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TESI DI DOTTORATO

The development of the ESG approach between unwavering belief and social trends response. An analysis of the European business context.

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Thesis Overview

Companies are the institute to which we refer to find answers to the renaissance of the economy and to reactivate a stable and sustainable process of creating well-being for people, especially in the current historical phase in which a large part of the world is going through a strong moment of uncertainty, economic fragility, and financial turbulence.

This new essence of the company concept finds its reason in an inversion of priorities in society: the well-being of companies or the well-being of the world (Al-Hiyari et al., 2022). If in the past, what brought benefits to companies created favorable conditions for the world as well, now there is a very strong perception that what is good for the world is also good for companies. In this new setting, companies are expected to play a different role and broaden their sights.

These assumptions find their embodiment in the concept of sustainable performance, a term associated, in recent years, with the acronym ESG performance.

Environmental, social, and governance (ESG) was initially defined as the economic effort made by companies to invest in aspects related to social, environmental, and governance issues. ESG performance of firms, not only represents an ethical issue but also, can directly influence the economic performance of companies (Buallay et al., 2019). Concerning this topic, the culture of corporate sustainability has become widespread beyond managers among shareholders. Around 79% of shareholders worldwide, according to a PwC study (2021), believe companies should internalize ESG practices. This aspect shows an evolution of the shareholders' interests: value creation is no longer exclusively related to the financial results of companies, and nowadays the non-financial performance of firms is considered a priority (Linnenluecke, 2022).

Moreover, ESG is a very debated topic even in the institutions. Specifically in Europe, institutions are asking for an intensification of social responsibility in corporate decisions and transparency in non-financial disclosure. These intentions found their legislative confirmation in Directive 95/2014, also

known as Non-Financial Reporting Directive (NFRD). NFRD obliges relevant and large firms to publish non-financial statements. In this case, the interest of the European Legislator has focused on increasing the quality of ESG reporting in terms of the breadth of topics, consistency, and comparability of the non-financial information disclosed (Santamaria et al. 2021).

The European regulatory effort has recently found its evolution with the Corporate Sustainability Reporting Directive (CSRD), which will be active starting in 2024.

In this case, it is particularly interesting to note that the CSRD introduces new and more detailed communication obligations (among other things, towards a larger number of companies) and - above all - presents particularly relevant profiles of diversity and innovation concerning Directive 95/2014.

As seen, therefore, sustainable performance has affected the European economic system from both a business and a legislative point of view.

This thesis, considering the growing importance of the sustainability approach, analyzes, through three published articles, different aspects of ESG performance, both in a diachronic and synchronic key within the European context.

The first paper, titled "Stopping or Continuing to Follow Best Practices in Terms of ESG during the COVID-19 Pandemic? An Exploratory Study of European Listed Companies ([1])", provides the first evidence of how companies responded, in terms of following the best ESG practices, to the global crises induced by the COVID-19 pandemic.

In consideration of the growing importance of sustainability dynamics and considering also the relevant economic effects of the COVID-19 pandemic, the paper allows us to obtain important information on the choices made by companies (and which they could adopt in similar situations).

The second paper, titled "The effects of Audit Committee characteristics on ESG performance ([2])", seeks to test the impact of audit quality, proxied by

([1]) Bifulco, G.M.; Savio, R.; Izzo, M.F.; Tiscini, R. (2023). Stopping or Continuing to Follow Best Practices in Terms of ESG during the COVID-19 Pandemic? An Exploratory Study of European Listed Companies. *Sustainability*. 15, 1796. https://doi.org/10.3390/ su15031796.

([2]) This chapter proposes an English-language re-adaptation of the article "Bifulco, G.M.; Savio, R.; Paolone, F.; Tiscini, R. (2023). Gli effetti delle caratteristiche dell'*Audit*

Audit Committee (AC) determinants, on ESG performance for European listed companies with the aim of understanding how such determinants (measured by Audit Committee Independence Score, Audit Committee Expertise Score, and Auditor Tenure) might influence the ESG performance.
The third paper, titled "The CSR committee as moderator for the ESG score and market value ([3])", aims to investigate the effect of ESG performance on firm performance, measured by stock prices. In line with signalling theory, the paper assumes that the presence of a CSR Committee can act as a mediation mechanism in the relationship between ESG performance and market value. This assumption lies in the general consideration that Board Committees (as CSR Committee) are commonly considered levers able to: make the supervision of company activities more efficient, balance the objectives of managers and stakeholders and, especially in recent years, improve ESG performance.
The final aim of the thesis is to investigate how companies respond to the growing influence of the sustainability issue, trying to understand (i) whether companies have improved the use of ESG practices, (ii) whether the presence of internal committees (AC committee) can modify ESG performance, and (iii) how the market evaluates the ESG performance of companies.
This evidence will lead us to reflect on the real purpose of companies in the current socio-economic context, trying to understand whether the choices made by companies (in terms of sustainable activities) depend on the unwavering belief or whether they represent a response to social trends.

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CHAPTER 1

Stopping or continuing to follow best practices in terms of ESG during the Covid-19 pandemic? An exploratory study of European listed companies ([4])

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1. Abstract

This study aims to examine the effect of the Covid-19 pandemic on environmental, social, and governance (ESG) performance for European listed companies. The purpose of this study is to understand if and how the Covid-19 pandemic outbreak influenced the behavior of European companies in terms of best practices in ESG. In this paper, we consider the ESG score as a proxy of management practices. The ESG score was collected for all companies included in the STOXX 600 index (from the Refinitiv Eikon database) and analyzed using fixed and random effects. The sample is composed of 600 European listed companies and covers the period from 2018 to 2021. The results show that even in a health crisis with economic repercussions for the whole world, companies have continued to increase their commitment to ESG targets. The results are robust, also considering the different components of the ESG score (environment, social, governance)

([4]) Bifulco, G.M.; Savio, R.; Izzo, M.F.; Tiscini, R. (2023). Stopping or Continuing to Follow Best Practices in Terms of ESG during the COVID-19 Pandemic? An Exploratory Study of European Listed Companies. *Sustainability*. 15, 1796. https://doi.org/10.3390/ su15031796.

individually. This paper validates the significance for companies to improve their ESG performance even during unstable times. Our analysis has implications from several perspectives, adding supplementary information and considerations to the uncompleted debate examining the effects of external shocks on ESG performance.

2. Introduction

The spread of the Covid-19 pandemic was declared a global epidemic by the World Health Organization in March 2020. Unlike the financial crises of the last decades, which emerged from financial distress, the Covid-19 pandemic is a health crisis with economic and financial consequences for the entire world. The beginning Covid-19 pandemic negatively affected socio-economic conditions (Díaz et al., 2021) because it triggered a severe break in many economic activities worldwide (Phan & Narayan, 2020). The negative effects of the Covid-19 pandemic were on equity markets (Liu, M., 2020), investments (Rizvi et al., 2020), and commodity markets (Kinateder et al., 2021). Fetzer et al. (2020) showed that the virus's arrival dramatically increased economic trouble and deteriorated the economic outlook. Therefore, governments introduced some policies never before seen in the world (i.e., lockdown).

The measures taken by the governments during the Covid-19 pandemic resulted in a shutdown of a relevant share of economic activity in most of the world's countries, without a well-defined perspective of when the situation would be back to normal (Buchheim et al., 2020).

During the Covid-19 spread, some companies implemented strong responses - cancelling investments or dismissing employees - while others implemented relatively inexpensive measures, such as working from home or part-time work (Buchheim et al., 2022). The general business outlook of the firm determines the company's strategy. Since the Covid-19 pandemic forced companies to make a wide range of relevant strategic decisions, the pandemic constitutes a laboratory in which to study the company behavior in response to a huge exogenous shock that affected the entire economy.

Prior studies have principally focused the analysis on the correlation between ESG and the Covid-19 pandemic from an investor point of view, examining how ESG stocks performed during the Covid-19 pandemic. For instance, recent works showed that companies with higher ESG scores are subject to lower risk and remain stable during turbulent times (Ferriani & Natoli, 2020; Omura et al., 2020).

Other studies examined socially responsible investment funds (Zhu et al., 2021), green funds (Silva & Cortez, 2020), and ESG stocks (Alessandrini & Jondeau, 2020) to document a relatively better performance of ESG assets compared to their traditional counterparts during financial turbulence.

Therefore, studies explained that due to the overperformance of ESG investments during the Covid-19 pandemic, there was an increased appeal for investors toward ESG strategies as they consider ESG stocks as comparable alternatives to conventional safe-havens such as gold or bond (Rubbaniy et al., 2021). Investors pay extra attention to company fundamentals during periods of economic slowdowns (Lins et al., 2017). Companies with good fundamentals and long-term sustainability are expected to be more resilient to financial turbulence in a well-organized way (Pastor & Vorsatz, 2020). Therefore, investors become more aware of securer investment strategies, such as the ESG one, to prevent their exposure to the downside risk of the market (Singh, 2020).

Many studies have focused their attention on the effect of the Covid-19 pandemic on firm behavior. The impact of the Covid-19 pandemic on company behavior was significant and can be assessed on various levels. The crisis revealed the ability of companies to adapt to the new context, both in strategy and in operations. For instance, Al-Fadly (2020) showed that companies had changed strategy in terms of labor force (generating high unemployment), supply chain (moving production plants), and cash flow management. Juergensen et al. (2020) examined the logistic challenges during the Covid-19 pandemic, showing an impact on strategic decisions in this field. A study by Yacoub et al. (2021) showed that companies cancelled investments in the renovation of fixed assets since they focused on reducing the costs to facilitate the firm survival. Scholars also found positive consequences of the Covid-19 pandemic on companies' capabilities; for

example, an accelerated digitalization has been noted, even for companies that were not technologically confident before the Covid-19 pandemic (Pinzauro et al., 2020).

However, although many studies analyzed the effect of the Covid-19 pandemic on firm behavior and strategy, to our knowledge, there are no studies focused on examining how companies responded during the Covid-19 pandemic in terms of ESG practices.

ESG practices are basically management practices usually adopted by the firms to reach the expectations of the environment, society, and shareholders (Erhemjamts & Huang, 2019; Fiore et al., 2020).

This paper provides the first evidence of how companies responded, in terms of following the best ESG practices, to the global crises induced by the Covid-19 pandemic. Based on a sample of 600 firms included in the European STOXX 600 index, we study the effect of the Covid-19 pandemic on the propensity of firms to continue following the best ESG practices. Specifically, we address one question:

"Is a huge exogenous shock such as the Covid-19 pandemic able to significantly affect a firm's tendency to follow the best ESG practices?"

In consideration of the growing importance of sustainability dynamics and considering also the relevant economic effects of the Covid-19 pandemic, our study allows us to obtain important information on the choices made by companies (and which they could adopt in similar situations).

In fact, companies could decide either to reduce ESG activities fearing the negative economic effects generated by the pandemic or, conversely, to increase ESG practices as a management strategy with the aim of countering the aforementioned effects. In the absence of studies on the behavior of companies in a crisis (such as the Covid-19 pandemic), this study represents an important opportunity to deepen managerial choices.

We discover that although the Covid-19 pandemic heavily influenced firm behavior in terms of workforce, investments, supply chain, etc., it did not affect firm tendency to follow the best ESG practices, since like in the pre-Covid-19 period, they continued to invest in ESG with notably results in terms of ESG score.

These results are relevant as they show how companies today are inclined to follow the best ESG practices, even during a turbulent time. This means that ESG is a key aspect that firms are prone to consider even during a huge exogenous shock.

With our study, we contribute to the existing literature in some ways. Firstly, to the best of our knowledge, this is the first study that investigates the effect of the Covid-19 pandemic on a company's inclination to continue to follow the best ESG practices. Second, our findings have important implications in confirming the relevance for firms of ESG practices also during turbulent times; all the companies should know that even during periods of cutting workforce and cutting investments, ESG practices are always one of the primary interests of companies, because companies know that equity market investors and portfolio managers use ESG stocks to diversify and hedge their portfolios against the risk of the market.

The rest part of the paper is structured as follows: Section 3 presents a literature analysis; Section 4 presents data, research methodology, and findings; Section 5 presents the empirical results; Section 6 exposes and critically discusses the results of the analysis. Section 7 presents the key points of discussion. Finally, Section 8 integrates the conclusions, contributing theoretical and practical insights.

3. Literature Review and Hypotheses Development

According to numerous theories, the ultimate goal of a company not only lies in the creation of value for shareholders but also refers to the care of the environment and the community in which the company operates (Baldini et al., 2018; Schaltegger & Hörisch, 2017). Among the various theories, the legitimacy one affirms that the survival of companies is tied to the legitimacy that the environment accords to the activities carried out by a company (Hasse & Krücken, 2009; Meyer & Rowan, 1977; DiMaggio & Powell, 1983). Legitimacy is the condition that occurs when the organization's value system and rules are consistent with those existing in the context in which the organization operates. The legitimacy theory requires that companies engage in operating within the values and "social norms" provided by the context in

which they operate (Dowling & Pfeffer, 1975). According to this theory, every company must be able to be perceived as perfectly in line with the rules of the society in which it operates (Deegan, 2009). Indeed, each company operates under an implicit social contract. According to Gray et al. (2009), organizations can continue to exist just if the society in which they are based perceives them as operating according to a value system com-mensurate with the society's value system. Especially in recent years, the relationship between the activities carried out by companies and the legitimacy recognized by the context in which the companies operate is a strong object of interest. Financial performance is flanked by sustainable performance (ESG performance), capable of increasing the legitimacy of corporate operations (Drempetic et al., 2020). In the current economic environment, ESG performance depends on the legitimacy of an enterprise in society, that is, on governance and compliance with society's expectations concerning environmental and social standards (Hasse & Krücken, 2009). According to the legitimacy theory, care for the environment, employee well-being, and good governance policies are the goals that the company must pursue beyond creating value for shareholders (Fernando & Lawrence, 2014). This new approach can be renamed as "ESG conduct", and, according to several scholars, it is the main legitimization strategy on which companies are orienting themselves in today's economic environment (Drempetic et al., 2020). Companies are known to operate with limited resources, which, although sufficient to guarantee the correct performance of operational activities, are in any case subject to decisions to the detriment of other projects. In particular conditions, such as financial crises, it is even more important for companies to manage their resources and choose carefully how best to use them. If, on the one hand, in times of crisis, there is a greater need for investments in socially useful projects, on the other hand, it is precisely in these moments that it becomes more difficult for companies to generate value. Several scholars have investigated the behavior of companies, confirming that, on the one hand, they are aware of the social importance of investments in CSR in times of crisis, but on the other, crises, for the reasons set out above, lead to the stalemate, the postponement and, sometimes, the annulment of socially useful projects (Njoroge, 2009). Investments in CSR represent an

interesting tool for companies to use to increase their reputation in the market or defend it in the event of a crisis. Therefore, in a sense, CSR investments are considered by some authors as reputational protection, similar to insurance (Godfrey, 2005). In recent years, the definition of a company has changed in accordance with the evolution of the social environment in which they operate. For example, Sunder (1997), considering a company as a socially responsible entity, defined it as "a set of contracts" among employees, customers, managers, shareholders, suppliers, auditors etc. In this context, the "socially responsible investments", defined by the European Social Investment Forum as a process in which investors financial objectives are combined with environmental, social, and corporate governance issues (also called ESG factors), are fundamental. Investing in socially useful projects guarantees a good return to the company in terms of image. The development of CSR projects positively differentiates companies operating in a given market by increasing the gap with others (Morsing & Schultz, 2006) and increasing the recognition by stakeholders (Jamali & Mirshak, 2007). In moments of economic crisis, Wilson (2008) suggests that companies should continue to invest in socially useful projects, as the only way to overcome these moments is to support the needs of the social environment in which they operate. Furthermore, some scholars (Lins et al., 2017) have shown how socially responsible investments can be even more profitable when the markets suffer due to economic events and are not dependent on the work of companies. In difficult environmental contexts such as that caused by the COVID-19 pandemic, investments in CSR can improve the environment in which companies operate, thus also defending the interests of investors (Garcia-Sanchez & Garcia-Sanchez, 2020). Indeed, the pandemic has changed how businesses understand and view CSR investments, with more and more importance given to the benevolent effects of investments in CSR, intended to reduce the damage caused by COVID-19. In conclusion, the pandemic has created a new balance in corporate interests, prompting companies to balance their efforts between profit orientation and social responsibility. The management of socially responsible investments carried out by companies is now an extremely decisive factor. Several studies have shown that investors are inclined to invest in companies that support growth

and the protection of the environment in which they operate (Rosen et al., 1991). However, this trend does not translate into a waste of company resources; although the socially responsible behavior of companies is approved by most of the investors, they are still attentive to the careful management of resources by the company. Therefore, socially useful investments with no economic return will not be well regarded by shareholders (Campbell, 2007). For this reason, companies that make investments in ESG have a competitive advantage that manifests itself more in times of joint market crises (Godfrey, 2005). In fact, these companies can exploit the most direct relationship with their stakeholders, united by shared values, using their resources more efficiently in order to generate greater economic benefits (Branco & Rodrigues, 2008). The effects of an ESG investment-oriented approach are different. First of all, companies that invest in socially useful projects obtain a good image return that allows them to increase their awareness on the market, also determining good consequences on the marketability of their products (Heal, 2005; Flammer, 2015; Albuquerque et al., 2019; Albuquerque et al., 2020). This aspect also strengthens the profitability of these companies, and in times of crisis, companies that invest in CSR will have less difficulty than others because stakeholders will see them as also useful for the economic environment in which they operate (Heal, 2005; Siddiq & Javed, 2014; Aegon Asset Management, 2022). Finally, several studies show that companies that invest in ESG attract more loyal investors, share the same values, and can persist even in times of crisis when general investors divest their business (Bollen, 2007; Benson, 2008; Scalet & Kelly, 2010; Nofsinger & Varma, 2014; Becchetti et al., 2015; Nakai, 2016; Chiappini & Vento, 2018). In the end, social investments, in general, can help companies regain lost consumer confidence (Giannarakis & Theotokas, 2011), and the "ESG conduct" creates a better relationship with customers to guarantee a better performance in economic (Ghanbarpour & Gustafsson, 2022) and financial (Xie et al., 2022) terms.

According to various scholars, these results suggest that during a crisis, such as that of Covid-19, companies are more inclined to make ESG investments or to increase those already underway.

