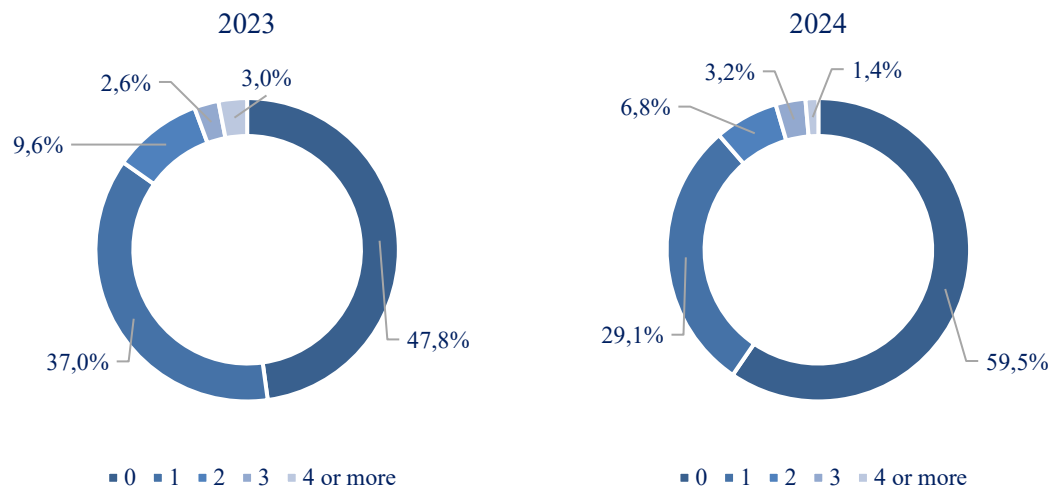


*Source: Own elaborations*

### 4.4. Environmental Area

The “Environmental” area includes sustainable practices such as renewable energy monitoring, environmental audits, CO<sub>2</sub> emissions management (via Emission Trading Systems or white certificates), and landfill waste reduction.

A key indicator of a company’s environmental commitment is the possession of environmental certifications. As shown in Figure 11, 59.5% of the firms surveyed do not hold any certification, indicating that green-friendly policies have yet to significantly influence most companies’ operations. Over half of the sample declares the absence of environmental certifications, suggesting limited formal engagement in sustainability standards. Among the remaining firms, almost 30% report holding one environmental certification, while 6.8%, 3.4%, and 1.4% possess two, three, and four (or more) certifications, respectively.

**Figure 11:** Percentage of enterprises per number of environmental certifications.

**Source:** *Own elaborations*

Regarding the adoption of environmental ESG practices, particularly in relation to the implementation of energy audits by firms, the data clearly depict an unfavourable scenario (Table 3). In 2024, 75.9% of companies reported never having conducted an energy audit. This highlights that the vast majority of firms have yet to undertake concrete and structured actions to assess and improve their energy efficiency.

Furthermore, only 19.5% have carried out an audit since 2020, while an even smaller share (4.5%) reported conducting one prior to 2019. Therefore, fewer than one in four companies have actively assessed their energy consumption and environmental impact, indicating a still marginal engagement with environmental issues. In summary, these results confirm that, to date, the adoption of fundamental tools for ecological transition - such as energy audits - remains limited and scarcely widespread among firms in Marche, Abruzzo, and Molise. The lack of systematic commitment in this area raises concerns about the actual integration of ESG principles into corporate strategies, particularly with regard to environmental sustainability.

**Table 3:** Year in which the enterprises carried out an energy audit.

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
No Audit	166	72.2%	167	75.9%
From 2020 onwards	39	17.0%	43	19.5%
From 2019 or earlier	25	10.9%	10	4.5%
Total	230	100.0%	220	100.0%

**Source:** *Own elaborations*

The results concerning the year of the first environmental sustainability initiative reveal a similarly discouraging picture, reinforcing the notion of a limited and delayed engagement with environmental ESG practices among firms (Table 4). In 2024, 65.5% of companies stated that they had never undertaken any environmental sustainability initiative. This upward trend suggests a regression rather than progress, as a growing share of firms reports no prior involvement in sustainability efforts within the environmental domain.

Only 18.2% of respondents indicated that their first initiative occurred from 2020 onward, a figure that has remained constant compared to the previous year. More strikingly, the share of companies that had

started prior to 2019 is equal to 16.4%.

Overall, these findings highlight a concerning lack of proactivity. The fact that nearly two-thirds of firms have not yet initiated any environmental sustainability actions signals a delayed alignment with global and national sustainability agendas. This calls for stronger policy support, awareness campaigns, and incentives to encourage firms to take more decisive steps toward environmental responsibility.

**Table 4:** The year in which the first sustainability initiative under the "environment".

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
No environmental initiative	132	57.4%	144	65.5%
From 2020 onwards	40	17.4%	40	18.2%
From 2019 or earlier	58	25.2%	36	16.4%
Total	230	100.0%	220	100.0%

**Source:** *Own elaborations*

Finally, environmental practices have also been assessed through two key indicators: the share of rejects reused, and the share of waste disposed. See Table 5 for further details. Specifically, we divided the sample into firms above and below the average environmental score (threshold: 8 points).

This evidence aligns with previous findings: larger firms in terms of revenue tend to achieve higher environmental scores, indicating a greater commitment to environmental sustainability. This is also reflected in their waste management performance - firms with higher scores exhibit significantly higher shares of both recycled rejects and disposed waste. In other words, company size appears to correlate with both environmental awareness and operational efficiency, suggesting that larger enterprises may be better equipped to implement and benefit from sustainable practices.

In detail, the data in the table provide compelling evidence of a positive relationship between a company's environmental engagement and its operational performance in terms of waste management and revenue. Firms scoring below the average in the "Environment" category (i.e., < 8 points) report significantly lower average revenues (€20.4 million), a lower share of rejects reused (5.99%), and a lower percentage of waste disposed (22.6%). In contrast, companies above the average ( $\geq 8$  points) exhibit more than double the average revenue (€55.6 million), alongside notably higher levels of circularity, reusing 17.8% of rejects and disposing of 30.0% of waste.

These results suggest that higher environmental awareness and action are associated with more efficient resource management and greater economic performance. This supports the notion that environmental sustainability is not only a matter of compliance or ethics but also a strategic lever for competitiveness and productivity.

**Table 5:** Breakdown of enterprises in the "Environment" field by size.

Total Environment	Average Revenue	% of rejects reused	% of waste disposed
Under the average (< 8 points)	20.4 mln(€)	6.0 %	22.6 %
Over the average ( $\geq 8$ points)	55.6 mln(€)	17.8 %	30.0 %
Total	37.1 mln(€)	11.5 %	26.1 %

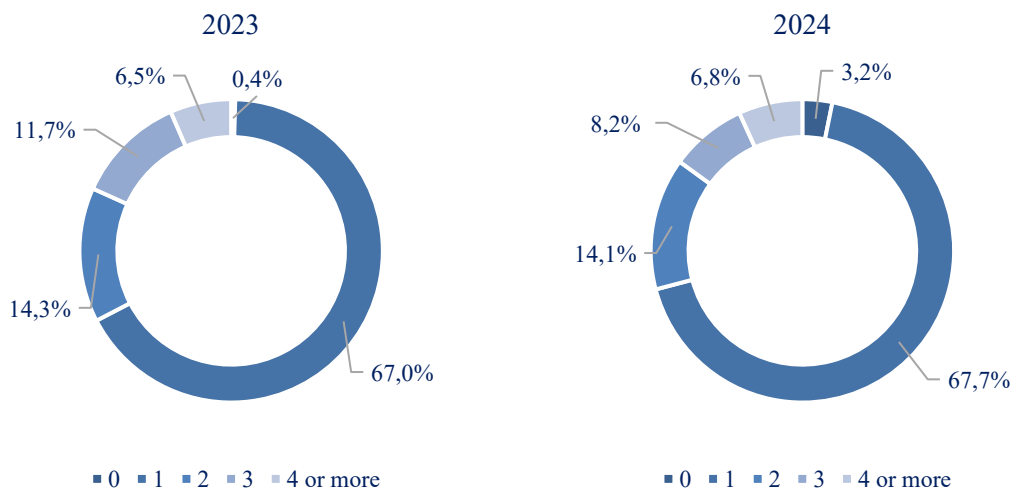
**Source:** *Own elaborations*

## 4.5. Social Area

The "Social" area in firms encompasses a variety of initiatives and policies that prioritize the well-being of employees and the broader community. This includes defining social criteria for supplier selection, which ensures that partnerships align with the company's values and ethical standards. A robust code of ethics also serves as a guideline for employee conduct, fostering a culture of integrity and respect. Companies often implement corporate welfare initiatives, such as wellness programs and flexible work arrangements, to enhance employee satisfaction and improve work-life balance.

Regarding this area, evidence indicates that social aspects are more strongly recognized by companies compared to environmental ones. These aspects become particularly evident when examining the number of social-related certifications implemented by companies (see Figure 12). The descriptive evidence reveals no substantial evolution in the adoption of social certifications between the two years. However, a noteworthy finding is that 96.8% of the surveyed firms report holding at least one social-related certification in 2024. Furthermore, Figure 12 underscores the prioritization of social responsibility within these organizations, reaffirming their strong commitment to promoting positive social impact and adherence to socially sustainable practices.

**Figure 12:** Percentage of enterprises per number of social certifications.



**Source:** *Own elaborations*

From the point of view of certifications, the framework that emerges is absolutely positive. However, if we look at when the company has started initiatives in the social field, the current situation could certainly be better. Compared to 2023, the survey results indicate a relatively stable trend over time regarding the year in which companies initiated their first social sustainability-related activity.

In 2023, 57.8% of firms reported not having implemented any such initiative, a share that remains virtually unchanged (if not worse) in 2024, at 58.2% (Table 6). This persistent majority suggests that more than half of the surveyed firms have yet to formally engage with social sustainability issues, raising concerns about the actual integration of social responsibility into corporate strategy.

By contrast, an increase is observed in the share of firms that undertook their first social initiative after 2020, rising from 14.8% to 19.5%, possibly reflecting a growing awareness of social issues in the post-pandemic period. Finally, the percentage of companies reporting social activities initiated prior to 2019 has declined from 27.4% to 22.3%, which may be influenced by new entrants to the sample or reclassification of past activities.

Overall, this evidence reveals a concerning delay in the uptake of social sustainability practices among



the majority of firms. Despite the strong rhetoric around ESG and the increasing importance of social responsibility in stakeholder relationships, concrete action remains limited. These findings highlight the need for stronger institutional support, awareness campaigns, and incentive mechanisms to foster a genuine and widespread adoption of socially responsible practices, especially in a business environment that is expected to align with evolving stakeholder expectations and regulatory frameworks.