Thus, our hypothesis is as follows:

H1. *During the Covid-19 pandemic companies continued to invest in ESG, showing the relevance for the companies in continuing to follow best practices in terms of ESG.*

4. Research Methodology

4.1 Sample and Empirical Setting

The best setting in which to test our theory should allow us to perceive how and if, during the Covid-19 crisis, European companies continued to follow best practices in all ESG areas. Specifically, our sample is made up of all the European listed companies that are part of the STOXX Europe 600 Index. Different circumstances make the European setting appropriate for our study. First of all, Europe is characterized by relevant geo-graphical and social differences, allowing a different propensity to follow best practices in ESG. Second, European listed companies are constrained by law to disclose ESG information following the EU Directive 95/2014. Furthermore, several scholars (Izzo et al., 2020) have highlighted how European companies are increasingly careful to share their nonfinancial information in corporate reporting. Therefore, the sample of companies used in the present study is probably not influenced by selection bias (a problem that generally exists in analyses that consider data provided by companies voluntarily). Third, the focus on one geographical area (even if there are some cultural differences across European countries) reduces the risk of an omitted-variable problem that generally characterizes multi-geographical areas studies, where it is difficult to control for all the time-variant geographical area characteristics simultaneously affecting the dependent and the independent variables (De Jong et al., 2008). To perform the analysis, we built a unique database with firm-level data from Refinitiv Workspace, a database containing company ESG scores and financial information. The ESG scores provided by Refinitive Workspace are “designed to transparently and objectively measure a company’s relative ESG performance across ten themes (emissions, environmental product innovation, human rights, shareholders, etc.) based on company reported data” (Thomson Reuters, 2017). The Refinitiv Workspace

database has built and validated a measure of the ESG score at the company level in Europe, with information taken from annual reports, CSR reports, stock exchange filings, company websites, etc. That database is considered the world's largest ESG rating (Dorfleitner et al., 2020). Our firm-level data database includes in-formation on the STOXX Europe 600 Index companies. The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid, and small capitalization companies across 17 countries of the European region: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. We used data for the years 2018, 2019, 2020, and 2021. Our dataset contains a total of 600 companies, for 2400 firm-year observations.

Descriptive statistics for the variables are reported in Table 1. All data are computed at the end of each fiscal year.

Table 1. Descriptive statistics.

Variable	Obs	Mean	Std. dev.	Min	Max
ROE	2260	0.1720065	0.7840669	−20.8333	20.46
ROA	2123	0.0626377	0.109072	−0.3326	2.4377
Employees	1700	38272.66	75305.56	15	667748
Debt-to-equity	2330	1.016698	1.936193	0	64.10714
ESG score	2318	67.49478	16.49772	1.555589	95.6182

4.2 Variable's Specification

Table 2 shows the variables that were extracted to perform multivariate regression analyses:

Table 2. Selected variables.

Type of Variable	**Variable**

Independent variable	Year
Dependent variable	ESG Score
Control variable	N. employees (ln) Debt-to-Equity ratio Revenues (ln) ROE ROI ROA Industry

4.3 Independent Variable

Year. Since the study aims to analyze if, during the Covid-19 crisis (from the year 2020), companies continued to follow best practices in all ESG areas, we used the variable "year" to understand how and if, before and during the Covid-19 crisis, the ESG score changed. Therefore, with our variable, we can understand how companies continued to follow best practices in ESG even during the Covid-19 crisis.

Having data for the years 2018, 2019, 2020, and 2021, we analyzed the changes in the ESG score along the period (2018–2019, before Covid-19; 2020–2021, during Covid-19).

4.4 Dependent Variable

The key dependent variable of our analysis is the ESG score. According to the prior study of Gallo and Christensen (2011), we employed the multidimensional definition of corporate sustainable responsibility and concentrated on the three pillars: environ-mental, social, and corporate governance (ESG). The ESG score of Refinitiv Workspace calculates the mean of environmental, social, and governance scores. The ESG score ranges between 100 (highest ESG score) and 0 (lowest ESG score).

4.5 Control Variable

Care must be taken when making wide generalizations on company outcomes based on specific samples (Cooper et al., 1989). In order to compare behavior

among companies, a common ground must be established. According to prior studies (Murphy et al., 1996), we controlled for revenues and employees (as natural logarithm) to account for size. We included those controls because smaller firms might have access to a lower quantity of resources and, therefore, might invest less in ESG. We also included a control variable to capture cross-industry differences (industry) and a control variable to capture the company's financial position (debt-to-equity ratio). Moreover, we also included some control variables to account for firm performance (ROI, ROE, ROA). In fact, some studies explain that ESG scores are able to influence firm performance (Ferriani & Natoli, 2020; Dong et al., 2022; Beloskar & Rao, 2022). Therefore, we also included performance variables to account for those elements able to influence the results.

4.6 Estimation Technique

Since the study aims to observe companies' behavior across time, we built a panel dataset (also known as cross-sectional time-series data). Panel data allow to control for variables that are impossible to measure, such as cultural factors, differences in business practices across companies, or variables that change over time but not across entities (i.e., national policies, international agreements, federal regulations, etc.). This accounts for the individual heterogeneity.

Having a panel dataset allows the use of two widely used estimation techniques: fixed-effects and random-effects. To run our analysis, we used STATA statistical software (v17.0).

Even if, generally, studies used only one of the two estimation techniques, using the Hausman test (1978) to identify the best one, in this case, we used both methods to have more robust results.

The fixed-effects technique explores the relationship between predictor and outcome variables within an entity (company, country, person, etc.). Each entity has its own in-dividual characteristics that may or may not influence the predictor variables. When using a fixed-effects technique, we assume that something within the individual may impact or bias the predictor or outcome variables, and we need to control for this. This is the rationale behind the

assumption of the correlation between an entity's error term and predictor variables. Fixed effects remove the effect of those time-invariant characteristics so we can assess the net effect of the predictors on the outcome variable.

The rationale behind the random-effects technique is that the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model. Therefore, if there are reasons to believe that differences across entities have some influence on the dependent variable, it is better to use random effects. An advantage of the random-effects technique is that it is possible to include time-invariant variables (i.e., industry). In the fixed-effects model, these variables are absorbed by the intercept.

Since it is possible that differences across entities have some influence on the de-pendent variable, we tested the hypothesis using both estimation techniques.

To assess the relations, we used the STATA function "xtreg", which is able to estimate cross-sectional time-series regression models, and with "re" option (for the random-effects model) and with "fe" option (for the fixed-effects model).

5. Empirical Results

5.1 Regression Analysis

Table 3 reports the results of our hypothesis. All columns of Table 3 display the estimates and show a continuous and uninterrupted increase in the ESG score since the effect is positive and statistically significant. In fact, coefficients are positive and very significant ($p > 0.01$) for all the years of our analysis; specifically, we note that the ESG score has increased with a higher magnitude in the Covid-19 years (2020 and 2021) as compared to 2019. As expected, the ESG score in 2019 (ante Covid-19) increased (prior studies explained that companies were continuing to invest in ESG), with a coefficient of 1.765 or 1.770, but in 2020 and 2021, it increased by a higher amount (4.854 and 6.488 for years 2020 and 2021, fixed effects; 4.731 and 6.344 for years 2020 and 2021, random effects). Specifically, Table 3,

Column 1 reports the results of a fixed-effects regression of year on ESG score. Table 3, Column 2 reports the results of a random-effects regression of year on ESG score. Both regressions are significant. The results support our hypothesis and are consistent with an increase in ESG scores in contexts of crisis such as the Covid-19 pandemic, showing the relevance for the company for continuing to follow best practices in terms of ESG.

Table 3. Principal analysis.

	(1)	**(2)**
	Fixed Effects	**Random Effects**
Dependent Variable	**ESG Score**	**ESG SCORE**
year = 2019	1.765 ***	1.770 ***
	[0.382]	[0.374]
year = 2020	4.854 ***	4.731 ***
	[0.525]	[0.504]
year = 2021	6.488 ***	6.344 ***
	[0.593]	[0.580]
n. employees (ln)	5.700 **	2.745 ***
	[2.809]	[0.641]
Debt-to-Equity ratio	−0.347 ***	−0.307 ***
	[0.0732]	[0.0750]
Revenues (ln)	0.896	2.192 ***
	[1.595]	[0.625]
ROE	−0.373 **	−0.320 **
	[0.146]	[0.135]
ROI	−0.478 ***	−0.637 ***
	[0.0438]	[0.188]
ROA	2.241	−6.106
	[6.743]	[4.910]
industry		−0.0557
		[0.0417]
Constant	−9.496	−8.119
	[28.88]	[11.11]

Observations	1139	1139
R-squared	0.336	0.331
Number of FirmID	360	360

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

5.2 Robustness Checks

To validate our main findings, we implemented some robustness checks. The additional checks provide indication that our results are robust to different specifications.

5.3 Change of Control Variables

The investigation might be prejudiced by control variables able to influence the results. For this reason, we ran the models while considering the sensitivity to the exclusion of some relevant control variables (industry, performance variables, debt-to-equity ratio, number of employees), executing different models. The analysis results based on the exclusion of some control variables, reported in Table 4, confirm the baseline findings.

Table 4. Robustness checks analysis—change of control variables.

	(1) Fixed Effects	(2) Random Effects	(3) Fixed Effects	(4) Random Effects	(5) Fixed Effects	(6) Random Effects	(7) Fixed Effects	(8) Random Effects
Dependent Variable	ESG Score	ESG Score	ESG Score	ESG Score	ESG Score	ESG Score	ESG Score	ESG Score
year = 2019	1.856 ***	1.722 ***	1.873 ***	1.767 ***	1.991 ***	2.113 ***	1.765 ***	1.762 ***
	[0.287]	[0.285]	[0.282]	[0.279]	[0.330]	[0.316]	[0.382]	[0.375]
year = 2020	4.612 ***	4.282 ***	4.631 ***	4.361 ***	4.952 ***	5.092 ***	4.854 ***	4.717 ***
	[0.427]	[0.399]	[0.420]	[0.392]	[0.422]	[0.411]	[0.525]	[0.503]
year = 2021	6.348 ***	5.993 ***	6.306 ***	6.016 ***	7.025 ***	7.207 ***	6.488 ***	6.324 ***
	[0.498]	[0.480]	[0.489]	[0.474]	[0.487]	[0.472]	[0.593]	[0.579]
Debt-to-Equity ratio	−0.345 ***	−0.296 ***			−0.200 ***	−0.184 ***	−0.347 ***	−0.308 ***
	[0.0807]	[0.0770]			[0.0541]	[0.0462]	[0.0732]	[0.0754]

Revenues (ln)	3.367 ***	4.407 ***	3.848 ***	4.485 ***	1.161	1.639 ***	0.896	2.205 ***
	[1.211]	[0.394]	[1.242]	[0.395]	[1.143]	[0.603]	[1.595]	[0.624]
ROE	−0.377 **	−0.308 **	0.0765	0.0779			−0.373 **	−0.323 **
	[0.155]	[0.136]	[0.166]	[0.168]			[0.146]	[0.135]
ROI	−0.418 ***	−0.596 ***	−0.386 ***	−0.564 ***			−0.478 ***	−0.642 ***
	[0.110]	[0.188]	[0.139]	[0.183]			[0.0438]	[0.193]
ROA	−5.266	−11.87 ***	−4.764	−10.54 **			2.241	−6.485
	[5.282]	[4.321]	[5.397]	[4.351]			[6.743]	[4.891]
industry		−0.0424		−0.0390		−0.0377		
		[0.0364]		[0.0360]		[0.0399]		
n. employees (ln)					5.873 ***	3.476 ***	5.700 **	2.796 ***
					[2.198]	[0.560]	[2.809]	[0.639]
Constant	−9.709	−31.80 ***	−21.10	−34.06 ***	−17.21	−5.178	−9.496	−10.70
	[27.42]	[9.223]	[28.09]	[9.244]	[23.46]	[11.16]	[28.88]	[10.90]
Observations	1557	1557	1588	1588	1448	1448	1139	1139
R-squared	0.296	0.294	0.296	0.295	0.355	0.353	0.336	0.331
Number of FirmID	468	468	472	472	396	396	360	360

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

5.4 Censoring

As a further robustness check, we restricted the sample by considering different percentages of censoring. Specifically, we reduced the sample by dropping-out the values exceeding an upper limit (right censoring) or falling below a lower limit (left censoring) of the distribution. Table 5 shows the estimated effect of the Covid-19 crisis on company behavior considering a change in the sample size due to censoring of 1%, 2%, 5%, 10%, and 20%. Considering the different specifications, the effect with different sizes of censoring remains statistically and economically significant.

Table 5. Robustness checks analysis—censoring.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects
Dependent variable	ESG	ESG	ESG	ESG	ESG	ESG	ESG	ESG	ESG	ESG
Censoring	1%	1%	2%	2%	5%	5%	10%	10%	20%	20%
year = 2019	1.715 ***	1.718 ***	1.716 ***	1.721 ***	1.738 ***	1.748 ***	1.734 ***	1.751 ***	1.690 ***	1.723 ***
	[0.367]	[0.359]	[0.367]	[0.358]	[0.365]	[0.356]	[0.362]	[0.354]	[0.357]	[0.350]
year = 2020	4.759 ***	4.655 ***	4.743 ***	4.642 ***	4.721 ***	4.626 ***	4.662 ***	4.573 ***	4.509 ***	4.436 ***
	[0.498]	[0.478]	[0.498]	[0.478]	[0.498]	[0.477]	[0.495]	[0.475]	[0.491]	[0.472]
year = 2021	6.379 ***	6.259 ***	6.355 ***	6.239 ***	6.330 ***	6.224 ***	6.289 ***	6.192 ***	6.009 ***	5.942 ***
	[0.562]	[0.553]	[0.563]	[0.554]	[0.563]	[0.553]	[0.558]	[0.549]	[0.551]	[0.543]
n. employees (ln)	5.660 **	2.657 ***	5.698 **	2.649 ***	5.806 **	2.636 ***	5.966 **	2.589 ***	6.380 **	2.493 ***
	[2.801]	[0.618]	[2.803]	[0.617]	[2.796]	[0.614]	[2.789]	[0.606]	[2.803]	[0.585]
Debt-to-Equity ratio	−0.344 ***	−0.306 ***	−0.332 ***	−0.295 ***	−0.316 ***	−0.281 ***	−0.310 ***	−0.276 ***	−0.315 ***	−0.281 ***

	[0.0727]	[0.0744]	[0.0760]	[0.0794]	[0.0822]	[0.0869]	[0.0860]	[0.0906]	[0.0849]	[0.0885]
Revenues (ln)	0.928	2.208 ***	0.913	2.199 ***	0.860	2.171 ***	0.726	2.099 ***	0.407	1.922 ***
	[1.594]	[0.622]	[1.594]	[0.621]	[1.589]	[0.618]	[1.566]	[0.608]	[1.533]	[0.583]
ROE	−0.366 **	−0.316 **	−0.338 **	−0.290 *	−0.300 *	−0.254	−0.282	−0.238	−0.283	−0.242
	[0.144]	[0.135]	[0.151]	[0.149]	[0.169]	[0.174]	[0.181]	[0.186]	[0.179]	[0.181]
ROI	−0.478 ***	−0.573 ***	−0.477 ***	−0.572 ***	−0.476 ***	−0.571 ***	−0.471 ***	−0.569 ***	−0.464 ***	−0.569 ***
	[0.0419]	[0.106]	[0.0424]	[0.106]	[0.0434]	[0.106]	[0.0453]	[0.107]	[0.0447]	[0.115]
ROA	1.527	−6.218	1.434	−6.329	1.279	−6.529	1.325	−6.667	1.352	−6.877
	[6.602]	[4.811]	[6.601]	[4.811]	[6.598]	[4.813]	[6.604]	[4.805]	[6.548]	[4.719]
industry		−0.0554		−0.0561		−0.0566		−0.0577		−0.0601
		[0.0408]		[0.0407]		[0.0404]		[0.0397]		[0.0382]
Constant	−9.686	−7.506	−9.723	−7.230	−9.660	−6.520	−8.377	−4.640	−5.632	−0.129
	[28.87]	[11.13]	[28.86]	[11.11]	[28.79]	[11.06]	[28.49]	[10.86]	[27.83]	[10.42]
Observations	1139	1139	1139	1139	1139	1139	1139	1139	1139	1139
R-squared	0.343		0.342		0.342		0.342		0.332	
Number of FirmID	360	360	360	360	360	360	360	360	360	360

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

5.5 Changing Dependent Variable

As a further robustness check, we used as a dependent variable all the components of the ESG score (environmental, social, governance). Table 6 shows the estimated effect of the Covid-19 crisis on company behavior considering the components of the ESG score. Considering the different specifications, the effect with different sizes of censoring remains statistically and economically significant.

Table 6. Robustness checks analysis—changing dependent variables.

				(4)	(5)	(6)
Dependent Variable	Environmental Score (Fixed Effects)	Environmental Score (Random Effects)	Social Pillars Score (Fixed Effects)	Social Pillars Score (Random Effects)	Governance Pillars Score (Fixed Effects)	Governance Pillars Score (Random Effects)
year = 2019	1.704 ***	1.575 ***	1.713 ***	1.599 ***	2.133 ***	2.363 ***
	[0.464]	[0.445]	[0.448]	[0.433]	[0.748]	[0.749]
year = 2020	4.295 ***	4.044 ***	3.530 ***	3.191 ***	7.291 ***	7.494 ***
	[0.604]	[0.577]	[0.581]	[0.547]	[0.924]	[0.877]
year = 2021	6.064 ***	5.784 ***	4.497 ***	4.130 ***	9.739 ***	9.853 ***
	[0.736]	[0.715]	[0.597]	[0.608]	[1.110]	[1.016]
n. employees (ln)	1.805	1.630 *	4.544	3.560 ***	9.643 **	2.041 ***
	[3.773]	[0.957]	[3.049]	[0.765]	[3.982]	[0.776]
Debt-to-Equity ratio	−0.172	−0.177	−0.138 *	−0.107	−0.628 ***	−0.496 ***
	[0.132]	[0.129]	[0.0805]	[0.0808]	[0.0894]	[0.114]
Revenues (ln)	3.204	3.880 ***	−0.254	1.756 **	−0.0525	1.199
	[2.039]	[0.885]	[1.544]	[0.777]	[2.546]	[0.797]
ROE	−0.305 *	−0.305 *	−0.0898	−0.0455	−0.825 ***	−0.643 ***
	[0.173]	[0.168]	[0.113]	[0.107]	[0.191]	[0.248]
ROI	−0.104 **	−0.113 **	−0.316 ***	−0.461 ***	−1.126 ***	−1.401 ***
	[0.0492]	[0.0473]	[0.0479]	[0.157]	[0.0750]	[0.342]

ROA	−9.406	−14.97 **	8.818	−0.199	1.439	−8.567
	[9.051]	[7.293]	[7.510]	[6.349]	[17.14]	[11.14]
Constant	−26.76	−37.49**	31.69	−1.976	−30.07	16.42
	[36.69]	[16.85]	[29.25]	[13.33]	[44.07]	[13.99]
Observations	1136	1136	1139	1139	1139	1139
R-squared	0.216		0.154		0.253	
Number of FirmID	358	358	360	360	360	360

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

6. Discussion

Our findings add to the ongoing discussion of how the Covid-19 pandemic influenced company behavior in terms of ESG practices. Specifically, our results explain that during the Covid-19 pandemic, companies continued to invest in ESG, showing the relevance for the companies for continuing to follow best practices in terms of ESG, even during instable times.

Our findings are consistent with prior literature that explain how, in difficult environmental contexts such as that caused by the Covid-19 pandemic, investments in ESG can improve the environment in which companies operate (Garcia-Sanchez & Garcia-Sanchez, 2020).