**Table 6:** The year in which the first sustainability initiative under the "social".

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
No social initiative	133	57.8%	128	58.2%
From 2020 onwards	34	14.8%	43	19.5%
From 2019 or earlier	63	27.4%	49	22.3%
Total	230	100.0%	220	100.0%

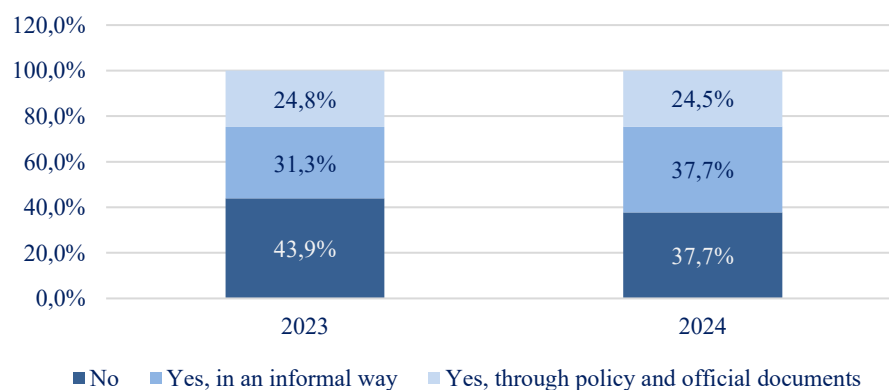
**Source:** *Own elaborations*

Among the several policies undertaken in the Social domain, we focus specifically on sustainable supplier selection practices. In particular, we investigated whether firms have adopted formal criteria in selecting suppliers based on sustainability standards or whether decisions are still primarily driven by informal practices.

Figure 13 highlights that companies are still far from a widespread adoption of social criteria in supplier selection. In 2024, in fact, 37.7% of companies report not applying any such criteria, a decrease from 43.9% in 2023, but still a significant share. The most positive aspect, however, lies in the marked increase in the share of companies that consider these criteria informally, rising from 31.3% in 2023 to 37.7% in 2024. This suggests growing attention to the topic, even if not yet supported by official policies. By contrast, the use of formalized practices through policies and official documents has remained largely stable, with a slight decrease from 24.8% to 24.5%.

While this trend may be partly influenced by sample composition differences between the two surveys, the overall picture shows some encouraging signs: today, over 62% of companies apply at least some form of social criteria in supplier selection, with a more pronounced increase in informal practices. These results, however, also highlight an important area for improvement: promoting the transition from informal practices to formalized procedures. From an ESG perspective, the adoption of structured and transparent supplier selection processes can strengthen a company's reputation and credibility with both local and international stakeholders, ultimately contributing to the creation of sustainable long-term value.

**Figure 13:** Adoption of social criteria for the choice of suppliers.



**Source:** *Own elaborations*

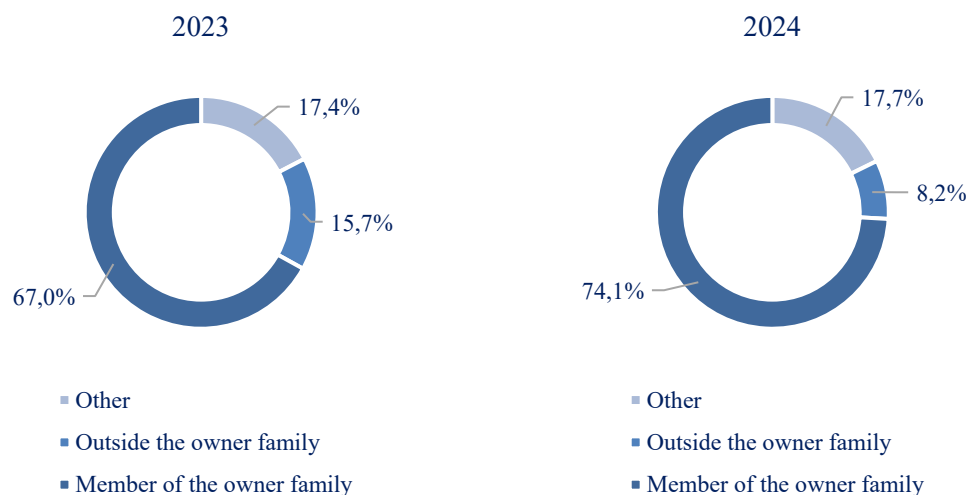
## 4.6. Governance Area

The third ESG pillar considered in our analysis is “Governance.” Our survey evaluates governance practices by focusing specifically on-board composition, executive compensation, and the presence of sustainability-related expertise within leadership roles. There are several aspects that contribute to the assessment of governance quality.

In our study, we concentrate on three key dimensions that we consider fundamental in defining ESG-oriented governance. First, we assess the independence of the Chief Executive Officer (CEO), particularly whether the CEO belongs to the family that owns the firm. Second, we examine the structure of board compensation, investigating whether remuneration is tied to the achievement of ESG targets or solely linked to financial and economic performance. Third, we consider gender parity within the board of directors, as a proxy for inclusivity and diversity in corporate leadership. From the analysis of governance structures, some interesting - albeit unsurprising - findings emerge.

As shown in Figure 14, the majority of firms surveyed are family-owned, with 74.1% of companies managed by a family member. Only 8.2% of companies report having a CEO who is external to the family owning a relatively small share. Comparing results from 2024 to those from 2023, we observe a decrease in the number of companies led by an external CEO, accompanied by an increase in the presence and influence of the owning family in management. Even if the sample is partly different, this result confirms how strong the role of families in the enterprises surveyed is.

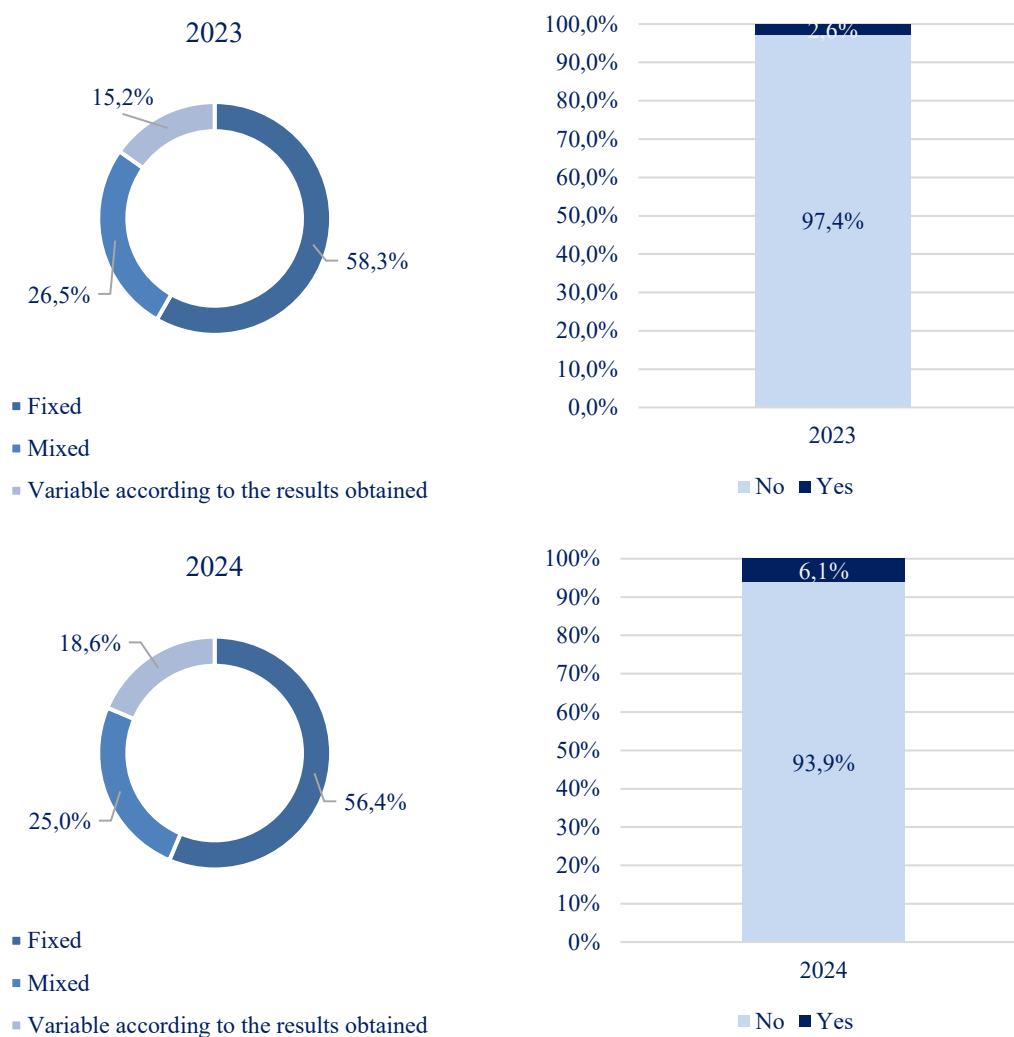
**Figure 14:** CEO and belonging to the family owner.



**Source:** Own elaborations

Critical issues arise when the managers’ remuneration structure is considered. The results of the survey are provided in Figure 15. A wide set of companies adopt fixed remuneration scheme (58.3% in 2023, 56.4% in 2024), whereas a variable-based compensation, mostly linked to company performance, increased from 15.2% to 18.6%. This descriptive evidence suggests a limited but growing interest in performance-driven incentives in ESG framework.

Moreover, the managers’ compensation related to ESG criteria plays a crucial role. This compensation mechanism has seen a remarkable increase, moving from 2.6% in 2023 to 6.1% in 2024 (134%). This significant change represents a crucial and encouraging outcome, indicating a growing recognition of the importance of sustainable and responsible business practices.

**Figure 15:** Type of remuneration of the CDA and link with ESG criteria.

**Source:** Own elaborations

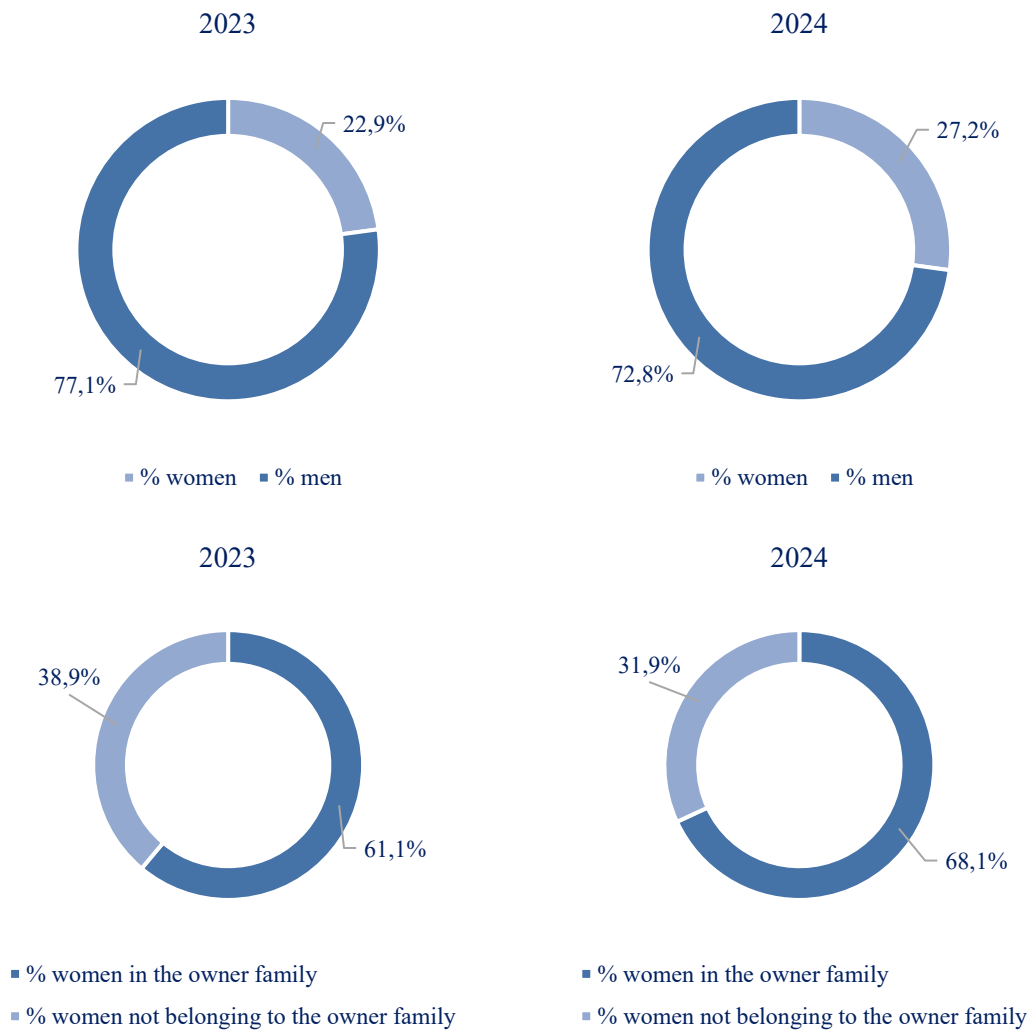
Another key component in the “Governance” area is the gender parity in terms of representation in the firm board. The analysis presented in Figure 16 provides insights into the gender composition of company boards, with a specific focus on the presence of women and their affiliation to the ownership. The presence of women has increased from 22.9% in 2023 to 27.2% in 2024. However, the majority of female board members still come from the owning family. Specifically, in 2023, 61.1% of women on the board were family members, a percentage that increased to 68.1% in 2024. This suggests a reduction in the presence of women from outside the family, which dropped from 38.9% to 31.9%.

The descriptive results highlight a persistent gender imbalance, with men occupying most board positions. The percentage of women in CDA remains relatively limited, confirming that female representation at the top governance level is still a challenge for many firms in the surveyed regions. However, a deeper look into the composition of female board members reveals an important nuance: among the women present in the CDA, a significant portion belongs to the owning family. This suggests that female participation on boards may still be largely driven by family succession dynamics, rather than by open and inclusive corporate governance practices.

Such findings call for greater attention to gender diversity policies, especially in non-family-related roles, as a broader and more inclusive governance structure has been shown to enhance strategic decision-making, stakeholder engagement, and ESG performance. Encouraging the inclusion of women based on skills and merit, beyond familial affiliation, could significantly strengthen the overall sustainability

and transparency of governance in firms across the region.

**Figure 16:** Gender composition in the CDA and extraction.



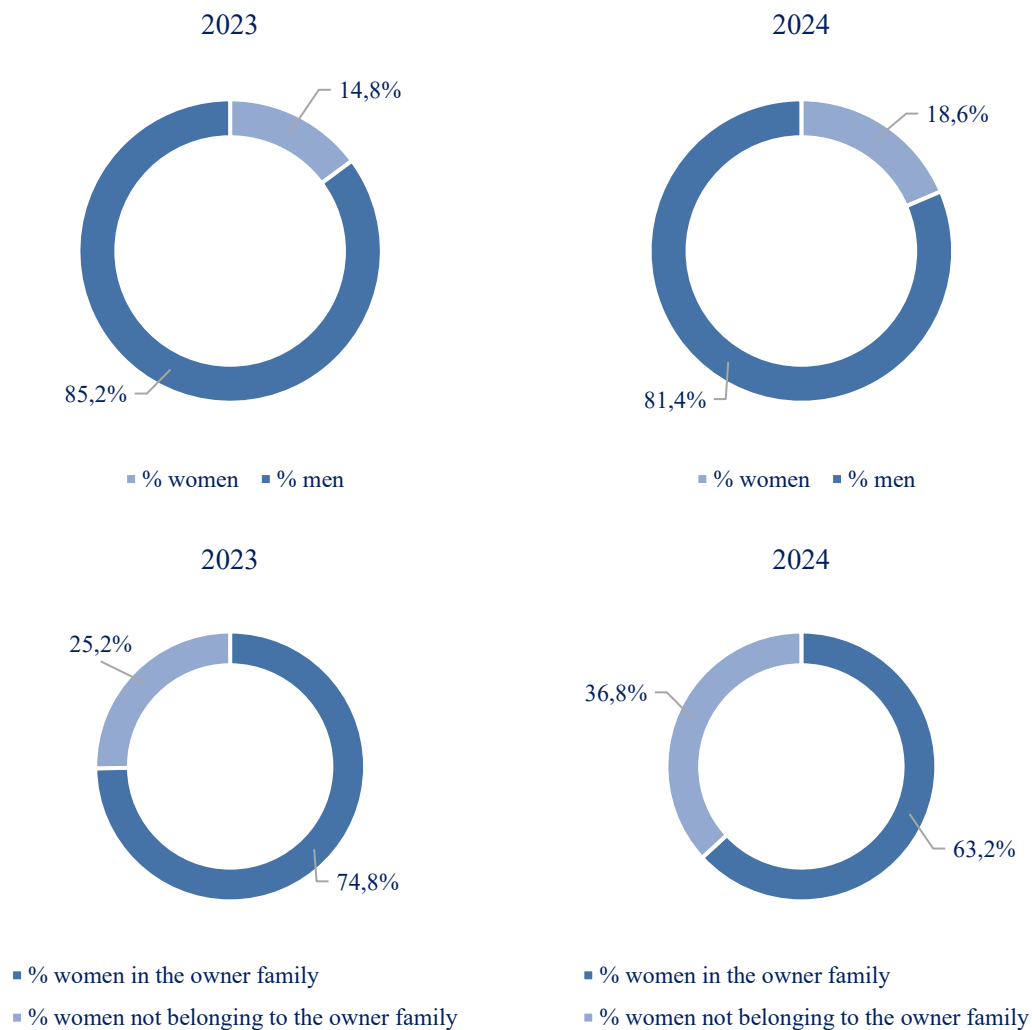
**Source:** *Own elaborations*

More generally, when looking at the presence of women in key decision-making positions, such as managers, executives, and board members, women's representation in leadership remains remarkably low. Analysing the gender composition of managerial roles within the surveyed firms, with a specific focus on women in leadership positions, the data reveals a persistent gender gap, although a modest improvement can be observed over time.

In 2023, only 14.8% of managerial roles were held by women, while 85.2% were occupied by men (Figure 17). In 2024, the share of female executives rose slightly to 18.6%, with a corresponding decrease in male representation to 81.4%. Moreover, in Figure 17 it is noticeable how the number of women belonging to the owner family has increased in the company's leadership positions: in detail, from 2023 to 2024 there was an increase of about 11%. While this upward trend signals a positive, albeit limited, shift toward gender inclusivity, the data still confirms that managerial roles remain overwhelmingly male-dominated. This imbalance suggests that there are still significant barriers to women's advancement in leadership, particularly for those outside the owning family, as previous evidence indicates that a substantial portion of female executives tend to belong to the family itself. The results underscore the need for companies to strengthen policies aimed at promoting gender equality within corporate governance and upper management. Encouraging diversity in decision-making

processes not only aligns with ESG principles but also contributes to better organizational performance and innovation capacity.

**Figure 17:** Gender composition among managers/executives in the company and extraction.



**Source:** *Own elaborations*

Lastly, the survey data on the first year of implementation of sustainability initiatives related to the "Governance" area reveal important insights into the level of attention companies devote to ESG-related governance practices. As shown in Table 7, a consistent and substantial majority of firms, approximately 73% in both 2023 and 2024, declare that they have never undertaken any sustainability initiative in the governance domain.

More specifically, only a minority of firms report having started governance-related initiatives recently (from 2020 onwards), with 9.6% in 2023 and 14.5% in 2024. An even smaller share, 17.4% in 2023 and 12.3% in 2024, indicate they adopted such practices prior to 2019.

This pattern also suggests that, despite the growing relevance of governance in ensuring ethical conduct, transparency, and stakeholder engagement, many companies have not yet integrated structured governance policies into their sustainability strategies. The slight increase observed in 2024 may hint at a gradual shift, but the overall level of adoption remains low.

In light of this, it is crucial to promote a deeper understanding of governance as a key enabler of sustainable development, especially in terms of board independence, transparency, risk management, and anti-corruption policies. Strengthening governance structures is essential not only to comply with

evolving regulations, but also to build trust and long-term value in an increasingly ESG-sensitive market.

Table 7: The year in which the first sustainability initiative under the "governance".

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
No governance initiative	168	73.0%	161	73.2%
From 2020 onwards	22	9.6%	32	14.5%
From 2019 or earlier	40	17.4%	27	12.3%
Total	230	100.0%	220	100.0%

*Source: Own elaborations*

## 5. Business, industry and finance

### 5.1. ESG and corporate size

In this section, we provide a more comprehensive analysis shedding light on the intricate relationship between implementing ESG practices and corporate features.

Utilizing revenue as a proxy for firm size, we can evaluate the impact of companies' sizes on the adoption of ESG practices. Table 8 presents the mean scores achieved by firms across each ESG pillar, categorizing the firms into small, medium, and large enterprises based on their revenue. The analysis of the data reveals an interesting trend regarding the Environmental, Social, Governance (ESG), and Total Scores by firm size (Revenue) for 2023 and 2024.