Therefore, even if the Covid-19 pandemic has altered the way in which companies allocate their resources (Cardillo et al., 2022; Singh, 2022), this shock did not induce companies to decrease their ESG interest, probably because they wanted to exploit the benevolent effects of investments in ESG, intended to reduce the damage caused by Covid-19.

In conclusion, the pandemic has created a new balance in corporate interests, prompting companies to balance their efforts between profit orientation and social responsibility, and in this new context, companies decided to change their resource allocation, but without removing resources from ESG investments (Singh, 2022).

First, our paper contributes to the existing literature on ESG and on Covid-19 effects. Prior studies focused principally on the correlation between ESG and the Covid-19 pandemic from an investor point of view; in this study, we

completely changed the perspective, and we analyzed how companies changed their behavior during COVID-19 (Ferriani & Natoli, 2020; Omura et al., 2020; Silva & Cortez, 2020; Alessandrini & Jondeau, 2020).

Second, the study contributes to the literature on ESG and legitimacy theory (Dowling & Pfeffer, 1975), providing empirical evidence on the strategic choices made by companies during the Covid-19 pandemic.

Third, the study advances our knowledge about the investment choices in the ESG field, highlighting the propensity of European listed companies to undertake (or continue) ESG practices and, therefore, to invest in these activities.

The study is useful to understand the priority of the interests of the companies, during turbulent times, and it revealed that one of the primary interest of companies is investing in ESG.

7. Limitations and Further Research

While this study aims to provide a novel contribution to the emerging literature on the effects of the Covid-19 pandemic on ESG practices, it is still explanatory and presents some limitations that must be considered when approaching this topic, analyzing the results, and generalizing its findings.

First, this study takes advantage of the unique setting in Europe, and the limited sample size and country-specific characteristics inevitably influence the study results and affect their generalization. Future studies might repeat the analysis by extending the investigation to other countries (i.e., United States, China, etc.), providing a cross-country comparison or, on a longitudinal basis, monitoring the progress of companies' disclosure over the years.

Second, our analysis does not consider any governance of internal organizational factors, such as board composition, organizational size, resources and capabilities, in-tangibility, and economic performance.

Future studies might consider the effects of institutional, governance, and organizational characteristics on ESG practices and, at the same time, could analyze, through means of qualitative research methods, motivations and drivers of these practices.

These research directions would provide a complete and more in-depth picture of ESG practices, generally considered a topic of crucial importance. Thus, these topics offer relevant opportunities for future research within the corporate sustainability academic domain.

8. Conclusion

The study examines the effect of the Covid-19 pandemic on environmental, social, and governance (ESG) performance for European listed companies included in the STOXX 600 index. Moreover, the purpose of the study is to understand if and how the Covid-19 pandemic influenced (and still influences) the behavior of European companies in terms of best practices in ESG. The sample, analyzed using a fixed-effects and a random-effects technique, comprises 600 European listed companies and covers the period from 2018 to 2021; therefore, we performed our analysis using 2400 observations. We have also run several robustness checks through which we can confirm the baseline hypothesis.

Prior studies have principally focused the analysis on the correlation between ESG and the Covid-19 pandemic from an investor point of view (Singh, 2020; Dong et al., 2022; Singh, 2022; Yoo et al., 2021). In this aspect, several authors show that companies with higher ESG scores are subject to lower risk and remain stable during turbulent times (Rubbaniy et al., 2021; Pavlova & de Boyrie, 2022) while other studies arrive at opposite results (Demers et al., 2021). Other studies have focused their attention on the effect of the Covid-19 pandemic on firm behavior, such as logistic management, the management of the labor force, gender diversity, the moving of the production plants, and cash flow management (Bosone et al., 2022; Adams & Abhayawansa, 2022). Despite the previous studies, there are no contributions focused on the examination of how companies responded during the Covid-19 pandemic in terms of ESG practices.

This paper provides the first evidence of how companies responded, in terms of following the best ESG practices, to the global crises induced by the Covid-19 pandemic. We discover that although the Covid-19 pandemic heavily influenced firm behavior in terms of workforce, investments, supply chain,

etc., it did not affect the firm tendency to follow the best ESG practices, since like in the pre-Covid-19 period, they continued to invest in ESG with notably results in terms of the ESG score.

Considering the lack of studies about the ESG practices actuated by the company in order to respond to the Covid-19 crisis, our article adds, as the most important contribution, supplementary information and considerations to the uncompleted debate that examines the effects of external shocks on ESG performance. Second, our findings confirm the relevance for firms of ESG practices, and in some cases, especially during turbulent times. Indeed, ESG practices are always one of the primary interests of companies, be-cause companies know that through these practices, it is possible to reduce the negative effects caused by exogenous shocks of the market not dependent on the behavior of the companies. Above all, ESG practices help companies obtain a fair and ethical image, increasing their legitimacy and helping them to gain a competitive advantage over other companies.

This implies that companies should not stop investing in ESG even during turbulent times with external and unprecedented shocks, since is a general primary interest of all companies to continue to invest in ESG in any circumstances. Entrepreneurs should be aware that stopping to invest in ESG may generate a gap between them and the entrepreneurs who continue to invest in ESG in all the conditions. Therefore, during periods of economic downturn such as during Covid-19, companies should save money and continue to invest in ESG, in order to continue to perform better, as explained by prior studies that show a positive correlation between ESG and performance.

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CHAPTER 2

The effects of Audit Committee characteristics on ESG performance ([5])

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1. Abstract

In recent years, the attention of various stakeholders (primarily shareholders, credit institutions, and regulatory authorities) towards corporate social responsibility is constantly growing. In line with agency, institutional, and legitimacy theories, companies carry out internal control activities to detect any social and environmental problems. The characteristics of the Audit Committee (AC) are commonly considered levers able to: make the supervision of company activities more efficient, balance the objectives of managers and stakeholders and, especially in recent years, improve ESG (Environmental, Social and Governance) performance. This study analyses the effects of some characteristics of the Audit Committee members (independence, tenure, and expertise) on non-financial performance (ESG performance). In this context, considering the Non-Financial Reporting Directive (Directive 2014/95/EU) the study has assessed the ESG performance of the companies listed on the main European stock exchanges market in the period 2017 - 2020. Both the ESG performance values and the

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Audit Committee characteristics are collected through the Refinitiv Workspace database and analyzed by ordinary least squares (OLS) panel regression analysis. Our results support the hypotheses that AC independence and AC expertise are positively and significantly related to ESG performance while AC tenure represents an attribute that negatively affects ESG scores. The study offers both theoretical and practical implications capable of improving the approach to non-financial reporting and also helps to strengthen the debate on the relevance of the characteristics of the Audit Committee concerning ESG performance. In particular, corporate decision-makers can improve the legitimacy of their business operations by establishing independent and highly expertised ACs that promote disclosure of ESG information. Similarly, enhanced ESG disclosure can also mitigate agency conflict by reducing the information gap between corporate managers and shareholders. We finally provide relevant theoretical and practical implications to improve ESG reporting quality and quantity by using robust and self-regulating internal control systems. Specifically, our analysis has policy implications as well, as it adds to the ongoing debate on the impact of the AC's monitoring activities on ESG engagement and ESG scores and their influence on risk measurement and disclosure. In addition, this paper provides managers with a better understanding of the complex relationships between the Audit Committee quality and non-financial performance. Consequently, they make better decisions on the proportion of independent and expert members in the Audit Committee, so that they can achieve more improved ESG performance.

2. Introduction

The Audit Committee is an internal structure responsible for overseeing and monitoring all internal and external audit activities of a company. Its role is to appoint external auditors, meet regularly with managers and external auditors to evaluate financial statements and communicate with internal and external auditors during the external and internal audit process. In the past, several studies have explored the effects of AC characteristics (such as independence) on the financial performance (Aldamen et al., 2012) and the non-financial performance of companies (such as CSR performance).

Nowadays, non-financial performance is a key indicator for responding to the growing expectations that companies are subjected to, such as being increasingly responsible towards the environment and society in which they operate. Companies' responses to these expectations affect a variety of stakeholders, such as shareholders, customers, regulators, employees, suppliers, activists, media, and financiers (Arif et al., 2021; Camilleri, 2015; Sajjad et al., 2020).

Corporate Social Responsibility (CSR) has played and is playing, a crucial role in international business and Corporate Governance (CG) doctrine (Johnson & Greening, 1999). In particular, CSR reporting and compliance, together with existing corporate governance best practices (ESG - Environmental, Social, and Governance), have received much attention from managers as they consider it an indispensable tool to channel their efforts toward creating a more sustainable environment and society. Sometimes, however, managers' commitment to socially useful activities can be used by them to conceal attempts to maximize their interests at the expense of those of shareholders. Indeed, according to Broadstock (2019), managers often support ESG activities to enhance their reputation and self-interest, exploiting the management of non-financial disclosure to their benefit and thereby intensifying agency problems.

In line with institutional theory and legitimacy theory, companies disclose positive non-financial information (including social and environmental information) to sustain their legitimacy in the socio-economic environment in which they operate. In this context, AC members play a key role in ensuring an acceptable level of trust for stakeholders.

In particular, the presence of internal controls helps to mitigate the information asymmetry between companies and stakeholders (Jensen & Meckling, 1976; DeAngelo 1981a).

This article aims to verify the impact of the quality of the AC, determined by certain characteristics of its members, on the environmental, social, and governance (ESG) performance of companies listed on the main European stock markets. Therefore, the objective is to understand how the aforementioned determinants (measured by the AC's independence, tenure, and competence score) can influence the ESG score of companies. ESG

performance and AC characteristic scores were collected via Refinitiv Workspace and subsequently analyzed using the ordinary least square (OLS) panel regression model for the period 2017-2020. The sample investigated consists of companies listed on the stock markets of the main European countries: France, Germany, Italy, and Spain. The selection of these countries was made after several considerations. Firstly, it was chosen to investigate companies operating in countries belonging to the European Union because of the recent and ongoing legislative commitment implemented by the EU regarding CSR and sustainability issues (European Commission, 2001). In this regard, particular reference is made to the recent Non-Financial Reporting Directive (Directive 2014/95/EU) which takes into consideration many characteristics and information concerning ESG disclosure. Secondly, the choice of the analyzed countries is also justified by the fact that those selected are the members of the European Union with the highest Gross Domestic Product (GDP).

The results of the study indicate a statistically significant positive correlation between selected characteristics of the AC and the ESG score. In particular, the association between independence and the degree of experience of the AC and the ESG score is significant and positive. On the other hand, there is a negative and significant correlation between the duration of the audit engagement and the ESG score. In conclusion, our results show higher ESG scores in contexts where the members of the AC are independent, experienced, and in office for a few years.

The contribution of this work validates the importance of AC characteristics in improving ESG performance. In, the study provides significant insights into the role of independence and competence of AC members in improving the quality and quantity of ESG performance of EU companies. The results show that managers have the opportunity to improve the legitimacy of their operations by establishing independent, highly competent, and low seniority AC. Similarly, the presence of an AC competent also leads to better disclosure of ESG activities. For example, the information gap between managers and shareholders is reduced, limiting (and in some cases, eliminating) agency problems.

This article is organized as follows. First, the institutional context and the relevant theories are described. The third section presents the literature review and the hypotheses development. The fourth section presents the methodology, the sample data, the variables considered, and the analysis technique. The fifth section presents and comments on the results of the analysis. The sixth section focuses on the discussion of the results. Finally, conclusions are given with some comments on the contributions and implications of the study.

3. Reference Theories

As indicated by previous studies (Arif et al., 2021; Michelon & Rodrigue), companies are strongly interested in providing non-financial disclosure to address issues of agency conflict (agency theory), legitimacy (legitimacy theory), and institutionality (institutional theory).

According to the agency theory (Jensen & Meckling, 1976), managers have the opportunity to manage information flow and increase information asymmetry with stakeholders by disclosing less information. Agency theory states that the pressure exerted by investors, purely external ones such as institutional investors, is a necessary tool to motivate managers to maximize the value of the firm instead of exclusively pursuing managerial goals that could be detrimental to the firm in the long run (Shleifer & Vishny, 1986). Investors (but in general stakeholders) can put pressure on the company to establish control and monitoring instruments, such as the AC. This can then seek to limit the consequences of any opportunistic behavior by managers and implement incentive systems to reduce the divergence of interests between managers and stakeholders (Watts & Zimmerman, 1986; Bacha et al., 2020). In essence, the monitoring activity carried out by the AC implies better management of the company and a reduction of information asymmetry, achieved through the qualitative and quantitative increase of financial and non-financial disclosure related to sustainable issues (CSR and ESG) (Dwekat et al., 2020).

According to the legitimacy theory, companies tend to disseminate more information about their social commitment to legitimize their presence in the

socio-economic environment in which they operate (Deegan, 2006; Cormier & Gordon, 2001; Suchman, 1995). ESG disclosure, in this sense, can be used as a tool to convey the message to society that the company is aware of and committed to meeting stakeholder expectations. Legitimacy theory emphasizes the role of ESG disclosure in gaining legitimacy for society concerning the environmental or social impacts caused by the company (Xie et al., 2019). The ESG legitimacy of a company is a strong motivation to implement non-financial disclosure (Lokuwaduge & Heenetigala, 2017). This aspect, several previous research have shown that AC independence is essential to increase the quality of financial (Pucheta-Martìnez & De Fuentes, 2007; De Zwaan et al., 2011) and non-financial reporting (Appuhami & Tashakor, 2017). Given that, as pointed out by part of the reference doctrine (Santamaria et al., 2020), legitimacy can be achieved through non-financial disclosure within the documentation published by companies, the presence of a body that carries out control activities, such as the AC, firstly increases the quality of the disclosure itself and, secondly, favors the legitimacy of companies in the socio-economic context in which they operate.

Finally, institutional theory should also be considered for the present study since companies are influenced by the legislative system and the presence of organizations (non-governmental and independent) that monitor their behavior (Baldini et al., 2018; Campell, 2007). Indeed, the institutional theory is based on the effect of the social or cultural environment on organizations (DiMaggio and Powell, 1983). In this sense, a fundamental role is played by the European Union which, through its legislative apparatus, has ensured that companies increasingly adopt an approach aimed at corporate sustainability also through a constant evolution of their governance and internal control systems. This framework shows that companies are influenced by broader societal structures, such as public regulations, private regulations, and the presence of (non-governmental and independent) organizations that, by monitoring company behavior, influence the activities of companies and their operations.

In support of the aforementioned theory, it should be borne in mind that the most recent European regulatory intervention, effective as of 2024 and called the Corporate Sustainability Reporting Directive (CSRD), envisages the

introduction of new and more detailed reporting requirements for non-financial activities, which imply an increasing focus on the characteristics of AC, considered as a tool to improve the disclosure and non-financial performance of companies.

4. Previous studies and Hypotheses Development

4.1 The role of the Audit Committee in corporate governance as a tool to reduce information asymmetry

The control and monitoring function of the Audit Committee (AC) has, over the past two decades, assumed an increasingly central role in the dynamics of corporate governance.

In particular, the role of the AC in recent years has been the subject of interest from institutions, professional committees, and academics.

Over time, European institutions have sought to foster the definition of an internal audit body for companies characterized by an appropriate level of technical expertise and a significant degree of independence. The achievement of these objectives has been sought through various regulatory interventions and guidelines such as, for example, the Recommendation of the Commission of the European Communities 2005/162/EC and the Auditor Independence Policy published by the European Central Bank in 2018.

In addition, reports and guidelines have been drawn up by various professional associations (BRC, 1999) and consultancy firms (KPMG, 1999) concerning the composition of the AC, its formal responsibilities, and guidance on how to implement its effectiveness.

These initiatives are part of a broader process of harmonization and convergence that has long been investigated by scholars.

The activities performed by the AC should allow for more effective supervision of the preparation of financial and non-financial disclosures (Safari, 2017). Achieving this objective, as shown by several studies (Owolabi & Dada, 2011), can make the corporate governance of companies more reliable and efficient.

Also, according to more recent studies (Buallay & Al-Ajmi, 2020), the success of corporate governance is largely influenced by the AC, which aims

to implement auditor independence and efficiency to enable more reliable (financial and non-financial) disclosure, which is crucial for improving decision-making processes of both managers and shareholders (Dezoort et al., 2002).

With specific reference to the latter aspect, much of the literature agrees that internal and external controls reduce the risk of publishing untrue information by empowering shareholders to make decisions based on verified and reliable information (Watts & Zimmerman, 1986).

As is well known, the separation between 'ownership' and 'management' of companies, which sometimes also manifests itself through the possible manipulation of information flow by managers, can lead to agency problems (Jensen & Meckling, 1976). The AC is considered by the majority doctrine to be a body of unquestionable importance so that the interests of shareholders are not overridden by opportunistic behavior on the part of managers (Dwekat et al., 2020).

The presence of an AC, in this context, not only ensures better monitoring of managers' actions but at the same time causes information asymmetry to be reduced and increases the degree of protection perceived by shareholders (Klein, 2002).

In line with the content of the agency theory, the presence of the AC allows the internal control mechanisms a greater alignment of shareholders' interests with those of the managers (Fama & Jensen, 1983).

For some authors (Waddock & Graves, 1997), the presence of strong and well-developed corporate governance, even more so in a time of crisis, is an essential condition for ensuring corporate success in the medium to long term. Just with specific reference to control activities, several scholars (Albitar et al., 2021) emphasize how Covid-19 constituted a pitfall for companies (Savio et al., 2023; Ferri et al., 2023), to the extent that only a growing interest in AC activities could safeguard investors' interests (Mardessi, 2021).

In this regard, it seems interesting to note how, in the more recent past, there has been a progressive increase in the number of studies that have decided to investigate specialized board committees (Upadhyay et al., 2014; Kolev et al., 2019; Sannino et al., 2021) as critical tools for the proper functioning of corporate governance systems.

These studies, in the writer's opinion, will be even more valuable in the future in light of the new regulatory intervention, according to which the regulation concerning the 'Non-Financial Declaration' (NFD) will give way to the Corporate Sustainability Reporting Directive (CSRD) as of 2024. In addition to providing for the introduction of new and more detailed reporting obligations for a larger number of companies, this directive presents new features, such as: (a) the disappearance of the term 'non-financial information' and the introduction of the term 'sustainability reporting', which replaces the previous reference to 'non-financial reporting'; (b) the obligation to apply reporting standards issued by the European Union on ESG issues; (c) the provision of the so-called 'limited assurance' for all companies, and (d) the introduction of a new 'non-financial reporting' system for all companies. so-called 'limited assurance' for all sustainability reports, to achieve 'reasonable assurance' (i.e. that typical of economic-financial reporting) within a limited timeframe.

In such a scenario, the analysis of AC characteristics capable of improving disclosure and non-financial performance will play an increasingly crucial role in the definition of corporate governance capable of adding value to the company and reducing agency problems.