When comparing the big companies across the two years, it is evident that their ESG scores have remained relatively stable. In fact, the total score for large firms has slightly decreased from 56.2 in 2023 to 50.6 in 2024, with only modest changes across the different ESG areas. The Environmental and Governance scores have shown a slight reduction, but this could be attributed to the overall higher performance of large companies in previous years. This stability suggests that large firms might already have well-established ESG practices, and further significant improvements in these areas may be harder to achieve without major structural changes.

On the other hand, medium and small companies have shown noticeable improvement, particularly in the Social and Governance dimensions. For medium-sized companies, the total score rose from 30.6 in 2023 to 46.7 in 2024, with increases in each of the ESG categories. The Governance score for medium firms almost doubled from 7.3 to 18.4, which indicates that these companies have been focusing more on integrating formal governance structures and improving their ESG practices. Similarly, small companies also witnessed an improvement in their ESG scores, with their total score increasing from 26.3 to 35.2, driven by gains in the Environmental and Social areas.

Overall, the most significant progress in ESG adoption is evident in the medium and small companies, which have been actively improving their practices in these areas. This suggests that, while large firms may already have robust ESG frameworks, smaller firms are catching up and may be more flexible and responsive to the growing demand for sustainability and corporate governance. This trend also highlights the need for continuous efforts across all company sizes to implement and strengthen ESG practices. Smaller firms, in particular, may still have a long way to go, but their recent growth shows potential for significant future improvements.

Lastly, this analysis demonstrates a clear correlation between firm size and the adoption of ESG practices. Large companies exhibit stability in their ESG scores, whereas medium and small companies have shown remarkable improvements, particularly in the Social and Governance areas. This suggests that smaller firms are becoming increasingly responsive to the growing importance of sustainability and

corporate governance, catching up to their larger counterparts. The trend highlights the need for ongoing efforts across all firm sizes to further integrate and strengthen ESG practices, with smaller firms showing promising potential for future progress.

**Table 8:** ESG average score by firm size (Revenue).

	General Info	Environmental	Social	Governance	Total
<b>Year 2024</b>					
Big	13.2	12.0	12.0	13.4	50.6
Medium	8.4	10.1	9.9	18.4	46.7
Small	4.9	7.4	6.9	16.0	35.2
Total	6.1	8.3	7.9	16.6	38.9
<b>Year 2023</b>					
Big	15.2	16.0	12.8	12.2	56.2
Medium	6.5	8.5	8.4	7.3	30.6
Small	5.3	7.1	7.2	6.7	26.3
Total	6.3	8.2	8.1	7.2	29.7

**Source:** *Own elaborations*

## 5.2. ESG and industry sectors

The comparison of the 2023 and 2024 ESG scores across various sectors reveals some interesting trends regarding the adoption and development of ESG practices in different industries. Table 9 shows the descriptive evidence across economic sectors. While the overall results show modest changes, certain sectors have demonstrated noticeable improvements.

For instance, the "Mineral Extraction" sector saw a significant increase in its total score, rising from 47.0 in 2023 to 50.0 in 2024. This sector has notably improved in the Social (16.0) and Governance (19.0) dimensions, which suggests an increasing focus on social responsibility and governance practices. Similarly, the "Water Supply; Sewerage, Waste Management, and Remediation Activities" sector also exhibited growth, with its total score increasing from 36.2 to 45.4. This increase is particularly driven by better performance in the Social and Governance areas, reflecting an enhanced focus on social sustainability and corporate governance. On the other hand, the "Electricity, Gas, Steam, and Air Conditioning Supply" sector saw a substantial drop in its Environmental score, falling from 5.5 in 2023 to 0.0 in 2024, although its Governance score improved significantly from 8.0 to 18.0. This indicates that, while the sector may be facing challenges in environmental sustainability, it has made progress in improving governance practices.

Some sectors, such as "Manufacturing," "Wholesale and Retail Trade," and "Transportation and Storage," saw modest improvements in their total scores, but overall, their scores still remain relatively low compared to other sectors. This suggests that while there is margin for growth, some industries continue to struggle with the implementation of comprehensive ESG strategies.

An in-depth analysis of the Environmental, Social, and Governance (ESG) scores across different industry sectors in 2023 and 2024 reveals both notable improvements and areas requiring further attention. The Environmental pillar shows a mixed picture, with some sectors demonstrating progress and others facing setbacks. For example, the Mineral Extraction sector experienced a significant decline in its Environmental score, dropping from 13.0 in 2023 to 6.0 in 2024, which may indicate that the sector has faced challenges in maintaining or enhancing its environmental sustainability practices. Similarly, the Electricity, Gas, Steam, and Air Conditioning Supply sector saw a dramatic reduction in its Environmental score, falling from 5.5 to 0.0, suggesting a failure to meet environmental standards or a lack of significant environmental initiatives in this area. In contrast, sectors such as Construction

and Transportation and Storage recorded notable improvements in the Environmental pillar, with scores rising from 7.3 to 8.5 and from 5.4 to 9.3, respectively. This suggests that these industries have increasingly adopted sustainable environmental practices in the recent years.

The Social dimension of ESG also reveals significant variation across sectors. The Mineral Extraction sector, in particular, showed a remarkable improvement in its Social score, increasing from 13.0 to 16.0, reflecting a heightened focus on social responsibility. This could be related to improving labour conditions, community engagement, and ensuring ethical practices within the sector. Similarly, the Water Supply sector saw an increase in its Social score from 10.5 to 11.4, suggesting that companies in this sector are placing greater emphasis on social sustainability, such as improving public health and worker welfare. Other sectors, like Manufacturing and Electricity Supply, showed less pronounced changes in their Social scores, indicating that while these industries are moving in the right direction, there is still margin for significant improvements in this area. Notably, the Wholesale and Retail Trade sector exhibited one of the most striking increases in the Social dimension, with its score rising from 6.5 to 9.3, likely reflecting an enhanced focus on fair trade practices, consumer rights, and corporate social responsibility.

The Governance pillar demonstrates the most substantial changes across sectors, highlighting a growing focus on strengthening corporate governance practices. The Mineral Extraction sector, for instance, saw a dramatic rise in its Governance score from 8.0 to 19.0, indicating a significant shift towards improving corporate transparency, ethical standards, and board accountability. The Electricity, Gas, Steam, and Air Conditioning Supply sector, while facing environmental challenges, made notable progress in Governance, with its score increasing from 8.0 to 18.0. This suggests that companies in this sector are focusing more on enhancing their leadership structures, decision-making processes, and regulatory compliance. Other sectors, such as Water Supply, Construction, and Wholesale and Retail Trade, also demonstrated steady improvements in Governance, highlighting a broader trend towards the adoption of formal governance frameworks aimed at increasing accountability and aligning with ESG principles.

Overall, the analysis suggests that ESG adoption varies significantly across sectors, with larger sectors like Mineral Extraction and Water Supply showing strong scores, particularly in Social and Governance dimensions, while smaller sectors like Construction and Transportation are making steady progress in Environmental and Social areas. However, some sectors, especially Mineral Extraction and Electricity Supply, need to focus on improving their environmental sustainability efforts. These results indicate that while some sectors have made significant strides in adopting ESG practices, others still face considerable challenges in ensuring a balanced and comprehensive approach to sustainability. For industries lagging behind in certain areas, such as the Environmental pillar, it is crucial to enhance efforts to foster sustainability and align with global standards for responsible business practices.

**Table 9:** ESG average score by industry sectors.

Sector	Description	General Info	Environmental	Social	Governance	Total
<b>Year 2024</b>						
A	Agriculture, Forestry and Fishing	6.0	10.0	8.0	18.0	42.0
B	Mineral extraction	9.0	6.0	16.0	19.0	50.0
C	Manufacturing	6.2	9.1	7.8	17.4	40.5
D	Electricity, Gas, Steam and Air Conditioning Supply	3.0	0.0	7.0	18.0	28.0
E	Water Supply; Sewerage, Waste Management and Remediation Activities	9.6	8.0	11.4	16.4	45.4
F	Construction	4.3	8.5	9.3	14.4	36.4
G	Wholesale and Retail Trade; Repair of Motor	6.0	8.3	6.7	14.5	35.4



Vehicles and Motorcycles						
H	Transportation and Storage	5.6	9.3	7.5	18.0	40.4
I	Accommodation and Food Service Activities	1.7	3.0	3.7	17.7	26.0
J	Information and Communication	5.2	4.8	8.0	15.1	33.2
K	Financial and insurance activities	9.7	7.7	9.6	17.2	44.1
M	Professional, scientific and technical activities	5.2	5.4	7.9	17.9	36.4
N	Rental, travel agencies, business support	8.3	7.8	10.0	11.5	37.5
Q	Health and social care	4.7	3.3	9.7	16.7	34.3
Total		6.1	8.3	7.9	16.6	38.9
Year 2023						
A	Agriculture, Forestry and Fishing	9.0	13.0	8.0	10.0	40.0
B	Mineral extraction	13.0	13.0	13.0	8.0	47.0
C	Manufacturing	6.9	9.6	8.4	6.9	31.8
D	Electricity, Gas, Steam and Air Conditioning Supply	3.5	5.5	5.5	8.0	22.5
E	Water Supply; Sewerage, Waste Management and Remediation Activities	8.6	8.2	10.5	8.9	36.2
F	Construction	6.0	7.3	8.7	6.7	28.7
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	4.2	6.2	6.5	6.7	23.6
H	Transportation and Storage	5.5	5.4	8.6	6.8	26.3
J	Information and Communication	4.0	3.5	6.0	7.0	20.5
K	Financial and insurance activities	8.2	4.8	7.2	10.7	30.9
L	Real estate activities	9.0	4.0	10.0	14.0	37.0
M	Professional, scientific and technical activities	8.8	9.8	12.3	9.0	39.8
N	Rental, travel agencies, business support	5.5	7.8	9.5	7.8	30.5
Q	Health and social care	6.5	3.5	6.5	9.5	26.0
Total		6.3	8.2	8.1	7.2	29.7

*Source: Own elaborations*

### 5.3. ESG and corporate finance

The integration of ESG factors has emerged as a critical change within the financial landscape. ESG criteria are now recognized as pivotal strategic imperatives, exerting substantial influence on capital access, financing costs, and risk assessment. The escalating emphasis on sustainability, driven by discerning investors, financial institutions, and regulatory bodies, is catalysing a profound market transformation. Entities demonstrating robust ESG performance are increasingly perceived as less risky and more attractive, thereby securing preferential financing terms and heightened investor interest.

Concurrently, the banking sector is undergoing a significant evolution, characterized by the proliferation of financial products that incorporate ESG criteria, rewarding entities that embrace sustainable practices. The advent of regulatory frameworks, such as the Corporate Sustainability Reporting Directive (CSRD), and the increasing salience of ESG certifications are accelerating this trend, compelling organizations to enhance their transparency and accountability. ESG criteria are redefining the contours of the financial sector, engendering novel opportunities and challenges for both corporations and investors. The capacity to effectively assimilate ESG factors has become a sine qua non for success in the contemporary financial market.

Due to the importance of ESG criteria in corporate finance, we conduct a detailed analysis of how the adoption of ESG practices may have influenced firms' capital structure. Specifically, we focus on whether benefits such as improved access to credit and/or reduced financing costs following the implementation of ESG practices have affected the effective cost of credit and the level of debt exposure.

The analysis of firms' responses regarding the impact of systematically adopting ESG practices reveals a relatively stable picture, with some emerging signs of improvement (Table 10). In 2023, 57.8% of

firms reported that they have not obtained any benefit from the implementation of ESG practices; this share slightly increased to 60.5% in 2024. These figures indicate that a significant portion of the sample still does not perceive tangible outcomes from ESG adoption. However, among firms that did report benefits, there is a slight increase in those identifying two or more types of benefits, from 4.4% in 2023 to 6.4% in 2024. This suggests a growing consolidation of positive effects, particularly among companies that are more advanced or committed in their ESG efforts.

**Table 10:** Systematic adoption of ESG practices and benefits for the company.

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
No benefits	133	57.8%	133	60.5%
Only one benefit	87	37.8%	73	33.2%
Two benefits	8	3.5%	11	5.0%
Three or more benefits	2	0.9%	3	1.4%

**Source:** *Own elaborations*

A more detailed examination distinguishes the nature of the reported benefits (Table 11). The majority of firms continue to cite non-financial advantages, such as improvements in reputation, operational efficiency, or stakeholder engagement. These accounted for 75.3% of reported benefits in 2023, and while slightly decreasing, still represented 66.7% in 2024. Nonetheless, there is a noteworthy increase in firms reporting credit-related benefits, including enhanced access to financing or reduced borrowing costs. These rose from 24.7% in 2023 to 33.3% in 2024, indicating a growing recognition by financial institutions of the strategic value associated with ESG integration.

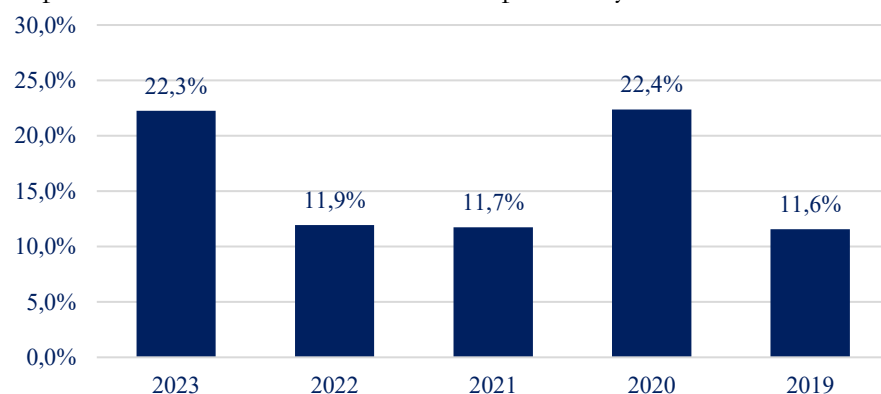
**Table 11:** Credit related or non-credit related benefits.

	N. Firms 2023	% Firms 2023	N. Firms 2024	% Firms 2024
Credit related benefits	24	24.7%	29	33.3%
Non-credit related benefits	73	75.3%	58	66.7%
Total	97	100.0%	87	100.0%

**Source:** *Own elaborations*

However, the relationship between ESG engagement and the financial structure of firms merits closer scrutiny. Among the various incentives driving companies to implement ESG initiatives, a critical question is whether, and to what extent, such practices can positively influence capital structure and access to credit.

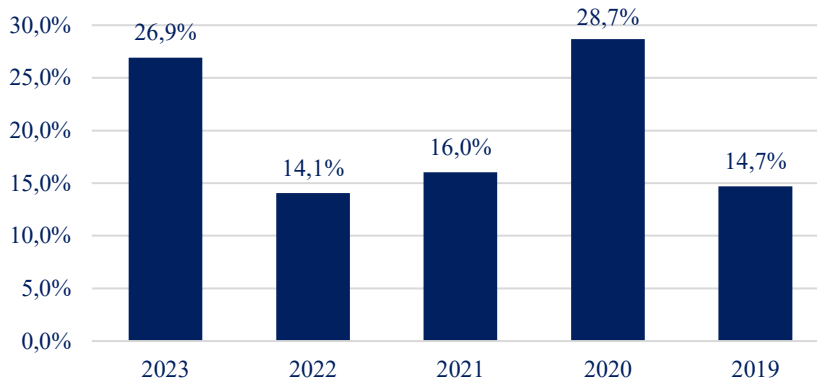
**Figure 18:** Average annual financial expenses-to-EBITDA ratio for firms that have experienced improvements in credit access over the past five years.



**Source:** *Own elaborations*

A similar pattern emerges when clustering the sample to include only firms that have accessed ESG-related financing. Figure 19 illustrates the trend of financial expenses-to-EBITDA ratio closely resembling that shown in Figure 18.

**Figure 19:** Average annual financial expenses-to-EBITDA ratio for firms that have obtained financing tied to specific ESG projects.



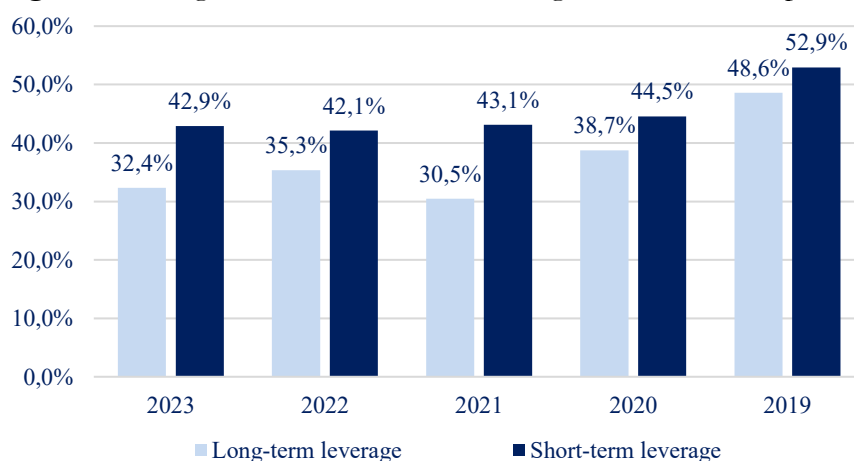
*Source: Own elaborations*

Moreover, we deeply examine the dynamics of debt exposure, which is becoming particularly relevant as the credit channel represents their primary source of financing. Figure 20 illustrates the dynamic of debt exposure for the firms that have benefitted from an improvement in the credit access in the aftermath of the adoption ESG practices. In detail, the trend of long-term leverage (debt maturing beyond one year as a share of total assets) and short-term leverage (debt maturing within one year as a share of total assets) are exhibited from 2019 to 2023.

The findings indicate that long-term debt among firms that have benefited from improved credit access has decreased by 17 percentage points, while short-term exposure has remained relatively stable. Excluding 2019, from 2020 to 2023, firms that experienced credit-related improvements maintained a steady short-term debt share, averaging around 43.3%.

Overall, the reduction in long-term debt exposure and the stability of short-term debt suggests a shift in firms' financing strategies, primarily driven by changes in banks' commercial policies. Even with the benefits derived from ESG program implementation, the banking system appears to be rebalancing the increased credit supply by reducing risk exposure, favouring short-term credit over long-term lending.

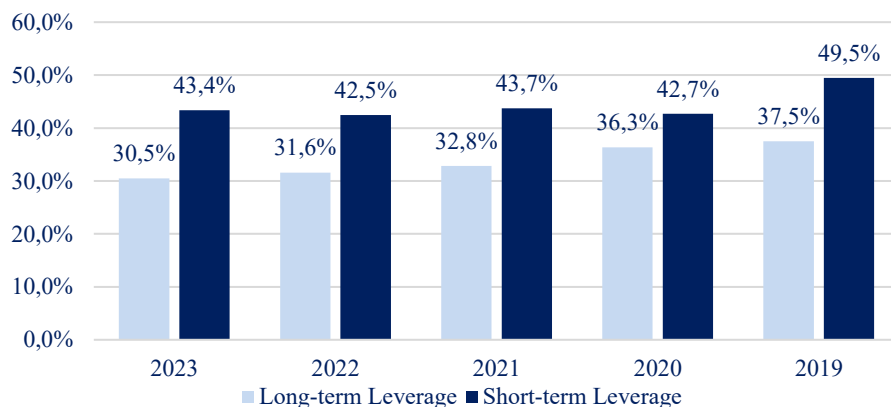
**Figure 20:** Long-term and short-term leverage for firms that reported credit-related improvements.



*Source: Own elaborations*

Repeating the clustering exercise for firms that have accessed financing related to specific ESG projects (Figure 21), the dynamics of long-term and short-term leverage closely resemble those observed in Figure 20.

**Figure 21:** Long-term and short-term leverage trends for companies that have secured tied funding for specific ESG projects.



*Source: Own elaborations*

In conclusion, the analysis suggests that incorporating ESG factors into credit assessment models can provide valuable additional insights for evaluating creditworthiness and long-term profitability of companies. Among these insights is the fact that companies that have obtained ESG certifications are more likely to better meet new creditworthiness criteria, benefiting from emerging green credit opportunities. However, in addition to the advantages associated with ESG factors, it is important to consider the challenges that firms will face. The rising cost of debt and the increase in short-term credit require companies to improve their fund allocation by making profitable and valuable future investments.

## 5. Regional analysis

This section comprehensively compares the ESG performance of firms located in the Marche, Abruzzo, and Molise regions, aiming to uncover distinctive differences and commonalities among these areas. In Table 12, the regional analysis of ESG performance for 2023 and 2024 reveals some interesting shifts and variations, highlighting both improvements and areas of concern.