4.2 The role of the Audit Committee in financial and non-financial performance (ESG)

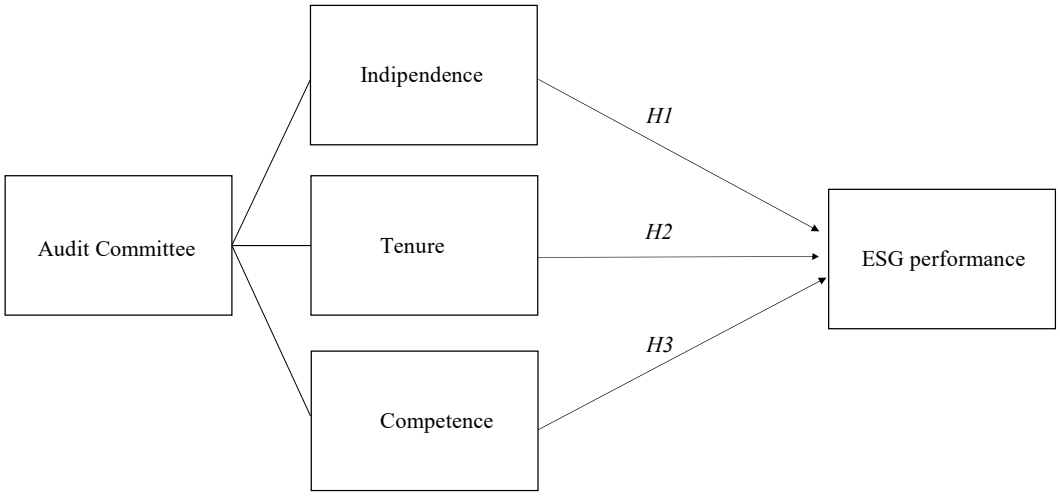
In recent years, there has been a strong and growing interest in the role of the Audit Committee as a control instrument forming part of corporate governance (Buallay et al., 2020). In an efficient and effective corporate governance, the Audit Committee is responsible for pursuing and achieving several objectives, including improving board oversight, improving the quality of disclosure (financial and non-financial), and reducing information asymmetry.

Due to the growing importance of corporate social responsibility, and ESG disclosure in particular, markets are assessing not only the financial performance of companies but also their non-financial performance (Arif et al., 2021). The role of non-financial disclosure, therefore, is increasingly strategic and crucial in the value creation dynamics in companies as more and

more transparency in reporting is required (D'Amico et al., 2016). Non-financial disclosure, in particular, is becoming one of the primary responsibilities of the AC, given the latter's role in monitoring the company's activities and promoting shareholder trust. Indeed, the AC represents the key mechanism available to companies to increase the quality of reporting on non-financial performance and governance (Chaudhry et al., 2020). In this context, certain characteristics of the Audit Committee can play a key role in the pursuit of the aforementioned objectives. Indeed, it has been shown that the experience of the AC members has great relevance not only in the reporting process but also in the realization of non-financial performance (Cohen et al., 2013). As reported later in the article, ACs are strongly influenced by certain characteristics, such as the independence, competence, and seniority of their members.

The objective of this study is to investigate whether these characteristics affect, and how, the ESG performance of companies.

Image 1 - Hypotheses Development



4.3 Independence of the Audit Committee and ESG score

The independence of the Audit Committee consists in the absence of any relationship between the members of the AC and those of the board of directors. This characteristic, according to some scholars (Bronson et al., 2009) can increase the supervisory capacity and effectiveness of the monitoring carried out by the AC. Therefore, the stakeholders' perception of

a high degree of independence of the AC increases the degree of trustworthiness of the same towards not only the corporate disclosure (financial and non-financial) but, in general, towards the managers' actions.
Concerning the percentage of independent AC members, the European legislative apparatus, unlike that of the US, which (by the Sarbanes-Oxley Act) provides for the independence of all AC members (Defond and Francis, 2005), does not set any particular obligations on companies.
Several scholars have emphasized the importance of this feature by pointing out that the independence of the AC has a markedly positive effect on the non-financial disclosure of companies (Appuhami et al., 2017). According to Buallay & Al-Ajmi (2020), moreover, the areas in which AC independence is most effective are disclosure, corporate governance, and audit. This is supported by the fact that, as highlighted by several studies (Baxter and Cotter, 2009), the independence of the CA plays an essential role in increasing the effectiveness of controls during the preparation of the financial statements and, above all, during the financial reporting process (Klein, 2002). In particular, as far as financial and non-financial reporting is concerned, several scholars (Mangena & Pike, 2005; Pucheta-Martìnez & De Fuentes, 2007) affirm that an independent AC can promote credibility and transparency thanks to the better control and monitoring carried out during the disclosure control activities. Moreover, the independence of the Audit Committee is indicated by some scholars (Arif et al., 2021) as one of the key variables for improving the quality and quantity of ESG reporting.
Previous research shows, in essence, a positive effect of AC independence on both financial and non-financial reporting.
What, at present, has only been investigated in depth by recent studies (Santamaria, R. et al., 2021) is, on the other hand, the effect of AC independence on ESG performance. In particular, the debate on the correlation between AC independence and non-financial performance (ESG) is still alive, and while some studies point to a positive influence of AC independence on ESG performance (Hussain et al., 2018; Broadstock et al., 2021), others emphasize the opposite (Mallin et al., 2013).

In order to verify the possible correlation between the degree of independence of the AC and ESG performance, our first hypothesis (H1) proposed is therefore as follows:

H1. *A high level of independence of the Audit Committee implies a higher ESG performance.*

4.4 The duration of the Audit Committee assignment and the ESG score

The idea behind the mandatory rotation of the Audit Committee has its roots in the Sarbanes-Oxley Act (2002) (Defond & Francis, 2005). According to Carcello & Nagy (2004), federal regulators, such as the General Accounting Office, the New York Stock Exchange, and the Commission on Public Trust and Private Enterprise, have suggested that the periodic change of AC members voluntarily can improve the quality of the activities performed. Although, as seen, the interest of regulators, policymakers, and large institutional investors in studying the effects of AC tenure is intense, the relevant literature is not yet unanimous in indicating what the correlation is between the seniority (tenure) of AC members and the quality of the activities they perform (Carcello & Nagy, 2004). While some researchers discuss the necessity of frequent rotation of AC members (Healey & Kim, 2003; Geiger & Raghunandan, 2002), others find a positive impact of the tenure of the same AC members on the quality of the control activities performed (Defond & Francis, 2005; Anis, 2014; Ghosh & Moon, 2005).

Changing AC frequently could, according to this assumption, produce lower quality controls and increased costs. For example, Johnson et al. (2002) state that as the AC-client relationship is prolonged, 'learned confidence' mechanisms develop in the client such that they lead to a better quality of control activities performed by the AC.

On the other hand, the longer AC members stay in a company, the more they get to know its human resources, strategy, and intrinsic values. According to Hills (2002), forcing AC to change periodically would condemn companies to mediocrity. On the contrary, some authors, such as Davis et al. (2007) and Casterella et al. (2002), in this regard, found that the quality of control activities is lower with multi-year tenures of the AC. In this sense, the tenure

of the AC may lead to a loss of independence of the same body. A possible explanation for this hypothesis could lie in the fact that AC members with longer tenures are less independent due to the relationships they develop with the CEO and other control bodies (Aldamen et al., 2012).

The literature concerning the effects of AC tenure on non-financial performance, apart from disagreeing, has not been investigated more recently. The present study, in our opinion, therefore, takes on an even more significant role if contextualized with the recent initiatives of the European institutions (Directive on Corporate Sustainability Due Diligence of February 2022), which envisage, among other things, a due diligence obligation of directors aimed at considering sustainability factors in the medium and long term, also directly connected to the turnover rate of the AC members.

Thus, in this article, we seek to provide new evidence to test the effect of Audit Committee tenure on ESG performance.

Therefore, our second hypothesis (H2) is as follows:

H2. *A high level of seniority (tenure) of the Audit Committee (low level of auditor rotation) may produce a lower ESG performance.*

4.5 The degree of competence ([6]) of the Audit Committee the ESG score

The Securities and Exchange Commission (2003) defines the degree of financial competence as the combination of accounting experience, supervision of financial professionals, and supervision of a company's performance.

In contrast to the European context, the experience of AC members is a highly incentivized aspect in the North American context where the Sarbanes-Oxley Act includes specific provisions to increase the effectiveness of the AC (Rupley et al., 2011).

Some scholars (Baxter and Cotter, 2009) regard financial competence as a key characteristic for enhancing the effectiveness of AC activities. Furthermore, Sultana & Mitchell Van der Zahn (2015), recalling agency

([6]) For the purposes of this study, the "degree of competence" refers to the competence of the members of the Audit Committee on financial and accounting matters.

theory, argue that AC competence is a positive tool for developing a more rigorous internal control system and risk management framework.

Following in this wake, several studies show a positive correlation between AC expertise and the quality of financial reporting (Mangena & Pike, 2005; Mnif Sellami & Borgi Fendri, 2017). Obviously, this association is due to the better monitoring provided by the expert members of the AC that allows them to notice attempts to distort accounting information. In addition to these studies, Velte et al. (2018) suggest that the presence of sustainability and finance expertise ensures better drafting of Integrated Reporting which derives a reduction in information asymmetry.

Contrary to the above, part of the literature (Krishnan & Visvanathan, 2008) suggests that more experienced AC members, being in charge of reducing and mitigating business risks, provide conservative reports without appropriately and truthfully stressing 'good news'. In other words, given the better monitoring capacity determined by the experience of AC members, some scholars suggest that the presence of members with high financial experience increases the conservatism of the AC (Widyasari and Ayunda, 2020). Thus, considering the non-restrictive CSR disclosure requirements, experienced AC members will tend to reduce risk by not providing too much information (e.g. on ESG performance). In this regard, Musallam (2018) found that there is a negative correlation between audit committee financial expertise and CSR disclosure.

Regarding the correlation between AC experience and non-financial performance, the literature does not come to a unanimous conclusion although according to some scholars, the presence of more experienced AC members is positively correlated with better non-financial performance. Indeed, more experienced AC members allow for a more appropriate analysis of financial and regulatory risks related to the sustainable activities undertaken by the company (Shaukat et al., 2016).

The latter strand of studies makes it possible to assume that in the presence of an experienced AC, there will be higher ESG performance and disclosure, if any.

Considering that, to the best of our knowledge, the effect of AC competence on ESG performance has not been the subject of many studies and in-depth

investigations, especially in the recent past, we seek to verify the presence (or absence) of a relationship between these two variables.

Our third hypothesis (H3) is therefore as follows:

H3. *A high level of competence of the Audit Committee can produce higher ESG performance.*

5. Research Methodology

5.1 Sample selection and empirical approach

Although the identification of a perfect institutional frame of reference may be difficult, several elements make the European context suitable for the study carried out. First, Europe is characterized by significant geographical and social differences. Secondly, European companies listed on stock markets are obliged to disclose information on audit and ESG results in compliance with EU Directive 95/2014. Some authors (Raucci & Tarquino, 2020) show that precisely after the introduction of the aforementioned Directive, companies in several countries (including Italy) seem to focus at least on the indicators deemed most 'relevant' under the Directive. The sample of companies used in this study, therefore, is not influenced by selection bias (a problem that generally exists in analyses that consider data provided voluntarily by companies). Third, the focus on a single geographic area (although there are some cultural differences between European countries) reduces the risk of an omitted variable problem that characterizes studies on multi-geographic areas, where it is difficult to control for all characteristics of the geographic area that simultaneously influence the dependent and independent variables (De Jong et al., 2008).

To perform the analysis, we built a database with corporate data extracted from Refinitiv Workspace, a database containing both ESG scores (i.e. the quantification of ESG performance) and information on the characteristics of the Audit Committee members. The ESG score provided by Refinitiv Workspace is estimated using information from annual reports, non-financial reports, company websites, etc. Refinitiv Workspace is considered the world's largest ESG rating (Dorfleitner et al., 2020).

The database we constructed includes information on 262 listed companies based in one of the four European countries with the highest Gross Domestic Product (Germany, France, Spain, Italy), for the period 2017-2020, belonging to all sectors (including banking and insurance), for a total of 1,310 observations.
Of the 262 companies, 93 are based in France, 85 in Germany, 43 in Italy, and 41 in Spain.

Table 1 - Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ESG score (0 - 100)	1,310	65.8	17.6	1.0	94.3
Audit Committee Independence (0 - 100)	1,309	52.8	27.0	0.5	96.7
Audit Committee Tenure (n. of years)	1,310	4.5	2.6	1.0	15.0
Audit Committee Expertise (0 - 100)	1,310	51.0	31.1	3.4	73.7
Total assets (natural log)	1,304	10.2	0.8	8.1	12.3

Below is the average ESG score of the companies per country, showing the highest average value for companies based in France and the lowest average value for companies based in Italy.

Country	Average ESG score
France	69,1
Germany	63,1
Italy	62,7
Spain	67,3

In addition, the average ESG score of the companies for each year is reported, from which a steady and gradual improvement over time can be inferred.

Year	Average ESG

	score
2017	63,3
2018	66,6
2019	68,9
2020	69,7

Finally, companies were grouped into four subgroups on the basis of size (in terms of assets), which showed that larger companies tend to have higher ESG scores.

Size	Average ESG score
1	54,5
2	64,4
3	71,3
4	75,6

5.2 Details of variables

5.2.1 Independent variables

The independent variable of the model used in our study is the Audit Committee quality. We constructed the variable of Audit Committee (AC) quality from the information used by Refinitiv:

- Independence of the AC (IA)
- AC seniority (TA)
- Competence of the AC (AE)

Based on previous studies (KRISHNAN, 2005), we considered as independent the "current or former officers or employees of the company or a related entity, relatives of management, professional advisors to the company, (e.g., consultants, bank officers, legal counsel), officers of significant suppliers or customers of the company, and interlocking directors" (Carcello & Neal, 2000). Therefore, with our variable, we classify those members of the Audit Committee who do not have the above-mentioned characteristics as independent. Our AC independence variable (AI) is created

using the number of independent members in the AC. The AI indicator varies between 100 (highest independence) and 0 (lowest independence).

The tenure of Audit Committee (AC) members is measured in years. In our dataset, the average number of years of tenure of members in the AC is reported.

The competence of the members of the Audit Committee (AC) is a dummy variable that takes the value 1 if the company has an AC with at least three members and at least one 'financial expert', as defined by Sarbanes-Oxley, and 0 otherwise.

5.2.2 Dependent variables

The dependent variable in our analysis is the ESG score. Following the approach of Gallo and Christensen (2011), the multidimensional definition of sustainable corporate responsibility was considered in this study, and we focused on the 3 ESG pillars: environmental, social, and corporate governance. The Refinitiv Workspace ESG score calculates the average of environmental, social, and governance scores. The ESG score varies between 100 (highest ESG score) and 0 (lowest ESG score).

5.2.3 Control variables

To account for time differences and those inherent in the size of the companies analyzed, which may influence the correlation between Audit Committee quality and ESG score, we used some control variables without which endogeneity problems could occur.

Since smaller companies in terms of turnover may have access to fewer resources to invest in ESG activities, we used the natural logarithm of the assets owned by the company (natural logarithm of total assets) as a control variable.

In addition, we also considered two control variables respectively to account for differences between countries (country) and between sectors (industry).

5.2.4 Estimation techniques

Since the implementation of the OLS model may generate biased estimates due to undetected heterogeneity, we performed the Hausman test (1978) to define the recommended model for the study between the fixed-effects model and the random-effects model. The chi-square value is 0.96 and is therefore not significant. This implies that the random-effects model effectively explains the relationships of the hypotheses. To assess the relationships, we used the STATA function "xtreg", which can estimate cross- sectional time series regression models and, with the "re" option, estimates the random effects model (Stata, 1999; Afuah, 2002).

To corroborate this, we also implemented the Breusch-Pagan test for random effects (function 'xttest0' in STATA). The results of the test are significant and show that the random-effects model is suitable for the data set (Bustamente, 2019).

6. Empirical results

6.1 Regression analysis

Table 2 shows the results of hypotheses H1, H2, and H3. The columns in Table 2 report the results of the analysis showing that all 'sub-indices' of the independent variable have a statistically significant effect on the ESG score and thus influence it.

Specifically, Table 2, column 1, reports the results of a random-effects regression of AC independence on the ESG score. Table 2, column 2, reports the results of a random effects regression of AC seniority on ESG score. Table 2, column 3, reports the results of a random effects regression of the competence of the AC members on the ESG score. All regressions are significant. However, the effect is positive for AI and AE, while it is negative for AT. The results support H1, H2, and H3 and are consistent with an increase in the ESG score in contexts where audit committee members are independent and experienced and when their tenure is short.

Table 2 - Regression results

Variables	(1) Audit Independence (AI)	(2) Audit Tenure (AT)	(3) Audit Expertise (AE)
ESG Score	0.0639***	-0.177*	0.0142*
	[0.0139]	[0.0967]	[0.00838]
Total assets (ln)	10.69***	11.00***	10.76***
	[1.042]	[1.054]	[1.045]
year = 2017	2.398***	2.468***	2.469***
	[0.469]	[0.471]	[0.473]
year = 2018	5.482***	5.758***	5.651***
	[0.470]	[0.476]	[0.472]
year = 2019	7.364***	7.782***	7.617***
	[0.475]	[0.483]	[0.475]
year = 2020	7.896***	8.387***	8.116***
	[0.481]	[0.500]	[0.481]
Constant	-50.92***	-50.16***	-49.13***
	[10.59]	[10.70]	[10.61]
Observations	1,303	1,304	1,304
Number of id	262	262	262
Year REs	Yes	Yes	Yes
Firmid	Yes	Yes	Yes

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

6.2 Robustness checks

To validate the results shown above, we performed some robustness checks. The additional checks indicate the robustness of the results against different specifications.

The survey could be biased by control variables that could influence the results. For this reason, we performed an analysis taking into account the sensitivity of the econometric model to the exclusion of certain control variables.

Specifically, in one model we omitted all control variables (Table III), while in other models we considered only one control variable: 'country' (Table IV) and 'industry' (Table V).

The results of the analysis based on the exclusion and inclusion of certain control variables confirm the evidence already shown for H1 and H3, while they do not confirm H2.