In 2023, Abruzzo reported a relatively strong performance with a total score of 31.5, underpinned by notable scores in the Environmental and Social pillars (9.5 and 8.6, respectively), suggesting that companies in this region were relatively initiative-taking in adopting sustainable practices. However, the Governance score for Abruzzo was relatively lower at 6.7, indicating potential margin for improvement in formalizing governance structures. By contrast, Abruzzo saw a significant increase in its total score in 2024, rising to 42.3, with particular improvement in the Governance dimension, which surged to 16.5. This notable increase could reflect stronger governance practices, such as more transparent leadership and clearer accountability measures. Both the Environmental and Social scores also saw modest improvements, highlighting a continuous effort toward better alignment with ESG principles. Moving forward, also the Marche region exhibits an increase in its overall ESG score, from 29.2 in 2023 to 38.5 in 2024. While the Environmental and Social scores showed slight fluctuations, the Governance score increased from 7.3 to 17.0, signalling an enhanced focus on governance practices. This improvement in governance could be indicative of growing attention to corporate governance

frameworks within the region, possibly driven by a broader push for better organizational transparency and decision-making processes. However, the small decrease in the Environmental and Social scores might suggest challenges in these areas, particularly regarding environmental sustainability and social responsibility.

Finally, the Molise region, which was not represented in 2023, joins the analysis in 2024 with a total score of 25.0, which is relatively low compared to other regions. Notably, Molise performs well in the Environmental pillar with a score of 9.4, but it struggles with both the Social and Governance pillars, where it scores on average 6.6 and 4.2, respectively. In particular, the low Governance score indicates a significant gap in corporate governance practices and may suggest that companies in Molise need to focus more on developing formal governance frameworks and improving leadership accountability.

Overall, the regional data highlights that Abruzzo has shown the most significant progress in both governance and sustainability practices, while Molise faces considerable challenges in governance, despite a strong environmental performance. Marche has improved in governance but saw some decline in environmental and social dimensions, indicating mixed progress. This regional analysis underscores the importance of region-specific strategies in enhancing ESG practices, with clear evidence of different levels of commitment to sustainability and governance across different areas.

**Table 12:** ESG average score by main Regions.

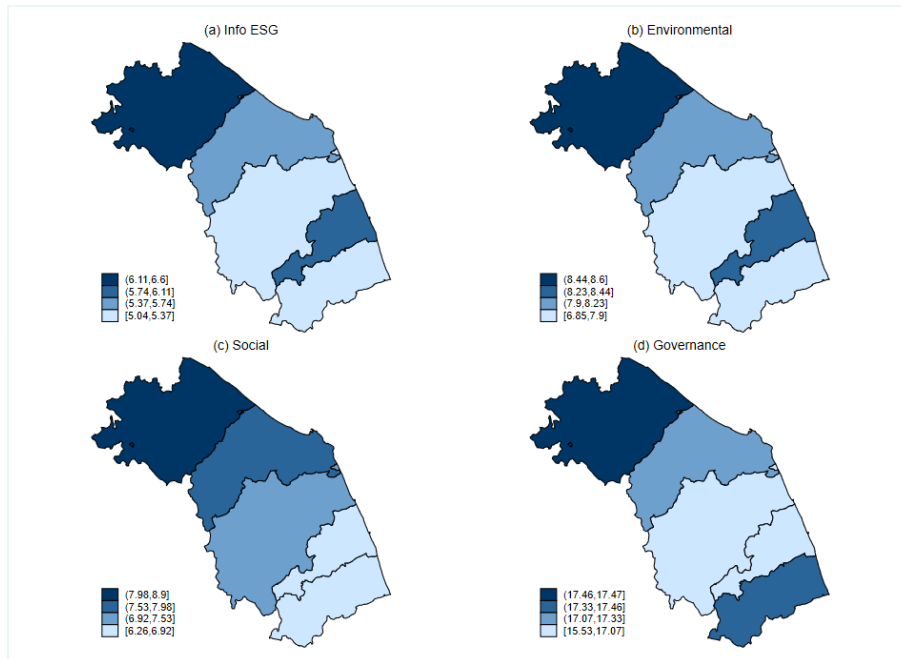
Region	General Info	Environmental	Social	Governance	Total
Year 2024					
Abruzzo	7.5	9.3	9.1	16.5	42.3
Marche	5.8	8.1	7.6	17.0	38.5
Molise	4.8	9.4	6.6	4.2	25.0
Other	6.3	4.5	9.0	17.5	37.3
Total	6.1	8.3	7.9	16.6	38.9
Year 2023					
Abruzzo	6.7	9.5	8.6	6.7	31.5
Marche	6.1	7.8	7.9	7.3	29.2
Other	7.3	10.8	7.0	7.5	32.5
Total	6.3	8.2	8.1	7.2	29.7

**Source:** *Own elaborations*

A more focused analysis is conducted by examining the scores for each ESG pillars at the provincial level. This analysis is crucial for highlighting the most virtuous provinces and identifying the most developed ESG areas. To this aim, figures 22, 23, and 24 show the provincial-level results for Marche, Abruzzo, and Molise, respectively.

Regarding the Marche region, firms operating in the province of Pesaro-Urbino exhibit a significant adoption of ESG practices compared to other provinces (Figure 22). The prominence of Pesaro-Urbino is evident across all four ESG aspects. The province of Fermo is particularly active in terms of ESG information disclosure and in the Environment area. However, it shows considerable margin for improvement in the Social and Governance areas. Firms operating in the province of Ancona are well-positioned across all four areas, especially in the Social sphere, where they rank second among the five provinces. Finally, the provinces of Macerata and Ascoli Piceno show activity in the Social and Governance areas, with possible improvement in the other ESG areas.

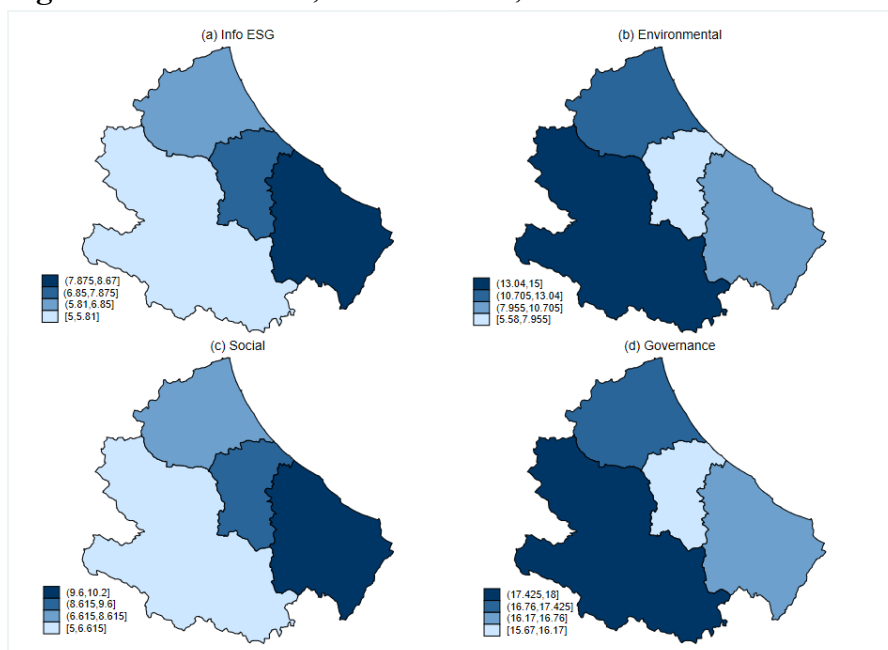
**Figure 22:** General Info, Environmental, Social and Governance scores in Marche.



*Source: Own elaborations*

Turning to the Abruzzo region, the results indicate that firms in the province of Chieti are among the most attentive to various aspects of ESG, particularly in information disclosure and the Social sphere (Figure 23). Firms operating in the L'Aquila province are particularly active in the Environment and Governance areas. However, significant enhancements are needed in ESG information disclosure and Social aspects for firms in L'Aquila. Firms located in the province of Teramo show strong performance across all ESG areas, with a particular focus on Environment and Governance. Finally, firms in the province of Pescara show some proximity to ESG practices in terms of information disclosure and Social initiatives but have significant shortcoming in the remaining two areas: Environment and Governance.

**Figure 23:** General Info, Environmental, Social and Governance scores in Abruzzo.

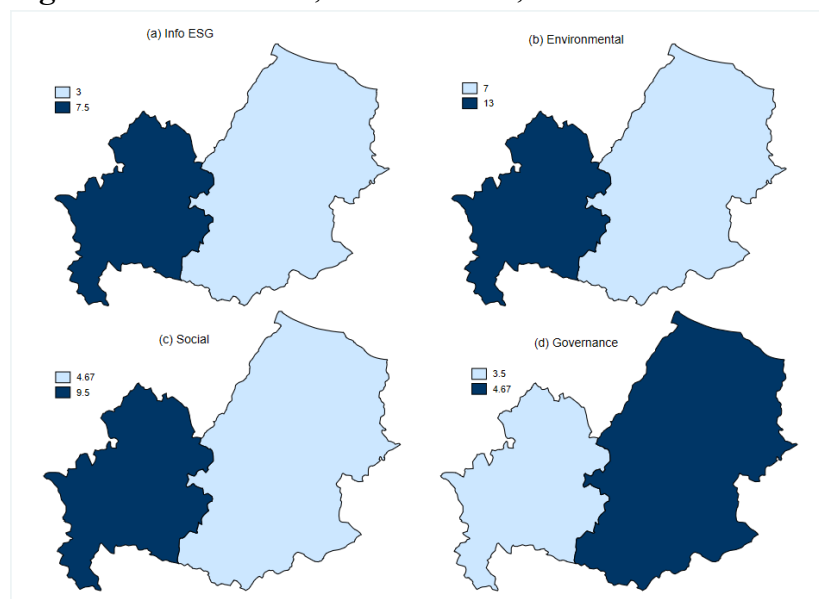


*Source: Own elaborations*

Finally, our analysis examines the firm's performance in the Molise region, specifically within the provinces of Campobasso and Isernia (Figure 24). Firms located in the province of Isernia excel in three of the four ESG areas analysed. In fact, Isernia ranks the highest in the areas of Information, Environment, and Social. Firms operating in the province of Campobasso, on the other hand, show particular activity in the Governance area.

When focusing on the individual scores for the Information, Environment, and Social areas, it becomes clear that firms in Isernia have scores nearly double those of firms in Campobasso. In the Governance area, where Campobasso leads, the gap between the two provinces is not as pronounced as in the other areas. Thus, the province of Isernia stands out as highly active in ESG matters, while firms in the province of Campobasso still have margin to invest more in ESG-related initiatives.

**Figure 24:** General Info, Environmental, Social and Governance scores in Molise.



*Source: Own elaborations*

## 7. 2023 versus 2024: a comparison

In this section, we provide a comparative analysis of the companies that were surveyed in both 2023 and 2024. This subset of companies represents a closed sample of the entire one considered for this reason, the companies included in this subset are operational in the Marche and Abruzzo regions. This analysis is important as it offers a dynamic comparison of the ESG phenomenon, unaffected by changes in the sample between the two surveys. Furthermore, if the results align with those previously discussed, this corroborates our analysis, confirming that the expansion of the sample does not distort the comparative analysis with the 2023 sample.

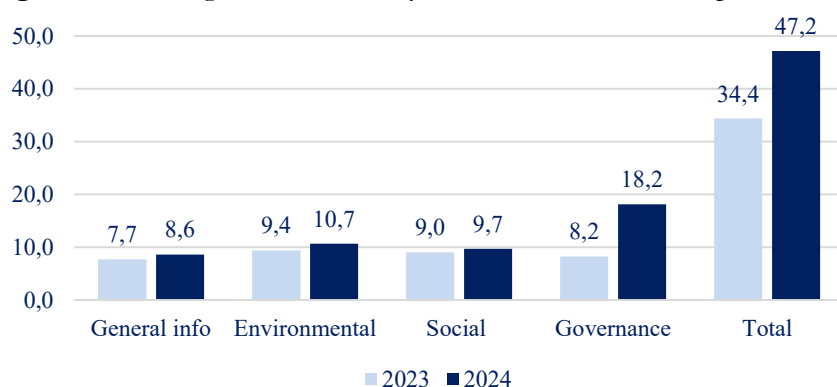
Firstly, we consider the average scores that companies achieved in 2023 and 2024 in each ESG pillar. Figure 25 reveals a clear upward trend in ESG scores over the two years. The most significant increment is observed in the Total score, which rises from 34.4 in 2023 to 47.2 in 2024, indicating a substantial overall improvement in the adoption and implementation of ESG practices. This trend suggests a growing awareness and a more pronounced commitment on the part of corporations towards sustainability and corporate social responsibility.

Looking at the individual pillar, a moderate increase is noted in General Information (from 7.7 to 8.6) and in the Social dimension (from 9.0 to 9.7), indicating gradual yet consistent progress. The

Environmental area exhibits a more substantial increment (from 9.4 to 10.7), highlighting a heightened focus on environmental sustainability policies. However, it is the Governance category that registers the most significant surge (from 8.2 to 18.2), signalling a reinforcement of corporate governance frameworks.

The disparity in increments across the different categories suggests a strategic prioritization of ESG issues: the notable improvement in Governance may reflect an increased emphasis on transparency, accountability, and regulatory compliance, factors of growing relevance in the contemporary economic context. Overall, this evidence suggests a positive trajectory in the adoption of ESG practices, with a particular emphasis on the enhancement of corporate governance. Companies are progressively integrating ESG criteria into their operational strategies, responding to the escalating expectations of stakeholders and regulatory pressures.

**Figure 25:** Average ESG scores by area for the closed sample.



**Source:** *Own elaborations*

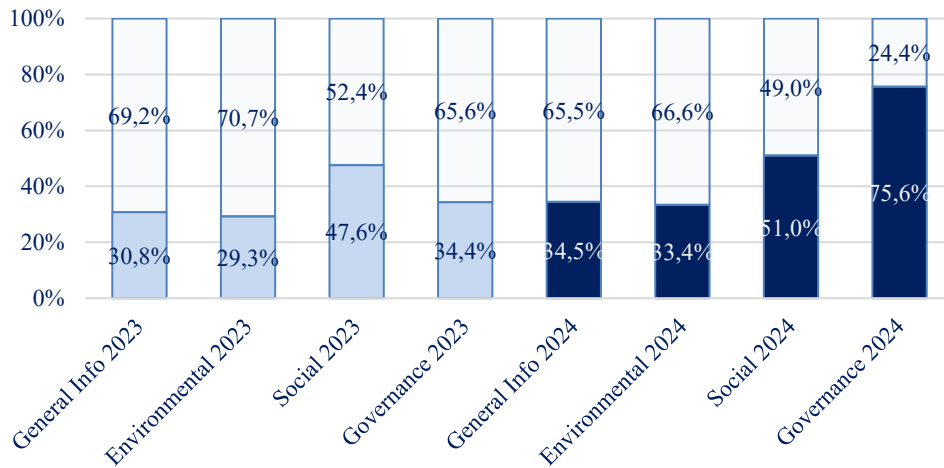
Figure 26 provides a comparative analysis of the percentage scores for four distinct areas: General info, Environmental, Social, and Governance, across the years 2023 and 2024. These percentages represent the proportion of the total achievable points in each area. In 2023, the General info area achieves a score of 30.8%, equivalent to 7.7 out of 25 points. This increase to 34.5% in 2024 indicates a modest improvement in the completeness and quality of information provided.

The Environmental area scores 29.3% in 2023, rising to 33.4% in 2024, reflecting a growing emphasis on environmental practices and reporting, whereas the Social area shows a slight increase from 47.6% in 2023 to 51.0% in 2024, suggesting a steady enhancement in social responsibility and community engagement. The most significant change is observed in the Governance area again, which jumps from 34.4% in 2023 to 75.6% in 2024. This substantial improvement indicates a major advancement in governance practices, possibly due to increased regulatory pressures, better management structures, and heightened transparency.

Overall, evidence shows a positive trend across all areas and suggests that companies are increasingly prioritizing ESG criteria, leading to better overall performance and higher standards in each dimension. The substantial increase in governance scores, in particular, highlights the critical role of strong governance in achieving sustainable and responsible business practices.



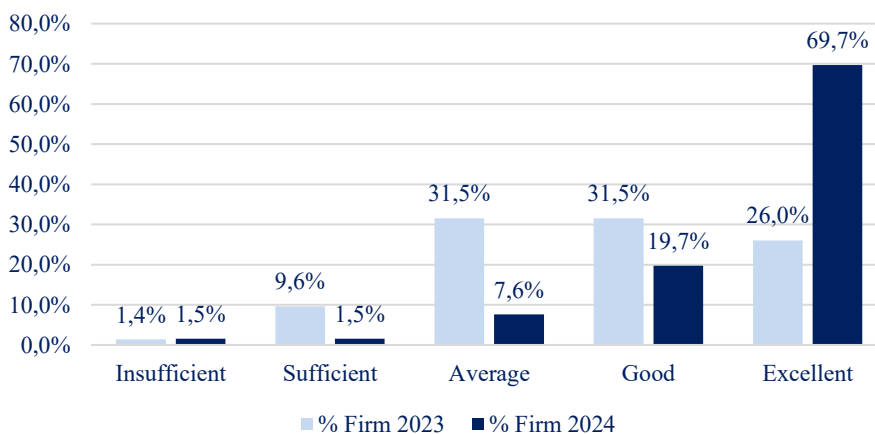
**Figure 26:** Progress in ESG for the closed sample: Percentage over maximum attainable score.



**Source:** *Own elaborations*

When comparing the percentage distribution of companies across various performance categories, i.e., Insufficient, Sufficient, Average, Good, and Excellent, between 2023 and 2024, a notable trend emerges, as illustrated in Figure 27. There is a significant shift from the lower performance categories, particularly "Sufficient" and "Average," towards the higher performance category labelled "Excellent." Specifically, the "Insufficient" and "Sufficient" categories have experienced moderate changes, with a slight decline in the number of companies classified within these groups. However, the "Average" category has witnessed the most pronounced reduction, decreasing by approximately 23.9 percentage points compared to 2023. This trend suggests that many companies are substantially improving their Environmental, Social, and Governance (ESG) standards. Additionally, the "Good" category has seen a considerable decrease, with an 11.8 percentage point drop in the number of companies classified in this segment compared to the previous year. In contrast, the number of companies classified as "Excellent" has reached approximately 69.7%, marking a remarkable increase of 43.7 percentage points from 2023. This shift indicates a significant overall improvement in corporate performance.

**Figure 27:** Percentage of the closed sample per ESG score obtained.



**Source:** *Own elaborations*

Figure 28 provides a detailed analysis of the relationship between ESG (scores and the average revenue growth rate of companies over a five-year period (2019-2024). The data highlights a clear positive

correlation between higher ESG scores and financial performance. Companies with excellent ESG scores (41 or more) experienced the highest revenue growth rate of 37.5%. This significant growth can be attributed to several factors, including enhanced brand reputation, increased investor confidence, and better risk management practices. These companies are likely to attract more investment and customer loyalty due to their commitment to sustainable and responsible business practices.

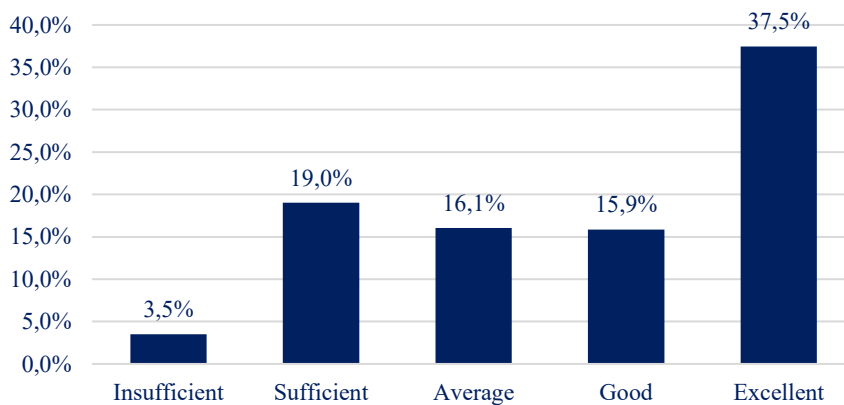
Companies with good ESG scores also showed positive growth, although at a lower rate of 15.9%. This indicates that while these companies are performing well, there is still margin for improvement in their ESG practices to achieve higher growth rates. The growth rate for companies with average ESG scores was 16.1%, slightly higher than those with good scores. This suggests that companies in this category are maintaining steady growth but may need to enhance their ESG initiatives to achieve more substantial financial gains.

Companies with sufficient ESG scores experienced a growth rate of 19.0%. This is a notable improvement compared to those with average good scores, indicating that even moderate improvements in ESG practices can lead to better financial performance.

At last, companies with insufficient ESG scores had the lowest growth rate of 3.5%. This stark contrast highlights the challenges faced by companies that do not prioritize ESG criteria. These companies may struggle to attract investment, face higher operational risks, and suffer from a poor reputation, all of which can hinder their financial growth.

To sum up, the evidence underscores the importance of strong ESG practices in driving business success. Companies with higher ESG scores not only contribute positively to environmental and social outcomes but also enjoy better financial performance. This analysis aligns with broader trends observed in general studies, reinforcing the critical role of ESG criteria in achieving sustainable and profitable growth.