Table 3 - Robustness check (1)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.0640***	-0.104	0.0170**
	[0.0142]	[0.0978]	[0.00844]
year = 2017	2.636***	2.690***	2.699***
	[0.471]	[0.473]	[0.474]
year = 2018	5.841***	6.066***	6.004***
	[0.472]	[0.478]	[0.474]
year = 2019	7.995***	8.349***	8.239***
	[0.474]	[0.483]	[0.474]
year = 2020	8.866***	9.268***	9.074***
	[0.474]	[0.496]	[0.474]
Constant	57.37***	61.02***	59.75***
	[1.267]	[1.128]	[1.132]
Observations	1,309	1,310	1,310
Number of id1	262	262	262
Year REs	Yes	Yes	Yes
Firmid	Yes	Yes	Yes

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

Table 4 - Robustness check (2)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.0638***	-0.101	0.0166**
	[0.0142]	[0.0978]	[0.00845]

country	-1.011	-1.023	-0.988
	[0.939]	[0.963]	[0.944]
year = 2017	2.636***	2.689***	2.698***
	[0.471]	[0.473]	[0.474]
year = 2018	5.842***	6.063***	6.003***
	[0.472]	[0.478]	[0.474]
year = 2019	7.995***	8.345***	8.239***
	[0.474]	[0.483]	[0.474]
year = 2020	8.867***	9.263***	9.074***
	[0.474]	[0.496]	[0.474]
Constant	59.53***	63.18***	61.87***
	[2.368]	[2.323]	[2.316]
Observations	1,309	1,310	1,310
Number of id1	262	262	262
Year REs	Yes	Yes	Yes
Firmid	Yes	Yes	Yes

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

Table 5 - Robustness check (3)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.0648***	-0.105	0.0171**
	[0.0142]	[0.0978]	[0.00844]
industry	-0.0813*	-0.0766*	-0.0765*
	[0.0434]	[0.0445]	[0.0436]
year = 2017	2.636***	2.690***	2.699***
	[0.472]	[0.473]	[0.474]
year = 2018	5.840***	6.067***	6.004***
	[0.473]	[0.478]	[0.474]
year = 2019	7.992***	8.350***	8.239***
	[0.474]	[0.483]	[0.474]
year = 2020	8.864***	9.270***	9.073***
	[0.474]	[0.496]	[0.474]

Constant	60.30***	63.82***	62.54***
	[2.011]	[1.978]	[1.950]
Observations	1,309	1,310	1,310
Number of id1	262	262	262
Year REs	Yes	Yes	Yes
Firmid	Yes	Yes	Yes

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

In addition to the above analyses, since the model used could be influenced by endogenous phenomena, we carried out our analysis again using, in this case, a simple linear regression model, with the STATA command 'reg'.
The results of this re-performance of the analysis (carried out using a simpler model in econometric terms) confirm the already discussed evidence for Hypotheses H1 and H3, while they do not confirm Hypothesis H2.

Table 6 - Robustness check (4)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.103***	-0.106	0.0711***
	[0.0157]	[0.164]	[0.0137]
Total assets (ln)	10.58***	11.15***	10.78***
	[0.558]	[0.560]	[0.559]
Constant	-47.22***	-47.10***	-47.40***
	[5.621]	[5.749]	[5.652]
Observations	1,303	1,304	1,304
R-squared	0.258	0.234	0.249

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

A further robustness check was then performed using a simple linear regression model and excluding some control variables. The results of the analysis confirm the previous results of Hypotheses H1 and H3, while they do not confirm Hypothesis H2.

Table 7 - Robustness check (5)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.103***	-0.0600	0.0684***
	[0.0157]	[0.165]	[0.0138]
Total assets (ln)	10.55***	11.12***	10.77***
	[0.557]	[0.559]	[0.558]
country	-0.783**	-0.823**	-0.566
	[0.395]	[0.405]	[0.401]
Constant	-45.27***	-45.22***	-45.99***
	[5.701]	[5.815]	[5.738]
Observations	1,303	1,304	1,304
R-squared	0.261	0.236	0.250

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

Table 8 - Robustness check (6)

	(1)	(2)	(3)
Variables	Audit Independence	Audit Tenure	Audit Expertise
ESG Score	0.104***	-0.106	0.0711***
	[0.0158]	[0.164]	[0.0137]
Total assets (ln)	10.51***	11.17***	10.77***
	[0.574]	[0.574]	[0.573]
industry	-0.00975	0.00280	-0.000617
	[0.0189]	[0.0191]	[0.0189]
Constant	-46.21***	-47.39***	-47.34***
	[5.957]	[6.089]	[5.988]
Observations	1,303	1,304	1,304
R-squared	0.258	0.234	0.249

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

7. Discussion

The conclusions of our study are in line with the literature analyzing the effect of Audit Committee characteristics on the ESG performance of companies.
Specifically, our results, consistent with much of the previous literature, show that an AC composed of independent and expert members with a high turnover level can result in higher ESG performance.
Indeed, as argued by Santamaria et al. (2021), we have shown that a high degree of independence of Audit Committee members is associated with positive non-financial performance.
The same evidence, in line with several studies (Baxter & Cotter, 2009; Shaukat et al., 2016), was also found by taking into account as an analysis variable the 'experience', identified according to the definition provided by Sarbanes-Oxley, the members of the Audit Committees.
Overall, our results show that the quality of the AC, as measured by the independence and expertise of its members, has a significant favorable impact on a firm's ESG score.
Thus, our results confirm existing empirical evidence that the independence and expertise of AC members improve a firm's non-financial performance, in agreement with recent studies (Appuhami & Tashakor, 2017, Buallay & Al-Ajmi, 2020). Furthermore, we extend the findings of Pucheta-Martinez & De Fuentes' (2007) research, which focuses on the impact that AC characteristics can have on financial reporting quality in the context of non-financial reporting quality. The results suggest that the independence and increased experience of AC members within a company serve as an effective management control system to improve the quality of ESG reporting. Consequently, compliance with reporting standards could also serve as a useful tool to resolve any agency conflicts arising from the opportunistic behaviour of managers to provide distorted information related to ESG factors in the absence of a formal reporting framework.
We also explore the impact of AC attributes on ESG score by controlling for the industry to which the company belongs, finding that the industry does not have such an effect as to influence the positive role of AC independence and

experience on ESG performance. Analyzing the impact of AC attributes on ESG performance could provide a better understanding of the association between an internal control mechanism and companies' sustainability efforts. Consequently, an AC with certain attributes could guide corporate decision-makers in the right direction to build a sound internal control system to achieve not only efficient levels of financial and accounting controls but also a good level of social, governance, and environmental objectives.

Furthermore, focusing on the degree of seniority of the AC members, we found that high tenure is negatively correlated (and sometimes uncorrelated, as the results of robustness checks are not significant) with positive ESG performance, in line with what has been stated by some of the relevant literature (Healey & Kim, 2003; Geiger & Raghunandan, 2002; Davis et al., 2007; Casterella et al., 2002; Aldamen et al., 2012). This result could be because the mere constancy of the CA members' relationship in society is not in itself able to pursue new and more challenging goals in terms of ESG.

Finally, as can be seen from the descriptive tables included, we also note that the size of the company plays a key role in determining the ESG score, given that larger companies have on average higher ESG scores. This may be related to the fact that larger companies (which are generally also the most profitable ones) are those with greater investment capacity, also in terms of ESG, enabling the pursuit of more efficient ESG policies. The study's analysis also shows that ESG scores have been subject to progressive improvement in recent years, thus confirming the importance for companies to invest in social, governance, and environmental components, in line with previous studies that demonstrate this.

8. Conclusion

In recent years, the economics literature of the corporate matrix has focused heavily on the study of the interaction of audit quality with corporate governance (Buallay et al., 2020), with the quality of financial reporting (Chaudhry et al., 2020) and, finally, also with that of non-financial reporting (ESG) (Dwekat et al., 2020).

In this study, we tried to put the spotlight on the importance of the Audit Committee by testing the impact of the determinants of Audit Quality (such as independence, seniority, and competence of the AC members), on the ESG performance of listed companies in major European stock markets.

The choice of such an analysis was also prompted by the increasing importance of ESG practices by European companies, also following the recent economic crisis brought about by the Covid-19 pandemic (Bifulco et al., 2023).

Only a few recent contributions have addressed the issue of the performance and responsibilities of CAs in an increasingly complex global economic environment (Santamaria, R. et al., 2021), where corporate governance challenges and issues are paramount. Expectations of CAs have increased considerably due to the mandatory non-financial reporting requirements of the European Union.

Using an OLS regression model, we found that the AC characteristics taken into account (such as independence, seniority, and competence of the AC members) have a statistically significant effect on the ESG score.

In particular, the correlations between the independence and competence of the Audit Committee members concerning the ESG score were statistically significant and positive. Finally, we found a negative and significant correlation between the term of office of the AC and the ESG score.

Through our study, we seek to provide useful empirical evidence to support meaningful insights into the instrumental role of independence, competence, and tenure of the CA in improving the ESG performance of companies operating in major European countries.

First, the results of this study offer important practical and theoretical implications for managers, shareholders, and regulators. In particular, the results of the analysis demonstrate how managers can improve the legitimacy of their business operations by establishing independent and highly specialised ACs that promote and monitor ESG information writing and disclosure. Similarly, increased ESG information sharing can also mitigate agency conflict by reducing the information gap between managers and shareholders. The study provides important theoretical and practical

implications for improving the quality and quantity of ESG reporting through the use of robust and self-regulated internal control systems.

Second, this paper provides managers with a better understanding of the complex relationships between the quality of the Audit Committee and non-financial performance even during a period of crisis (such as the Covid-19 pandemic). As a result, managers will be able to make better decisions on the percentage of independent members in the AC to achieve better ESG performance.

Finally, our analysis also has policy implications, as it adds to the heated and ongoing debate regarding the impact of CA monitoring activities on corporate social engagement, ESG scores, and their influence on risk measurement and disclosure.

On this point, it is particularly interesting to note how the new regulatory provisions, such as the aforementioned Corporate Sustainability Reporting Directive (CSRD), introduce new and more detailed reporting obligations (inter alia, concerning a larger number of companies) and - above all - present particularly relevant diversity and innovation profiles concerning Directive No. 94/2014.

In this context, therefore, the issues of non-financial reporting (Mio, 2011), sustainability (Cohen et al., 2012) and value creation (Jensen and Berg, 2012) are becoming increasingly relevant, requiring companies to change their systems and logics for measuring and reporting company results.

In the writer's opinion, the new regulatory intervention, just a few years after the entry into force of the obligation to submit the Non-Financial Declaration (NFD), reveals a substantial fear of its ineffectiveness, calling for a further focus on ESG aspects and the manner and verification of the information provided.

Furthermore, without waiting for the implementation of the CSRD, in February 2022 the European Commission presented a proposal for a Directive on sustainability due diligence ([7]) of companies in order to promote responsible corporate behavior.

([7]) Corporate Sustainability Due Diligence Directive of February 2022.

Within this scenario, this contribution intends to investigate, using the European market as a reference, the results on non-financial performance attributable to certain characteristics of the Audit Committee, even more so at a time of profound crisis such as that brought about by the Covid-19 pandemic.

Despite the contributions mentioned above, our study has some limitations. Firstly, considering the different legislations of each country leading to different corporate governance codes, the mandatory number of independent members of the AC could differ depending on the regulations of the various countries. This could severely limit the results of the study. In addition, we conducted our survey on a single continent, which was considered representative of the European context that, by definition, covers a limited sample of a few geographical areas. Future research could implement our analysis and study the relationship between AC quality and ESG performance in different geographic areas, to investigate and examine possible differences.

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CHAPTER 3

The CSR committee as moderator for the ESG score and market value ([8])

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1. Abstract

This paper investigates the relationship between the ESG score and market values. Specifically, we test the moderating role of CSR committee defined as organizational subcommittees of boards of directors that make social and environmental recommendations to the boards of directors and support members in their CSR-related tasks. We built a panel data set with all the listed companies in STOXX Europe 600, covering the period 2014–2020. Firms' data come from Refinitiv Eikon database which contains financial and ESG scores data of all EU listed companies. Our sample of firm-level data contains a dataset of 600 European listed companies which are part of the STOXX Europe 600 Index. We included ESG data of STOXX Europe 600 Index components in the period 2014–2020. Our dataset contains a total of 4800 firm-year observations. We found a negative relationship between ESG score and stock prices while the presence of CSR committee as moderating variable generates no significant evidence of ESG score. The presence of CSR committee is not considerably supporting ESG in achieving higher

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market performance. The CSR committee plays an essential role in monitoring management activities. This may support management practitioners in better understanding and reacting to stakeholder expectations.

2. Introduction

Sustainability has currently reshaped the concepts of finance and accounting as well as supported sustainable finance goals driven by institutional investors and individuals looking to invest their money in firms with strong environmental, social and governance (ESG) performance.

Nowadays, ESG performance has raised to meet the growing expectations on companies to be more responsible towards the environment and society. These expectations derive from a variety of stakeholders, such as shareholders, customers, regulators, employees, suppliers, social and activist groups, media and lenders (Arif et al., 2021; Camilleri, 2015; Sajjad et al., 2020). Furthermore, the recent turbulence of market conditions is also requiring companies to make and disclose sustainable initiatives while making relevant organizational decisions (Garcia-Sanchez et al., 2014). ESG indicators have received much attention from managers to convey the focus of their efforts towards a more sustainable environment and society. According to Broadstock et al. (2019), managers may frequently establish ESG activities to enhance their reputation and self-interest.

Following prior studies, our paper investigates the value relevance of ESG score contributing to the current literature by testing the moderating role of CSR committee defined as organizational subcommittees of boards of directors that make social and environmental recommendations to the boards of directors and support members in their CSR-related tasks. In order to perform our investigation, we built a panel data set with all the listed companies in STOXX Europe 600, covering the period 2014-2020. Firms' data come from Refinitiv Workspace platform, a database containing financial and ESG data of all European listed companies. Our sample of firm-level data contains a dataset of 600 European listed companies which are part of the STOXX Europe 600 Index, containing 4,800 firm-year observations. The STOXX600 is a suitable sample for our study as it is composed of

European listed companies for two main reasons. At first, European listed companies are obliged to disclose their results on non-financial performance in compliance with directive 2014/95/EU. Secondly, European listed companies are more involved in investing in ESG practices. Given the above reasons, our sample is particularly well suited for answering the research question. Our results provide evidence on the negative relationship between ESG score and stock prices while the presence of CSR committee as moderating variable generates no significant evidence of ESG score. We finally demonstrate that the presence of CSR committee is not considerably helping ESG in achieving higher market performance. The CSR committee plays an essential role in monitoring management activities. This may support management practitioners in better understanding and reacting to stakeholder expectations. Thus, in line with our results, the presence of the CSR committee as moderating variable in the relationship between ESG score and market cap has no relevance and significance in assisting practitioners in the field of management in covering stakeholders' expectations driven by financial as well as social and environmental performance.

This study makes key contributions to the role of board monitoring in market and ESG performance. At first, there is little empirical work to date which has tested board monitoring in assisting ESG issues and performance. Our study is of significant interest as it not only increases the current literature about the relationship between ESG and market performance but, above all, complicates the study by inserting the CSR committee as a moderating variable. Second, this study contributes to the ongoing debate about ESG performance, by answering the calls from previous research for a more context-based analysis of the variables within the relationship between ESG and market performance (Jakobsson and Lundberg, 2018; Yoon et al., 2018). Our research extends prior research on ESG performance by showing the role of CSR committee in supporting companies' initiatives at European level.

The rest of the paper is organized as follows. First, we describe the literature review and hypotheses development. The subsequent section presents the research analysis with data collection and variables' description. The fourth section reports the analytical model. The fifth section shows the results. Finally, we conclude with some concluding remarks.

3. Literature Review and Hypotheses development

In this section, prior literature will be discussed. This section seeks to establish the crucial points of the existing knowledge as well as the literature gaps. We will first consider the value relevance approach in its basic sense and then, the literature on the value relevance of ESG issues, emphasizing the relevant differences in findings. Furthermore, the literature on the impact of CSR committee as interaction variable for the ESG and firms' market performance will be analyzed. The above sub-sections will be concluded with our hypothesis's development.

The value relevance is one of the most known sub-topic of accounting and financial reporting research used to study the decision usefulness approach (Barth et al., 2001; Baboukardos et al., 2016; Frank, 2002; Holthausen et al., 2001). Therefore, it is relevant to define this approach that has led standard setting in accounting over the past years and has become essential in the disclosure of financial and non-financial information. Several contributions support empirical evidence indicating the value relevance of CSR activities, finding a positive and significant relationship between CSR measures and firm performance that consequently increases firms' stock prices (Hassel et al., 2005).

Investors widely use ESG scores as a major index to understand a firm's overall corporate social performance (CSP) and in the last two decades, some scholars investigated the correlation between CSP and corporate financial performance (CFP). In particular, it is possible identify 3 different currents: positive correlation, no-correlation and negative correlation. Some authors find a positive correlation between the CSP and CFP, considering this last as a proxy of firm value (in terms of stock returns, ROE and share price). Karagiorgos (2010) analyzing the impact of CSR volunteering disclosure of Greek companies in 2010, showed that there is a positive correlation among stock returns and CSR performance. Moreover, Lourenço et al. (2013; 2014) demonstrated a greater return on capital for companies' leaders in sustainability. Yoon et al. (2018) found a positive correlation between CSR performance (measured using ESG score) and firm valuation. And, as showed

by Osarto et al. (2015) that there are several reasons that could suggest firms to invest and to be part of a CSI index and those are: to raise funds, to search for competitive advantages and to increase its reputation. As said before, other scholars sustain that there is not a relationship between CSP and CFP. Margolis et al. (2007), after they analyzed 85 published in international studies covering 190 experiments across 40years (1972–2012), sustain that there is no significant relation between CSP, in terms of socially responsible investments (SRI) and financial performance. Also, other scholars (Santis et al., 2016) found no evidence of correlation between CSP and CFP analyzing Brazilian listed companies included and not in the CSI Index. Other studies (Sahut et al., 2015) demonstrated that there is not a clear correlation between CSP and CFP, supporting the theory that shareholders do not recognize the effect of a high ESG rating.

At least, in contrast to the stakeholders 'theory (Friedman, 1970), which sustain that the primary purpose of a firm is to increase the stakeholder's wealth, several authors put the accent on how shareholders could disagree with this kind policy. In fact, investing in ESG, the firm redistributes its capital and for some categories of shareholders this should be done in other ways (i.e., charity) (MacCkey et al., 2007). According to this interpretation, some scholars (Graff Zivin et al., 2005) sustain that for the shareholders the first purpose of a firm is to maximize its wealth not necessarily adopting ESG investments. Other scholars (Demers et al., 2021) suggest that shareholders could not positively accept the investment in ESG considering it just a tool used by manager in order to increase the company's ESG scores just to improve their personal reputation. This aspect led to conclude that, in some situations, ESG performance is not positively correlated to share price just because investors could think that their money is used to finance managers 'investments (ESG activities) destroying the firm value. According to this view, Lys et al. (2015) show that ESG expenditures could be just a marketing channel used to communicate the non-financial initiatives sustained by firms. In fact, authors show that ESG investments don't provide a sufficient CFP reducing the shareholder value.