**Figure 28:** Turnover growth rate for the closed sample (2019-2023) obtained per ESG score.



**Source:** *Own elaborations*

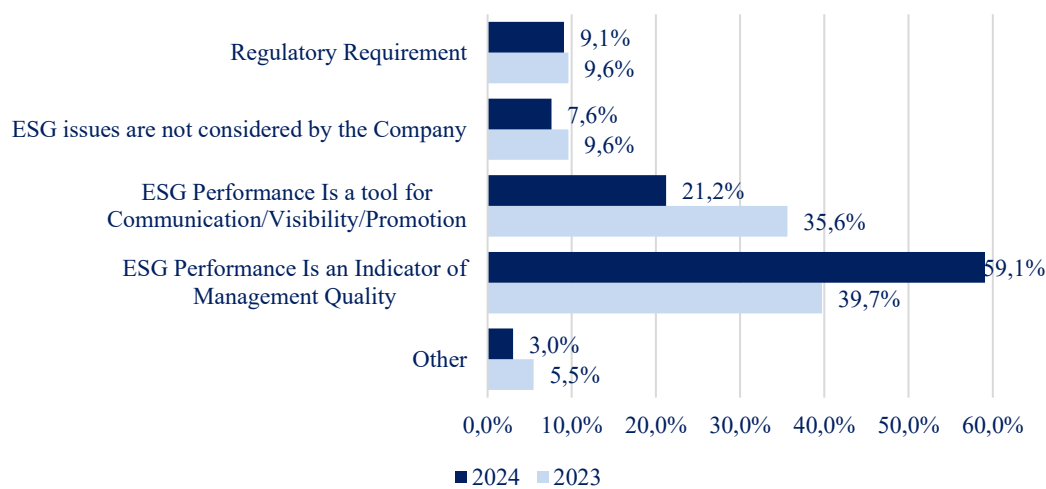
Finally, focusing on the rationality behind the adoption of ESG, the results reveal a notable pattern. The Figure 29 provides a detailed comparison of the reasons companies adopt ESG criteria between the years 2023 and 2024. Interesting, there is a significant increase of companies that view ESG performance as an indicator of management quality. In 2023, 39.7% of companies held this view, which surged to nearly 59.1% in 2024. This substantial rise indicates a growing recognition that robust ESG practices are not only beneficial for sustainability but also serve as a reliable measure of overall management quality. This shift also suggests that companies are increasingly integrating ESG criteria into their strategic decision-making processes, recognizing that strong ESG performance can enhance operational efficiency, risk management, and long-term profitability.

Additionally, the percentage of companies that consider ESG performance as a tool for communication, visibility, and promotion decrease from 35.6% in 2023 to 21.2% in 2024, confirming that ESG practices are not a mere advertising tool but a true corporate quality indicator. Nevertheless, companies are still leveraging their ESG achievements to build trust with investors, customers, and other stakeholders, thereby gaining a competitive advantage in the market.

Finally, a further positive development is the decline in the number of firms that report adopting ESG practices solely to comply with regulations (from 9.6% to 9.1%), or worse, those that do not consider ESG factors at all in their business operations (from 9.6% to 7.6%). Both trends represent encouraging signals of the increasing integration of ESG practices.

In sum, the analysis of companies surveyed in both 2023 and 2024 outline a clear upward trend in ESG scores across all pillars. The most significant improvements are observed in the Governance category, indicating a strong focus on enhancing corporate governance frameworks. This positive trajectory in ESG adoption suggests that companies are increasingly integrating these criteria into their strategies, driven by stakeholder expectations and regulatory pressures.

**Figure 29:** Rationale for adopting ESG criteria among the closed sample.



*Source: Own elaborations*

## 8. Conclusion

The growing global competitiveness has driven businesses to explore new strategies for maintaining and enhancing their market position, with ESG factors, environmental, social, and governance, emerging as central elements in this process. The survey conducted among firms in Central Italy reveals how companies increasingly recognize the value of ESG practices, and how they are progressively investing in their integration into corporate decision-making. The findings clearly demonstrate an expanding commitment to sustainability and social responsibility, which is gradually shaping the strategic orientation of the surveyed businesses.

The results are encouraging, showing that many companies have already embarked on a path of systematic ESG adoption. Governance, in particular, stands out as the area of most significant improvement, indicating a widespread effort to strengthen governance frameworks and embed ESG considerations into leadership and management structures. This positive trend suggests that companies are increasingly aware of the importance of ESG factors not only to comply with external pressures

from stakeholders and regulators but also to build internal resilience and long-term value.

Nevertheless, the analysis also brings to light several critical challenges. Many firms still display limited awareness of the tangible benefits associated with ESG adoption, particularly in terms of financial returns and access to credit. Resource constraints remain a significant barrier, especially for smaller enterprises that may lack the capacity to invest in structured sustainability initiatives. Furthermore, the absence of a coherent regulatory framework and adequate incentive systems continues to hinder the full integration of ESG principles into corporate strategies. Overcoming these obstacles is essential for enabling a broader and more effective adoption of ESG practices, thereby fostering a more sustainable and competitive economic environment.

The gaps identified in the study offer a valuable foundation for designing targeted actions that can support companies in their sustainability journey. These actions could range from enhancing institutional support and regulatory clarity to improving access to resources and providing specific guidance tailored to firm size, sector, and territorial context. Regional analysis, for instance, highlights how Abruzzo has emerged as a frontrunner, with remarkable progress in both governance and overall sustainability, while Molise, despite its encouraging environmental efforts, still faces substantial governance challenges. Marche presents a more nuanced picture, with advancements in governance offset by modest setbacks in environmental and social dimensions, reflecting the complex and differentiated nature of ESG integration across regions.

Strengthening ESG integration offers companies multiple strategic advantages. Improvements in management quality, enhanced corporate reputation, the ability to attract new investors, the optimization of resources, and the identification of emerging market opportunities all contribute to reinforcing competitive positioning. These benefits, however, are not uniform across sectors and territories. They require careful analysis and bespoke strategies to fully capitalize on the potential of ESG factors. The evolving regulatory landscape and growing expectations from investors, customers, and employees further underline the urgency for companies to embrace sustainability as an essential component of their long-term business models.

Ultimately, this research confirms the deep interconnectedness of environmental, social, and governance factors and the transformative potential they hold for businesses. By adopting ESG principles more fully, companies can contribute to building a more resilient, inclusive, and prosperous economy, while preparing themselves to navigate future challenges. The path toward sustainability is not without complexities, but it offers the promise of long-term value creation, stronger stakeholder relationships, and a meaningful contribution to shaping a sustainable future.

## References

- Bae, S. C., Chang, K., & Yi, H.-C. (2018). Corporate social responsibility, credit rating, and private debt contracting: New evidence from syndicated loan market. *Review of Quantitative Finance and Accounting*, 50(1), 261–299. <https://doi.org/10.1007/s11156-017-0630-4>
- Bissoondoyal-Bheenick, E., Brooks, R., & Do, H. X. (2023). ESG and firm performance: The role of size and media channels. *Economic Modelling*, 121, 106203. <https://doi.org/10.1016/j.econmod.2023.106203>
- Boubaker, S., Cellier, A., Manita, R., & Saeed, A. (2020). Does corporate social responsibility reduce financial distress risk? *Economic Modelling*, 91, 835–851. <https://doi.org/10.1016/j.econmod.2020.05.012>
- Carneiro, F., N6voa, H., Carvalho, A. M., & Lamilla, F. (2024). Optimising ESG-enhanced performance: A literature review of lean, six sigma, and other continuous improvement methodologies. *Total Quality Management & Business Excellence*, 36(1–2), 146–178. <https://doi.org/10.1080/14783363.2024.2442392>
- Cucculelli M., Giampaoli N., Renghini M., Chiaromonte M. (2024). Osservatorio sulla competitività delle imprese marchigiane e abruzzesi Il fattore ESG: scenari e prospettive, *Economia Marche - Journal of Applied Economics*, Vol 43, N.1. <https://doi.org/10.57638/3034-8234OSSESG>
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- Gjergji, R., Vena, L., Sciascia, S., & Cortesi, A. (2021). The effects of environmental, social and governance disclosure on the cost of capital in small and medium enterprises: The role of family business status. *Business Strategy and the Environment*, 30(1), 683–693. <https://doi.org/10.1002/bse.2647>
- He, R., Chen, X., Chen, C., Zhai, J., & Cui, L. (2021). Environmental, social, and governance incidents and bank loan contracts. *Sustainability*, 13(4), 1885. <https://doi.org/10.3390/su13041885>
- Henisz, W. J., & McGlinch, J. (2019). ESG, material credit events, and credit risk. *Bank of America Journal of Applied Corporate Finance*, 31, 105–117. <https://doi.org/10.1111/jacf.12352>
- Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review*, 91(6), 1697–1724. <https://www.jstor.org/stable/24907173>
- Quan, J., & Zhou, Z. (2024). Research on the Relationship between ESG Performance and Performance of Listed Companies under the Dual Carbon Target-the Mediating Effect Model Based on Internal Control. *International Journal of Global Economics and Management*, 2(3), 405-410. <https://doi.org/10.62051/IJGEM.v2n3.48>
- Reber, B., Gold, A., & Gold, S. (2022). ESG disclosure and idiosyncratic risk in initial public offerings. *Journal of Business Ethics*, 179(3), 867–886. <https://doi.org/10.1007/s10551-021-04847-8>
- Shafer, M., & Szado, E. (2020). Environmental, social, and governance practices and perceived tail risk. *Accounting & Finance*, 60(4), 4195–4224. <https://doi.org/10.1111/acfi.12541>
- Shen, Y. (2023). ESG and firm performance: A literature review. *BCP Business & Management*, 46, 283–288. <https://doi.org/10.54691/bcpbm.v46i.5107>
- Siew, R. Y. J., Balatbat, M. C. A., & Carmichael, D. G. (2016). The impact of ESG disclosures and

institutional ownership on market information asymmetry. *Asia-Pacific Journal of Accounting & Economics*, 23(4), 432–448. <https://doi.org/10.1080/16081625.2016.1170100>

Taliento, M., Favino, C., & Netti, A. (2019). Impact of environmental, social, and governance information on economic performance: Evidence of a corporate ‘sustainability advantage’ from Europe. *Sustainability*, 11(6), 1738. <https://doi.org/10.3390/su11061738>

Veenstra, E. M., & Ellemers, N. (2020). ESG indicators as organizational performance goals: Do rating agencies encourage a holistic approach? *Sustainability*, 12(24), 10228. <https://doi.org/10.3390/su122410228>