As said by Damodaran and Cornell (2020) "the evidence that markets incorporate social responsibility into pricing is weak" and several scholars

demonstrated that there is a negative and significant correlation between the performance achieved in socially activities and the financial performance of a firm. In particular, Nollet et al. (2016), using both accounting-based and marked-based financial performance index, investigated the relation between CSP and CFP performance for the S&P 500 during 2007 to 2011 and found a significant negative effect on return on capital. The same trend was investigated by Pava and Krausz (1996) using also risk and firm-specific index. Authors, in this case, analyzing 53 firms referred "socially responsible" by Council on Economic Priorities in 1985-1991, found that this category of firms do not has a significant and better performance than other companies. Other studies showed a negative relation between CSP and CFP both in terms of price volatility (Jakobsson et al., 2018) and in stock returns (Brammer et al., 2006). Just about this last correlation, also Gladysek et al. (2012), analyzing the share returns for firms listed in the South African JSE SRI Index in the period 2004-2009 found that even if firm were included in CSR indices there were no benefit in terms of share price. A same result is provided by Becchetti et al. (2012) who analyzing the Domini 400 Social Index found a significant negative effect on returns for firms just after their announcement in the previous index in the period 1990-2004.

Starting by the aforementioned literature review, there is no unanimous consensus regarding the nature of the relationship between CSP and CFP but according to the majority of the studies reported before, we address the following hypotheses:

H1. *The level of ESG performance is negatively associated with the firm's stock price.*

Only in recent years has there been a strong interest to the CSR committees than the previous two decades (Mackenzie, 2007). The CSR Committee is generally composed by three or more directors, out of which at least one shall be an independent director and has several activities as: to recommend the amount of expenditure for CSR projects, to constitute a management committee for the implementation and execution of CSR activities, to monitor mechanism for implementing CSR activities, to submit annual report of CSR activities. Several institutions encouraged the presence of a committee

interested in the social activities. For example, the International Institute for Sustainable Development (IISD) recommends identifying "people or committees at the top levels of the firm who will assume key CSR decision making responsibilities" (IISD, 2007).

The CSR committee, in line with the stakeholder theory, is a governance bodies able to satisfy stakeholders needs (Donaldson et al., 1995) but at the same time, in line with the agency theory, is a tool used to improve the relation between managers and shareholders (Jo et al., 2011). As said before, one of the most important activities of a CSR committee is to assist and to manage the formulation of the CSR strategy developing proper implementation in order to achieve a better social performance (Shaukat et al., 2016). The presence of a CSR committee is fundamental in order to provide assistance to CSR and ESG activities, improving the quality and the quantity of CSR and ESG disclosure (Baraibar-Diez et al., 2019). In fact, several studies showed that the presence of a CSR committee is positive correlate to a better performance in terms of disclosure (Liao et al., 2015), pollution (Homroy et al., 2019) and human rights (Mallin et al., 2011). In addition, some authors as Flammer (2014), Burke et al., (2019) and Elmaghrabi (2021) suggest that the presence of a CSR committee is positively correlated to the ESG performance. This relationship is also confirmed by very recent studies which analyze the positive impact of the CSR committee on the non-financial performance of companies (Cosma et al., 2022; Valle et al., 2022; Gennary et al., 2019). Despite this, some scholars do not perceive CSR as a useful tool for managers to improve the performance of sustainable activities. About this, scholar showed how the profitability of firms with a CSR committee did not significantly differ from those without (Panwar et al., 2018). Finally, Kuzey et al. (2021) demonstrates that there is no unique correlation between non-financial performance and the presence of a CSR committee given that in some sectors the presence of a CSR committee leads to better non-financial performance (i.e., the tourism sector) while in other sectors it the relationship is found to be not significant (i.e., healthcare sector). Starting by the aforementioned literature review, it is possible asses that most of the literature sustain a positive effect provided by the presence of a CSR

committee in order to improve the ESG performance. In line with the previous studies, we address the following hypotheses:

H2. *The CSR Committee treated as interaction variable produce significant association between ESG performance and firm's stock price. In other terms, when the BoD nominates a CSR Committee, there is an improvement of relationship between ESG and stock price.*

4. Research analysis

4.1 Empirical setting

The ideal setting to test our hypotheses would allow us to observe how company's share price is affected by firm's ESG score, and if there are moderating effects of specific variables on that correlation. While finding a perfect setting might be difficult, numerous circumstances make the European context suitable for our work. First, in 2014 the European Union (EU) issued the Directive 2014/95/EU that mentioned environmental, social and governance disclosures alongside financial reporting obligations of big companies, and so EU law requires large companies (more than 500 employees) to disclose non-financial information on their social and environmental impact. Therefore, the sample of companies used in this work is not affected by a sample selection bias (a common problem in works that use data provided by firms voluntarily), since are all affected by the Directive 2014/95/EU. Second, Refinitiv Workspace database has built and validated a measure of the ESG score at the company level in Europe, with information taken by annual reports, CSR reports, stock exchange filings, company websites, etc.. That database is considered as the world's largest related to ESG rating (Dorfleitner et al., 2020). Third, the focus on one geographical area (even if the are some cultural differences across European countries) reduces the risk of an omitted-variable problem characterizing multi-geographical areas studies where it is difficult to control for all the time-variant geographical area characteristics simultaneously affecting the dependent and the independent variables (De Jong et al., 2008). Fourth, Europe is the area in which companies are more involved in investing in ESG practices, as we can see in the following graph that indicates the average ESG

Score for regional indices[9].

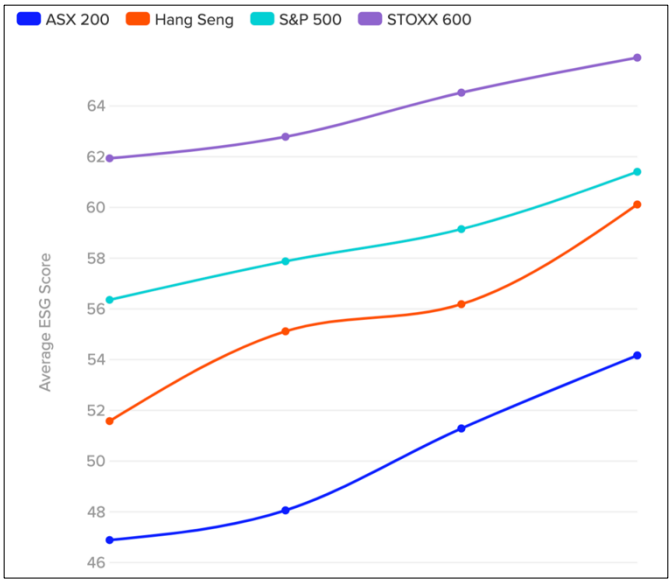

Figure 1 - average ESG Score for regional indices

Source: Refinitiv ESG data • Updated: March 4th, 2021

4.2 Data and sample

To perform our investigation, we built a panel data set with all the listed companies in STOXX Europe 600, covering the period 2014-2020. Our sample includes 15 super-sectors and 17 countries. The final sample is composed by 600 companies, which corresponds to 4,200 firm-year observations.

For our empirical analysis, we used two types of data at company level. The first is related to financial information, while the second to firm's ESG data. According to prior studies related to firm's market value, we used financial information as book value per share, share price, and earnings per share (Barth et al., 2009; Lee et al., 2014; Ohlson, 1995). Moreover, we considered other data like total assets, return on equity (ROE), earnings before interest and taxes (EBIT), earnings per share (EPS), and market index price.

Firms' data come from Refinitiv Workspace platform, a database containing

[9] Legend:
- ASX 200, blue line;
- Hang Seng, orange line;
- S&P 500, green line;
- STOXX 600, purple lien.

financial and ESG data of all European listed companies. Our sample of firm-level data contains a dataset of 600 European listed companies which are part of the STOXX Europe 600 Index. The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 17 countries of the European region: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. In our dataset we included ESG data of STOXX Europe 600 Index components in the period 2014-2020. Our dataset contains a total of 4,800 firm-year observations.

Descriptive statistics for the variables and their pairwise correlations are following reported. All data are computed at the end of each fiscal year.

Table 1 - Descriptive statistics

Variables	Observations	Average	Standard Deviation	Min	Max
ESG Score	3.678	63,8	18,1	0,5	94,6
ROE	3.711	0,2	1	-20,8	26
ROA	3.326	0,1	0,1	-0,3	2,5
EPS	3.796	7,8	76,7	-93	2.123,70
Total Assests	4.052	102.855,90	337.174,70	7,5	3.761.050,00
Book Value per Share	4.056	63,4	674,4	-12,8	19.652,00

Table 2 - Pairwise correlations

	ESG Score	ROE	ROA	EPS	Total Assets	Book Value per Share
ESG Score	1					
ROE	-0,0330*	1				
ROA	-0,1359*	0,6429*	1			

EPS	-0,0079	-0,0036	0,0098	1		
Total Assests	0,1886*	-0,0284	-0,1366*	-0,0085	1	
Book Value per Share	-0,0079	-0,007	-0,0053	0,9902*	-0,002	1

5. Variable's description

5.1 Independent variables

ESG Score. The ESG score is an overall company score based on the self-reported information in the environmental, social and corporate governance pillars. The ESG scores are recorded on an annual basis and are built through the collection of three different sub-indexes (environmental, social, governance), each capturing different dimensions of firm ESG quality. The ESG score evaluates environmental performance of a company in relation to factors like clean production, practice in response to climate change, green marketing, etc. Social factors included in the ESG score are evaluated considering business ethics, working conditions for employees, job security, etc.. Governance factors included in the ESG score are elements like board structure, audit quality, information disclosure quality, etc. Our independent variable identifies the ESG score with an indicator that ranges between 1 (highest ESG quality) and 0 (lowest ESG quality).

The ideal point for the ESG score is 1; therefore, a higher value means that the company invested more in ESG practices obtaining a higher score, while a lower value means lower investments in ESG practices. In our sample, the average ESG score is 63.8, with a minimum score of 45.4 and a maximum score of 94.6. Across the whole sample, listed companies evolved from an average score of 58.9 in 2014 to 68.1 in 2020.

CSR Committee. This is a variable that indicates the existence of a Corporate Social Responsibility (CSR) committee and is a dummy variable that equals 1 if the company has a CSR Committee and 0 otherwise. The CSR Committee is a Committee of the Board of Directors, with the purpose of setting guidance and direction and overseeing policies and progress on the Company's social, ethical, and environmental issues. In our sample, 78% of the observations include the CSR Committee, and 22% do not. Across the whole sample, companies evolved from 77% having a CSR Committee in 2014 to 84%

having a CSR Committee in 2020.

5.2 Dependent variables

The key dependent variable is the share price of company *i* at a specific point in time. In the specific, we perform several analysis considering the share price at seven points in time in order to confirm the results. We considered the share price of company *i* at the last trading day of year *t*, and at the last trading day of the months of January, February, March, April, May and June, of year *t+1*, since the companies selected for the analysis reported their annual ESG data of year *t* within the first months of the following year (*t+1*). We considered the share price at the end of year *t* as done in prior studies (Miralles-Quirós et al., 2018; Yoon et al., 2018). Moreover, we considered the share prices in six points in time in *t+1* from January to June to capture the effects of ESG data disclosure on share price at *t+1*, since ESG data of year *t* are disclosed during the first months of *t+1*.

5.3 Control variables

In order to control for individual firm heterogeneity, we estimate our models, including firms' fixed effects, which control for any firm time-invariant characteristic, including where the firm operates. We also include year-fixed effects, which control for yearly aggregate shock. The inclusion of firms' fixed effects and of the robust clustering of errors at the firm level allow us to account for heteroscedasticity and the clustering of errors. The inclusion of firm and year-fixed effects in the model do not account for time-variant differences at a firm level that could influence the propensity of firms to decide to invest in ESG practices. For this reason, we include several time-variant control variables at the firm level and at a macro level. At firm level, to account for size, we control for *total assets* (as natural logarithm). We control for firm size since it can "be considered as a proxy for the amount of slack resources available to a firm" (Fuentelsaz et al., 2002). Moreover, we include this control because smaller firms might have access to a lower quantity of resources and might invest less than bigger firms (Waddock et al., 1997). We control for firm EBIT (i.e., Earnings Before Interest and Taxes)

and *ROE* (i.e., Return on Equity), which capture the quality of firms' operations, *EPS* (Earnings per Share), and *Book Value per Share*. At the macro level, since market indexes and company share prices are highly correlated (Agmon, 1972), we also include a variable to control for this, which is the STOXX Europe 600 Price Index taken in the same days of the dependent variable (last trading day of year *t*, and the last trading day of the months of January, February, March, April, May and June in *t+1*).

6. Analytical method

The aim of the paper is to explain how ESG Score impacts company's share price, and if the existence of a CSR committee can play a role in the relationship between ESG Score and share price. To inspect the effect of ESG Score on company share price we implemented a modified Ohlson (1995) model, since it provides a theoretical and empirical framework for examining the impact of ESG elements on company share price. With his work Ohlson (1995) suggested to implement a model for the valuation of publicly traded companies in which the company market value is determined considering both company financial and non-financial information. In fact, Ohlson model admits that information that differ from earnings and dividends are able to be as value-relevant events that can affect future expected earnings, and therefore the market value. Since Ohlson did not provide details regarding the non-financial information to be considered in his model, scholars have begun to use the model including information on ESG factors (De Klerk et al., 2015; Miralles-Quirós et al., 2018).

The Ohlson model reveals a long-term relationship between company share price and the fundamental company value and has a good aptitude to forecast future share price for several time horizons (Lee et al., 2014). The model is founded on the hypothesis that the market expectancies of future dividends are exposed in earnings, equity book value, and non-accounting information. The aim of the analysis is to show if the coefficient of non-financial ESG score differs from zero with the expected sign.

The specification for the first hypothesis is extended to a panel setting. Since implementing ordinary least squares to estimate panel data can generate

biased estimations because of undetected heterogeneity, we executed a Hausman (1978) specification test of the null hypotheses of a random-effects model in comparison to the other hypothesis of a fixed-effects model to define the recommended model for the study. The resultant chi-square value of 0.00 is not significant, implying that the fixed-effects model effectively explains the relations of the hypotheses. To assess the relations, we used the STATA function "xtreg", which is able to estimate cross-sectional time-series regression models and, with "fe" option, estimates fixed-effects model that control for the effects of time-invariant variables with time-invariant effects. In order to corroborate this recommendation, we also implemented the Breusch and Pagan Lagrangian multiplier test for random effects (xttest0 in STATA). The test results are not significant, showing that fixed-effects model is suitable for the dataset (Bustamante, 2019). Moreover, as additional test to see if time fixed-effects model is the needed one, we ran the command "testparm". This is a joint test to see if the dummies for all years are equal to 0; if they are then no time fixed-effects are needed. Running the test, we found that prob>F is <0.05, so we did not fail to reject the null that the coefficients for all years are jointly equal to zero, and therefore it signifies that time fixed-effects model is needed in this case. After the demonstration that the time fixed-effects model is the best one to use, as baseline specification we considered the following regression:

$$Y_{it+1} = \alpha + \beta * ESG_t + \delta X_{it} + \gamma_i + c_i + \varepsilon_{it} \qquad (1)$$

where Y is our dependent variable (share price at the end of year *t*, and the share price at the end of each months from January to June of year *t+1*); *ESG* is the ESG Score variable of each company – i.e., a value close to 1 if the ESG score is high and close to 0 otherwise, in year *t*. X_{it} is the vector of control variables, which includes total assets (in natural logarithm), Book Value per Share, EBIT, ROE, EPS and STOXX 600 Index Price. γ_i represents year fixed effects, c_i represents firm fixed effects, and ε_{it} is the error term. The coefficient of interest is β, which measures the effect of the ESG Score on company's share price. For example, H1 predicts that β should be negative and significant, meaning that as ESG Score increases, company's share price

should decrease.

In order to show under what conditions this hypothesized relationship is stronger or weaker, we identify another mechanism – the existence of a CSR Committee – that could influence this relationship. To study the effect of ESG Score considering jointly the CSR Committee existence on company's share price, we estimate the following model:

$$Y_{it} = \alpha + \theta * ESG_t * \text{CSR Committee} + \delta X_{it} + \gamma_i + c_i + \varepsilon_{it} \quad (2)$$

where CSR Committee is a dummy variable equal to 1 if the firm *i* has a CSR Committee, and 0 otherwise. The coefficient of interest is θ, which measures the combined effect of the ESG and of CSR Committee existence on company's share price. For example, H2 predicts that θ should be not significant, meaning that as ESG Score decreases or increases, and the Board of Directors nominate a CSR Committee, there is not a negative or positive effect on company's share price.

7. Results

7.1 Regression analysis

Table 3 reports the results for hypothesis 1. All columns of table 3 (in the first row) show the estimates of equation (1) and display that the ESG Score has an influence on company share price (at 7 different points in time) since the effect is negative and statistically significant. This result supports H1 and is consistent with a decrease of company share price in contexts where the ESG Score is high.

Table 3 - Regression analysis (Hp 1)

VARIABLES	(1) PriceCloseDec t	(2) PriceCloseJan t+1	(3) PriceCloseFeb t+1	(4) PriceCloseMar t+1	(5) PriceCloseApr t+1	(6) PriceCloseMay t+1	(7) PriceCloseJun t+1
ESGScore	-2.142**	-2.416**	-2.006*	-1.726*	-2.599**	-2.324**	-3.304***
	(1.080)	(1.191)	(1.119)	(1.016)	(1.073)	(1.125)	(1.262)
lnTotAss	95.79	91.26	84.06	61.58	88.60	88.51	30.89
	(69.81)	(76.13)	(74.20)	(67.08)	(73.46)	(84.97)	(45.48)
BookValueperShare	2.891***	3.699***	2.779***	3.016***	2.595***	2.389***	3.249***
	(0.168)	(0.173)	(0.152)	(0.123)	(0.322)	(0.222)	(0.475)
ROE	1.183	-0.323	-1.726	-1.361	-4.656	-6.889	-7.375
	(4.488)	(4.097)	(4.437)	(4.081)	(4.965)	(5.893)	(9.792)
EBIT	-0.00367*	-0.00324	-0.000947	-0.000360	-0.00229	-0.00135	-0.00134
	(0.00193)	(0.00218)	(0.00244)	(0.00250)	(0.00203)	(0.00200)	(0.00303)
EPS	-0.334	-2.733	-2.298	-2.649**	0.0397	-1.099	-0.273
	(1.770)	(1.694)	(1.456)	(1.207)	(3.116)	(2.170)	(4.192)

2015.year	-13.15	94.78**		-28.49			
	(27.90)	(37.34)		(18.81)			
2016.year	-21.81	36.31	16.83	21.26	44.98**	60.88***	67.02***
	(18.61)	(23.21)	(20.71)	(17.76)	(18.18)	(17.79)	(18.62)
2017.year	-3.186	-17.22	55.00**	40.85***	93.28***	97.63***	126.8***
	(12.32)	(17.20)	(21.62)	(15.67)	(20.50)	(21.49)	(24.20)
2018.year	67.69***	92.04***	65.42***	70.06***	107.3***	77.58***	
	(23.35)	(28.48)	(23.21)	(19.25)	(24.56)	(29.06)	
STOXXPriceDec t	2.549***						
	(0.444)						
STOXXPriceJan t+1		3.776***					
		(0.773)					
STOXXPriceFeb t+1			0.496				
			(0.308)				
STOXXPriceMar t+1				-0.408			
				(0.396)			
STOXXPriceApr t+1					0.205		
					(0.332)		

STOXXPriceMay t+1						0.0641	
						(0.517)	
STOXXPriceJun t+1							-0.223
							(0.365)
Constant	-1,309**	-1,777***	-466.6	69.56	-364.2	-295.8	353.4
	(627.7)	(676.0)	(722.8)	(690.4)	(708.0)	(797.7)	(455.4)
Observations	2,938	2,938	2,938	2,938	2,392	2,392	1,850
R-squared	0.444	0.551	0.503	0.549	0.502	0.385	0.469
Number of id	562	562	562	562	548	548	512

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

Table 4 reports the results for hypothesis 2. All columns of table 4 (in the third row) show the interaction between the existence of a CSR Committee and ESG Score on company share price. The interactive term is not significant. This finding supports H2 that, when the Board of Directors nominates a CSR Committee, there is not a correlation between ESG Score, and company share price.

Table 4 - Regression analysis (Hp 2)

VARIABLES	(1) PriceCloseDec t	(2) PriceCloseJan t+1	(3) PriceCloseFeb t+1	(4) PriceCloseMar t+1	(5) PriceCloseApr t+1	(6) PriceCloseMay t+1	(7) PriceCloseJun t+1
ESGScore	-2.453*	-2.638*	-2.073	-1.468	-2.957**	-2.713**	-3.631***
	(1.266)	(1.384)	(1.272)	(1.126)	(1.193)	(1.240)	(1.169)
CSRSustainabilityCommittee	-121.3	-108.0	-66.69	-4.786	-95.53	-83.12	-60.84
	(77.35)	(81.38)	(79.59)	(71.89)	(69.24)	(76.39)	(61.09)
c.ESGScore#c.CSRSustainabilityCommittee	1.328	1.127	0.625	-0.222	1.106	1.042	0.699
	(1.173)	(1.251)	(1.230)	(1.090)	(1.092)	(1.170)	(1.031)
lnTotAss	101.7	96.76	87.79	63.05	94.34	93.26	34.96
	(70.46)	(76.81)	(74.90)	(67.89)	(74.30)	(86.04)	(45.53)
BookValueperShare	2.890***	3.698***	2.779***	3.016***	2.594***	2.388***	3.249***
	(0.169)	(0.174)	(0.152)	(0.123)	(0.323)	(0.223)	(0.475)
ROE	1.081	-0.418	-1.790	-1.388	-4.781	-6.998	-7.408
	(4.487)	(4.099)	(4.440)	(4.080)	(4.993)	(5.927)	(9.828)

EBIT	-0.00388**	-0.00343	-0.00107	-0.000376	-0.00242	-0.00146	-0.00140
	(0.00196)	(0.00222)	(0.00249)	(0.00255)	(0.00205)	(0.00203)	(0.00304)
EPS	-0.349	-2.746	-2.306	-2.650**	0.0316	-1.106	-0.282
	(1.772)	(1.695)	(1.457)	(1.204)	(3.117)	(2.176)	(4.196)
2015.year	-14.84	89.74**		-28.89			
	(27.94)	(37.18)		(18.76)			
2016.year	-24.12	32.54	15.47	20.74	42.82**	59.14***	65.92***
	(18.79)	(23.13)	(20.63)	(17.78)	(18.22)	(17.83)	(18.54)
2017.year	-4.451	-18.43	52.90**	40.04**	90.83***	95.89***	125.6***
	(12.51)	(17.43)	(21.42)	(15.75)	(20.43)	(21.47)	(24.12)
2018.year	62.76***	87.11***	63.37***	69.58***	104.2***	75.93***	
	(23.10)	(28.09)	(22.74)	(19.02)	(24.49)	(29.11)	
STOXXPriceDec t	2.489***						
	(0.439)						
STOXXPriceJan t+1		3.687***					
		(0.764)					
STOXXPriceFeb t+1			0.528*				
			(0.305)				
STOXXPriceMar t+1				-0.407			

				(0.390)			
STOXXPriceApr t+1					0.247		
					(0.331)		
STOXXPriceMay t+1						0.100	
						(0.515)	
STOXXPriceJun t+1							-0.201
							(0.362)
Constant	-1,298**	-1,755***	-489.7	54.57	-395.4	-320.0	337.6
	(618.8)	(663.6)	(724.4)	(693.4)	(708.1)	(799.6)	(455.2)
Observations	2,938	2,938	2,938	2,938	2,392	2,392	1,850
R-squared	0.445	0.551	0.503	0.549	0.502	0.385	0.470
Number of id	562	562	562	562	548	548	512

*Robust standard errors in brackets. *** p < 0.01, ** p < 0.05, * p<0.1.*

7.2 Robustness checks

To corroborate our findings, we performed some robustness checks. The additional checks provide evidence that our findings are robust to different specifications.

Different censoring. As a first robustness check, we restricted the sample considering different percentages of censoring. Tables S1 through S6 in the Appendix show the estimated effect of ESG Score on company share price (also contemplating the existence of the CSR Committee) considering a change in the sample size due to a censoring of 2 per cent, 5 per cent and 10 per cent. Considering the different specifications, the effect with different size of censoring remains the same of the baseline hypotheses.

Change of control variables. Results might be influenced by the choice of control variables. Therefore, we perform the analysis considering the sensitivity to the exclusion of some relevant controls (STOXX 600 Index Price, EPS, EBIT). The results of the analysis based on the exclusion of some control variables remain the same to those of the baseline findings. Tables S7 through S12 in the Appendix show the estimated effect.

8. Discussion

Our article aims to analyze the relationship between ESG performance and market performance by testing potential effects of CSR committee. With our analysis, we first investigated the relationship between ESG performance and market performance, discovering a negative relationship. This result is in line with previous contributions sustaining that there is a negative relation between ESG performance and financial performance (Graff Zivin et al., 2005). As previously stated, this evidence is in contrast with the stakeholders 'theory (Friedman, 1970), which sustain that the primary purpose of a firm is to increase the stakeholder's wealth. Several authors argue that the investment in ESG activities is just a "redistribution" of the firm's capital that should be done in other ways (i.e. charity) (MacCkey et al., 2007). From this and starting by the evidence that ESG investments don't provide a sufficient

financial performance (reducing the shareholder value), it follows, according to Lys et al. (2015), that ESG expenditures could be just a marketing channel used to communicate the non-financial initiatives sustained by firms. This conclusion, however, appears to be in contrast with the growing pressure from consumers, regulators, and various corporate stakeholders on these issues, often indicated as an element of discrimination for some classes of investors (institutional and non-institutional). The reason for these results, therefore, could be traced back not so much to the immateriality of ESG issues, but rather to the credibility of the related disclosure and the lack of market confidence in the truthfulness of the information communicated by the companies and by the reputation on the subject of the score. The negativity of the report is attenuated when the effect of the presence of a CSR committee is considered.

Moreover, our study shows how the CSR committee can have a moderating impact on the relationship between ESG performance and market performance. With specific reference to the latter aspect, much of the literature agree in stating that internal and external controls reduce the risk of publication of false information, allowing shareholders to make decisions based on verified and reliable information (Watts et al., 1986). As known, the separation between "ownership" and "management" of companies, which sometimes also manifests itself through the possible manipulation of the information flow by managers, can lead to agency problems (Jensen et al., 1976).

In this regard, it is interesting to note that, in the more recent past, the number of studies deciding to investigate specialized board committees has progressively increased (Upadhyay et al., 2014; Kolev et al., 2019) as critical tools for the proper functioning of corporate governance systems.

In our opinion, these studies will have even more value in the future in the light of the new regulatory intervention, according to which the regulation concerning the "Non-Financial Statement" will give way, starting from 2024, to Corporate Sustainability Reporting Directive (CSRD). This, in addition to providing for the introduction of new and more detailed disclosure obligations towards a larger number of companies, presents new profiles such as: (a) the disappearance of the expression "non-financial information" and

the introduction of the term “sustainability reporting” which replaces the previous reference to “non-financial reporting”; (b) the provision of the obligation to apply reporting standards issued by the European Union on ESG issues; (c) the provision of the so-called "limited assurance" for all sustainability reports, to achieve "reasonable assurance" (i.e. that typical of the economic-financial report) in a limited time frame.
In this scenario, the analysis of the characteristics of the CSR committee, capable of improving disclosure and non-financial performance, will assume an increasingly crucial role in the definition of corporate governance capable of creating added value for the company and reducing problems of agency.

9. Limitation

Our study provides new insights in studying the moderating role of CSR committee in a European landscape. Although our findings are in line with the previous literature, our study is not without limitations, that provide opportunities for future research. First of all, the study is conducted exclusively in Europe and considered only the top 600 listed companies by capitalization. In this case, the sample size is limited, and the specific characteristics of the investigated area can influence and generalize the results of the analysis. Future studies, therefore, could investigate the same hypotheses but in different contexts (USA and China) in which different regulations also apply concerning ESG disclosure and the composition of boards of directors. Furthermore, our study does not consider corporate governance variables that could better explain the results of the analysis. Moreover, these further components of the research could outline a more exhaustive analysis capable of investigating our hypotheses differently. In addition, to provide more interesting implications, further information regarding the criteria used by Refinitiv to assess the CSR committee score should be gathered. Furthermore, in addition to price closing, future research should consider including other market-based measures as Tobin’s q, which is the ratio of a physical asset's market value to its replacement value (Velte, 2017). Additionally, further analysis is required for cross-continent effects. Lastly, future research may investigate the effects of the different ways of

handling the zeros in the ESG rating system, in order to investigate if it may be one of the causes behind the conflicting results in the financial and non-financial performance literature. In conclusion, the limits of our research offer interesting insights to future researchers who can certainly better investigate the influence of BoD characteristics on ESG performance.

10. Conclusions and implications

This research displays interesting results related to the effects of ESG performance and CSR committee on firm market value in the largest EU companies.

In particular, ESG Score has a negative influence on company share price (at 7 different points in time) supporting the H1. This is consistent with a decrease of company share price in contexts where the ESG Score is high. This result is in line with several previous studies and confirms the shareholder theory (Freeman, 1984). As argued by several authors (MacCkey, 2007), investors see investing in ESG as a misallocation of financial resources that could have been used in a more profitable way for the company. In addition, shareholders may see the investment of company resources in ESG activities as a tool of managers used exclusively to legitimize their image, to the detriment of the economic interests of the company. Secondly, we provide empirical evidence on the interaction between the existence of a CSR Committee and ESG Score on company share price. We did not find any significance in the interaction term. This supports H2 that, when the Board of Directors nominates a CSR Committee, there is not a correlation between ESG Score, and company share price. In other words, the presence of the CSR committee does not play a strongly significant moderating role in the relationship between ESG score and firm market value. This could be considered one of the most interesting findings in this study, as it opens a new view on the CSR committee position. Moreover, this study answers the key management issue: should a CSR committee be appointed in order to gain, from ESG performance, stock market benefits? This aspect, in line with the agency theory (Jensen et al., 1976), shows that in the presence of appropriate controls on the use of corporate resources, shareholders are less averse to

investing in ESG assets. From this, it is possible to deduce, in line with the stakeholder theory, that the CSR committee is an appropriate tool available to managers to settle differences between companies and shareholders. Precisely for this last reason, the study also offers an important implication at a managerial level as managers will have a greater incentive to insert an ad hoc committee to be able to both satisfy the needs of the shareholders (who require appropriate controls on the use of corporate resources) and of the company (given that over time investments in ESG are increasingly considered fundamental for the company, regardless of their strictly economic impact).

Finally, our analysis also has policy implications, as it adds to the heated and current debate regarding the impact of CSR committee monitoring activities on corporate social engagement, ESG scores, and their influence on the market performance. On this point, it is particularly interesting to note how the new regulatory provisions, such as the aforementioned Corporate Sustainability Reporting Directive (CSRD), introduce new and more detailed reporting obligations (among other things, towards a larger number of companies) and - above all – present particularly relevant profiles of diversity and innovation concerning Directive no. 94/2014. In this context, therefore, the issues of non-financial reporting, sustainability, and value creation are becoming increasingly important, requiring companies a change in the systems and logics for measuring and reporting company results. In our opinion, the new regulatory intervention, a few years after the entry into force of the obligation to present the Non-Financial Statement (NFS), reveals a substantial fear of its ineffectiveness, requiring further focus on the ESG aspects and the methods and verification of the information provided.

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Appendix

TABLE S1 - without outliers ESGscore (censoring at 2%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.286**	-2.562**	-2.175*	-1.931*	-2.776**	-2.454**	-3.601***
	(1.090)	(1.211)	(1.137)	(1.022)	(1.089)	(1.138)	(1.317)
lnTotAss	112.9	108.4	100.7	82.28	94.28	97.71	36.37
	(70.14)	(76.82)	(74.77)	(66.85)	(77.59)	(91.35)	(47.85)
BookValueperShare	2.901***	3.709***	2.790***	3.027***	2.601***	2.394***	3.258***
	(0.170)	(0.175)	(0.154)	(0.125)	(0.325)	(0.224)	(0.477)
ROE	0.544	-0.898	-2.328	-2.099	-5.130	-7.479	-7.527
	(4.535)	(4.141)	(4.500)	(4.108)	(5.278)	(6.284)	(9.893)
EBIT	-0.00280*	-0.00236	-2.40e-06	0.000674	-0.00222	-0.00139	-0.00115
	(0.00165)	(0.00195)	(0.00233)	(0.00236)	(0.00199)	(0.00199)	(0.00303)
EPS	-0.414	-2.813	-2.381	-2.736**	0.00496	-1.132	-0.348
	(1.777)	(1.710)	(1.479)	(1.234)	(3.130)	(2.184)	(4.205)
STOXXPriceDic	2.427***						
	(0.433)						
2015.year	-11.06	87.47**		-22.37			
	(28.95)	(38.44)		(17.90)			
2016.year	-18.85	35.02	17.83	23.15	47.19**	62.40***	69.85***
	(18.97)	(23.40)	(20.96)	(18.20)	(18.47)	(18.13)	(19.16)
2017.year	-2.220	-15.88	50.84**	39.07**	90.76***	94.72***	126.4***
	(12.23)	(17.51)	(21.76)	(15.88)	(20.61)	(21.68)	(24.44)
2018.year	57.16**	80.65***	56.28**	61.48***	100.8***	69.82**	
	(22.32)	(27.89)	(22.62)	(18.98)	(24.33)	(29.38)	
2019o.year	-	-		-			

Stoxxgen1		3.560***					
		(0.766)					
Stoxxfeb1			0.536*				
			(0.324)				
2015o.year			-		-	-	-
2019.year			94.21***				
			(28.85)				
Stoxxmar1				-0.266			
				(0.390)			
Stoxxapr1					0.220		
					(0.345)		
Stoxxmag1						0.0755	
						(0.539)	
Stoxxgiu1							-0.237
							(0.377)
Constant	-1,422**	-1,852***	-629.6	-171.8	-408.9	-375.3	329.9
	(635.2)	(688.7)	(726.2)	(682.2)	(744.6)	(855.0)	(475.1)
Observations	2,842	2,842	2,842	2,842	2,313	2,313	1,790
R-squared	0.453	0.560	0.514	0.563	0.511	0.392	0.473
Number of id	559	559	559	559	543	543	505

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S2 - without outliers ESGscore (censoring at 2%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.794**	-2.950**	-2.361*	-1.679	-3.186***	-2.841**	-4.025***

	(1.197)	(1.332)	(1.217)	(1.030)	(1.131)	(1.177)	(1.155)
CSRSustainabilityCommittee	-129.9*	-112.8	-69.19	-0.735	-85.34	-69.24	-60.87
	(70.79)	(75.61)	(76.13)	(65.92)	(67.68)	(75.97)	(68.15)
c.ESGScore#c.CSRSustainabilityCommittee	1.509	1.259	0.722	-0.239	1.031	0.890	0.777
	(1.067)	(1.159)	(1.177)	(0.998)	(1.057)	(1.150)	(1.108)
lnTotAss	116.1*	111.4	102.7	83.36	96.65	99.49	38.27
	(70.43)	(77.12)	(75.05)	(67.16)	(78.06)	(91.81)	(48.19)
BookValueperShare	2.900***	3.708***	2.789***	3.027***	2.600***	2.394***	3.258***
	(0.171)	(0.176)	(0.154)	(0.124)	(0.326)	(0.225)	(0.478)
ROE	0.503	-0.942	-2.363	-2.139	-5.186	-7.520	-7.506
	(4.533)	(4.145)	(4.503)	(4.108)	(5.302)	(6.309)	(9.932)
EBIT	-0.00296*	-0.00251	-9.32e-05	0.000669	-0.00229	-0.00145	-0.00118
	(0.00168)	(0.00199)	(0.00237)	(0.00240)	(0.00201)	(0.00201)	(0.00305)
EPS	-0.427	-2.825*	-2.388	-2.736**	-0.00235	-1.138	-0.356
	(1.780)	(1.712)	(1.481)	(1.232)	(3.131)	(2.191)	(4.210)
STOXXPriceDic	2.378***						
	(0.428)						
2015.year	-12.77	83.17**		-22.75			
	(28.97)	(38.13)		(17.89)			
2016.year	-21.26	31.56	16.55	22.76	45.51**	61.14***	68.99***
	(19.10)	(23.21)	(20.83)	(18.14)	(18.48)	(18.14)	(19.12)
2017.year	-3.562	-17.15	49.06**	38.40**	89.10***	93.64***	125.7***
	(12.43)	(17.74)	(21.53)	(15.91)	(20.57)	(21.65)	(24.40)
2018.year	52.81**	76.42***	54.53**	61.15***	98.77***	68.85**	
	(22.03)	(27.47)	(22.15)	(18.69)	(24.34)	(29.42)	
2019o.year	-	-		-			
Stoxxgen1		3.489***					
		(0.757)					
Stoxxfeb1			0.563*				
			(0.319)				
2015o.year			-		-	-	-
2019.year			92.79***				
			(28.32)				

Stoxxmar1				-0.268			
				(0.384)			
Stoxxapr1					0.251		
					(0.343)		
Stoxxmag1						0.101	
						(0.538)	
Stoxxgiu1							-0.220
							(0.375)
Constant	-1,379**	-1,806***	-630.7	-184.2	-404.2	-369.6	339.1
	(623.0)	(672.6)	(725.5)	(681.7)	(741.3)	(852.4)	(479.1)
Observations	2,842	2,842	2,842	2,842	2,313	2,313	1,790
R-squared	0.453	0.560	0.514	0.563	0.512	0.392	0.473
Number of id	559	559	559	559	543	543	505

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S3 - without outliers ESGscore (censoring at 5%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-1.716*	-1.994*	-1.836*	-1.851*	-2.754**	-2.430*	-3.827***
	(1.023)	(1.146)	(1.095)	(1.001)	(1.247)	(1.285)	(1.477)
lnTotAss	113.3**	110.0*	102.7*	86.82	138.6*	159.8*	40.17
	(53.86)	(58.28)	(60.26)	(58.87)	(77.01)	(89.43)	(50.38)
BookValueperShare	2.996***	3.900***	2.941***	3.165***	2.675***	2.550***	3.308***
	(0.260)	(0.241)	(0.230)	(0.151)	(0.486)	(0.391)	(0.547)
ROE	-1.352	-2.742	-3.592	-3.514	-7.774	-10.20	-10.88
	(5.175)	(4.812)	(5.236)	(4.695)	(6.887)	(8.276)	(12.22)
EBIT	-0.00168	-0.000289	0.00190	0.00233	-0.00167	-0.000476	-0.00150
	(0.00193)	(0.00205)	(0.00244)	(0.00244)	(0.00306)	(0.00261)	(0.00359)

EPS	-1.259	-4.572**	-3.775*	-4.020**	-0.629	-2.500	-0.699
	(2.517)	(2.237)	(2.248)	(1.592)	(4.492)	(3.634)	(4.660)
STOXXPriceDic	2.328***						
	(0.441)						
2015.year	-4.258	85.71**		-16.72			
	(31.01)	(40.40)		(18.70)			
2016.year	-17.79	32.90	13.26	19.81	41.83**	54.82***	66.09***
	(19.80)	(23.22)	(22.18)	(19.33)	(18.49)	(18.02)	(19.72)
2017.year	4.599	-9.962	49.55**	40.54**	86.94***	87.17***	128.7***
	(13.25)	(18.78)	(22.66)	(16.82)	(21.94)	(22.38)	(25.99)
2018.year	59.23**	80.89***	56.82**	62.53***	95.28***	59.16*	
	(23.12)	(29.07)	(24.16)	(20.58)	(25.44)	(31.27)	
2019o.year	-	-		-			
Stoxxgen1		3.385***					
		(0.788)					
Stoxxfeb1			0.549				
			(0.341)				
2015o.year			-		-	-	-
2019.year			85.34***				
			(30.05)				
Stoxxmar1				-0.180			
				(0.415)			
Stoxxapr1					0.261		
					(0.356)		
Stoxxmag1						0.0960	
						(0.575)	
Stoxxgiu1							-0.216
							(0.396)
Constant	-1,421***	-1,835***	-667.1	-246.0	-842.1	-971.6	315.2
	(522.0)	(566.6)	(623.8)	(629.1)	(756.1)	(840.7)	(505.3)
Observations	2,654	2,654	2,654	2,654	2,154	2,154	1,670
R-squared	0.462	0.572	0.528	0.573	0.521	0.406	0.478

Number of id	549	549	549	549	529	529	491

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S4 - without outliers ESGscore (censoring at 5%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.279*	-2.229	-1.937	-1.531	-3.224**	-2.703*	-4.065***
	(1.228)	(1.482)	(1.287)	(0.965)	(1.444)	(1.473)	(1.391)
CSRSustainabilityCommittee	-120.4	-88.53	-54.18	2.509	-84.57	-59.73	-28.58
	(77.56)	(86.47)	(84.44)	(71.83)	(82.54)	(87.18)	(77.97)
c.ESGScore#c.CSRSustainabilityCommittee	1.327	0.813	0.458	-0.308	0.965	0.627	0.373
	(1.234)	(1.428)	(1.382)	(1.113)	(1.361)	(1.392)	(1.326)
lnTotAss	116.4**	113.1*	104.9*	88.25	141.4*	162.0*	40.91
	(54.18)	(58.61)	(60.57)	(59.21)	(77.32)	(89.74)	(50.61)
BookValueperShare	2.996***	3.900***	2.941***	3.165***	2.674***	2.550***	3.308***
	(0.261)	(0.242)	(0.231)	(0.151)	(0.487)	(0.392)	(0.548)
ROE	-1.440	-2.825	-3.647	-3.543	-7.871	-10.27	-10.93
	(5.183)	(4.818)	(5.240)	(4.691)	(6.894)	(8.285)	(12.24)
EBIT	-0.00185	-0.000411	0.00183	0.00233	-0.00175	-0.000536	-0.00152
	(0.00199)	(0.00212)	(0.00251)	(0.00250)	(0.00309)	(0.00265)	(0.00360)
EPS	-1.279	-4.588**	-3.786*	-4.024**	-0.635	-2.504	-0.701
	(2.519)	(2.237)	(2.250)	(1.590)	(4.491)	(3.636)	(4.660)
STOXXPriceDic	2.302***						
	(0.435)						
2015.year	-5.695	83.24**		-17.12			
	(31.03)	(40.05)		(18.70)			
2016.year	-19.85	30.63	12.38	19.54	40.43**	53.81***	65.75***
	(19.90)	(22.88)	(21.98)	(19.26)	(18.36)	(17.82)	(19.64)
2017.year	2.978	-11.58	48.16**	39.84**	85.60***	86.24***	128.5***

	(13.37)	(18.93)	(22.45)	(16.85)	(21.85)	(22.30)	(25.97)
2018.year	56.18**	78.25***	55.67**	62.17***	93.88***	58.62*	
	(22.83)	(28.67)	(23.77)	(20.32)	(25.31)	(31.22)	
2019o.year	-	-		-			
Stoxxgen1		3.354***					
		(0.778)					
Stoxxfeb1			0.568*				
			(0.336)				
2015o.year			-		-	-	-
2019.year			84.84***				
			(29.58)				
Stoxxmar1				-0.182			
				(0.409)			
Stoxxapr1					0.284		
					(0.354)		
Stoxxmag1						0.115	
						(0.573)	
Stoxxgiu1							-0.210
							(0.393)
Constant	-1,378***	-1,810***	-668.6	-264.9	-830.6	-967.4	324.0
	(510.6)	(553.5)	(629.1)	(632.7)	(753.2)	(837.8)	(515.1)
Observations	2,654	2,654	2,654	2,654	2,154	2,154	1,670
R-squared	0.462	0.572	0.528	0.573	0.521	0.406	0.478
Number of id	549	549	549	549	529	529	491

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S5 - without outliers ESGscore (censoring at 10%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.127*	-2.470*	-2.255*	-2.270*	-2.654*	-2.547*	-4.057**
	(1.189)	(1.272)	(1.279)	(1.178)	(1.420)	(1.430)	(1.837)
lnTotAss	111.5**	98.18*	90.27	68.25	95.34	115.3	29.19
	(52.80)	(56.45)	(58.79)	(54.20)	(67.51)	(80.30)	(48.48)
BookValueperShare	2.855***	3.744***	2.762***	3.045***	2.410***	2.337***	2.826***
	(0.209)	(0.146)	(0.0691)	(0.0725)	(0.469)	(0.234)	(0.600)
ROE	-1.691	-3.200	-3.993	-3.932	-8.069	-10.76	-10.73
	(5.211)	(4.831)	(5.266)	(4.739)	(6.931)	(8.335)	(12.31)
EBIT	-0.00125	8.25e-05	0.00245	0.00292	-0.00243	-0.000540	-0.00245
	(0.00166)	(0.00186)	(0.00282)	(0.00294)	(0.00309)	(0.00218)	(0.00353)
EPS	0.0277	-3.160**	-2.140***	-2.893***	1.711	-0.610	3.325
	(2.234)	(1.463)	(0.709)	(0.823)	(4.727)	(2.316)	(5.762)
STOXXPriceDic	2.391***						
	(0.485)						
2015.year	-10.96	81.29*		-19.51			
	(36.63)	(45.99)		(21.67)			
2016.year	-22.51	32.40	12.12	16.52	41.21**	56.30***	62.57***
	(21.84)	(24.54)	(24.41)	(21.53)	(19.61)	(18.71)	(20.57)
2017.year	-6.128	-22.08	37.86	28.94	82.02***	81.48***	117.5***
	(15.33)	(21.51)	(24.28)	(18.64)	(22.75)	(22.58)	(26.02)
2018.year	49.77**	71.64**	47.82*	55.21**	91.98***	55.63	
	(25.26)	(31.14)	(25.43)	(21.96)	(26.30)	(34.21)	
2019o.year	-	-		-			
Stoxxgen1		3.492***					
		(0.859)					
Stoxxfeb1			0.680*				
			(0.406)				
2015o.year			-		-	-	-
2019.year			88.37***				
			(32.22)				

Stoxxmar1				-0.160			
				(0.448)			
Stoxxapr1					0.266		
					(0.427)		
Stoxxmag1						0.0747	
						(0.665)	
Stoxxgiu1							-0.189
							(0.451)
Constant	-1,386***	-1,719***	-555.3	-34.18	-415.8	-510.7	444.9
	(496.9)	(533.0)	(637.9)	(598.6)	(691.2)	(743.1)	(495.4)
Observations	2,369	2,369	2,369	2,369	1,919	1,919	1,483
R-squared	0.470	0.584	0.544	0.588	0.541	0.418	0.496
Number of id	515	515	515	515	491	491	455

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S6 - without outliers ESGscore (censoring at 10%)

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.984**	-3.310***	-2.866**	-2.132**	-3.857***	-3.515***	-5.308***
	(1.162)	(1.237)	(1.138)	(1.011)	(1.371)	(1.359)	(1.684)
CSRSustainabilityCommittee	-131.0*	-125.7	-89.23	-12.54	-128.4*	-100.6	-103.0
	(75.70)	(80.42)	(84.16)	(76.76)	(74.86)	(82.94)	(89.98)
c.ESGScore#c.CSRSustainabilityCommittee	1.496	1.451	1.043	-0.0487	1.749	1.392	1.587
	(1.160)	(1.268)	(1.334)	(1.181)	(1.175)	(1.225)	(1.451)
lnTotAss	114.2**	100.7*	91.97	69.83	97.87	117.1	30.28
	(53.14)	(56.94)	(59.31)	(54.77)	(67.59)	(80.37)	(49.25)
BookValueperShare	2.854***	3.744***	2.762***	3.045***	2.409***	2.336***	2.825***
	(0.209)	(0.146)	(0.0692)	(0.0725)	(0.470)	(0.234)	(0.601)

ROE	-1.838	-3.340	-4.090	-3.968	-8.262	-10.91	-10.90
	(5.227)	(4.857)	(5.289)	(4.740)	(6.946)	(8.354)	(12.34)
EBIT	-0.00140	-5.97e-05	0.00235	0.00291	-0.00255	-0.000640	-0.00252
	(0.00169)	(0.00190)	(0.00287)	(0.00299)	(0.00311)	(0.00220)	(0.00356)
EPS	0.0105	-3.176**	-2.151***	-2.901***	1.709	-0.612	3.326
	(2.232)	(1.460)	(0.710)	(0.823)	(4.727)	(2.317)	(5.764)
STOXXPriceDic	2.371***						
	(0.481)						
2015.year	-12.42	78.69*		-19.81			
	(36.69)	(45.78)		(21.71)			
2016.year	-24.37	30.05	11.11	16.09	39.73**	55.20***	61.96***
	(21.97)	(24.44)	(24.30)	(21.49)	(19.55)	(18.61)	(20.56)
2017.year	-7.917	-23.74	36.35	28.22	80.64***	80.59***	117.4***
	(15.52)	(21.73)	(24.13)	(18.71)	(22.64)	(22.46)	(26.02)
2018.year	47.57*	69.38**	46.85*	54.74**	90.84***	55.29	
	(25.07)	(30.93)	(25.22)	(21.85)	(26.17)	(34.17)	
2019o.year	-	-		-			
Stoxxgen1		3.460***					
		(0.853)					
Stoxxfeb1			0.701*				
			(0.404)				
2015o.year			-		-	-	-
2019.year			87.75***				
			(31.92)				
Stoxxmar1				-0.157			
				(0.444)			
Stoxxapr1					0.292		
					(0.426)		
Stoxxmag1						0.0947	
						(0.664)	
Stoxxgiu1							-0.178
							(0.449)
Constant	-1,322***	-1,651***	-523.1	-46.08	-361.2	-466.4	509.5

	(497.3)	(531.3)	(657.6)	(618.7)	(691.6)	(742.3)	(508.1)
Observations	2,369	2,369	2,369	2,369	1,919	1,919	1,483
R-squared	0.470	0.584	0.544	0.588	0.541	0.419	0.496
Number of id	515	515	515	515	491	491	455

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S7 - without control variable Stoxx Index

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.142**	-2.416**	-2.006*	-1.726*	-2.599**	-2.324**	-2.870**
	(1.080)	(1.191)	(1.119)	(1.016)	(1.073)	(1.125)	(1.186)
lnTotAss	95.79	91.26	84.06	61.58	88.60	88.51	71.61
	(69.81)	(76.13)	(74.20)	(67.08)	(73.46)	(84.97)	(89.96)
BookValueperShare	2.891***	3.699***	2.779***	3.016***	2.595***	2.389***	3.211***
	(0.168)	(0.173)	(0.152)	(0.123)	(0.322)	(0.222)	(0.264)
ROE	1.183	-0.323	-1.726	-1.361	-4.656	-6.889	-5.683
	(4.488)	(4.097)	(4.437)	(4.081)	(4.965)	(5.893)	(6.330)
EBIT	-0.00367*	-0.00324	-0.000947	-0.000360	-0.00229	-0.00135	-0.00246
	(0.00193)	(0.00218)	(0.00244)	(0.00250)	(0.00203)	(0.00200)	(0.00221)
EPS	-0.334	-2.733	-2.298	-2.649**	0.0397	-1.099	-0.0551
	(1.770)	(1.694)	(1.456)	(1.207)	(3.116)	(2.170)	(2.623)
2015.year	46.18	1.209	-28.93	-4.112	-11.14	-3.362	7.241
	(32.20)	(22.39)	(17.96)	(21.98)	(18.05)	(27.12)	(19.93)
2016.year	26.33	10.15	5.924	27.85	43.19**	60.24***	60.38***
	(18.90)	(21.48)	(22.35)	(19.81)	(18.70)	(20.28)	(20.09)
2017.year	115.7***	90.07***	48.76**	51.63**	91.13***	96.55***	116.8***
	(22.70)	(22.25)	(23.22)	(21.93)	(22.46)	(25.01)	(25.24)
2018.year	55.22**	60.40**	55.79**	77.49***	106.3***	75.60***	124.3***

	(21.70)	(24.21)	(25.93)	(25.55)	(24.90)	(28.18)	(28.91)
2019.year	186.9***	164.9***	93.42***	31.51			
	(32.52)	(33.74)	(32.43)	(30.56)			
Constant	-435.6	-390.5	-271.9	-92.50	-283.0	-270.2	-153.8
	(637.9)	(691.6)	(674.5)	(613.0)	(683.5)	(793.4)	(833.9)
Observations	2,938	2,938	2,938	2,938	2,392	2,392	2,392
R-squared	0.444	0.551	0.503	0.549	0.502	0.385	0.566
Number of id	562	562	562	562	548	548	548

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S8 - without control variable Stoxx Index

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.453*	-2.638*	-2.073	-1.468	-2.957**	-2.713**	-3.619***
	(1.266)	(1.384)	(1.272)	(1.126)	(1.193)	(1.240)	(1.349)
CSRSustainabilityCommittee	-121.3	-108.0	-66.69	-4.786	-95.53	-83.12	-138.6*
	(77.35)	(81.38)	(79.59)	(71.89)	(69.24)	(76.39)	(79.43)
c.ESGScore#c.CSRSustainabilityCommittee	1.328	1.127	0.625	-0.222	1.106	1.042	1.840
	(1.173)	(1.251)	(1.230)	(1.090)	(1.092)	(1.170)	(1.233)
lnTotAss	101.7	96.76	87.79	63.05	94.34	93.26	79.19
	(70.46)	(76.81)	(74.90)	(67.89)	(74.30)	(86.04)	(91.24)
BookValueperShare	2.890***	3.698***	2.779***	3.016***	2.594***	2.388***	3.210***
	(0.169)	(0.174)	(0.152)	(0.123)	(0.323)	(0.223)	(0.266)
ROE	1.081	-0.418	-1.790	-1.388	-4.781	-6.998	-5.866
	(4.487)	(4.099)	(4.440)	(4.080)	(4.993)	(5.927)	(6.382)
EBIT	-0.00388**	-0.00343	-0.00107	-0.000376	-0.00242	-0.00146	-0.00264
	(0.00196)	(0.00222)	(0.00249)	(0.00255)	(0.00205)	(0.00203)	(0.00224)
EPS	-0.349	-2.746	-2.306	-2.650**	0.0316	-1.106	-0.0696

	(1.772)	(1.695)	(1.457)	(1.204)	(3.117)	(2.176)	(2.628)
2015.year	43.08	-1.613	-30.76*	-4.563	-13.42	-5.260	4.185
	(32.24)	(22.42)	(17.79)	(21.86)	(17.98)	(27.01)	(19.97)
2016.year	22.87	6.994	3.874	27.32	40.67**	58.15***	57.01***
	(19.02)	(21.51)	(22.17)	(19.71)	(18.72)	(20.29)	(20.27)
2017.year	111.6***	86.31***	46.26**	50.80**	88.25***	94.21***	113.1***
	(22.63)	(22.19)	(22.96)	(21.80)	(22.39)	(24.96)	(25.28)
2018.year	50.59**	56.22**	53.12**	76.99***	103.1***	72.84***	119.7***
	(21.48)	(23.94)	(25.33)	(25.21)	(24.82)	(28.11)	(28.91)
2019.year	182.5***	161.0***	91.03***	31.44			
	(32.17)	(33.37)	(31.77)	(30.14)			
Constant	-445.2	-401.8	-282.7	-107.2	-297.6	-279.9	-166.1
	(633.3)	(687.4)	(672.6)	(612.7)	(680.1)	(791.4)	(830.4)
Observations	2,938	2,938	2,938	2,938	2,392	2,392	2,392
R-squared	0.445	0.551	0.503	0.549	0.502	0.385	0.567
Number of id	562	562	562	562	548	548	548

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S9 - without control variables Stoxx Index and EPS

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.139**	-2.403**	-1.995*	-1.714*	-2.591**	-2.309**	-2.861**
	(1.081)	(1.202)	(1.130)	(1.026)	(1.070)	(1.131)	(1.184)
lnTotAss	96.42	96.41	88.39	66.57	88.51	91.38	71.77
	(69.47)	(75.82)	(73.68)	(66.66)	(72.49)	(83.27)	(89.11)
BookValueperShare	2.857***	3.424***	2.548***	2.750***	2.599***	2.276***	3.206***
	(0.0206)	(0.0175)	(0.0289)	(0.0244)	(0.0168)	(0.0137)	(0.0187)
ROE	1.172	-0.403	-1.793	-1.439	-4.658	-6.921	-5.687

	(4.491)	(4.089)	(4.426)	(4.066)	(4.971)	(5.893)	(6.334)
EBIT	-0.00382**	-0.00445**	-0.00196	-0.00153	-0.00227	-0.00184	-0.00248
	(0.00183)	(0.00190)	(0.00214)	(0.00212)	(0.00154)	(0.00176)	(0.00187)
2015.year	45.96	0.0173	-29.88	-5.273	-11.10	-3.895	7.194
	(32.73)	(22.99)	(18.28)	(22.10)	(19.22)	(27.58)	(20.72)
2016.year	26.28	10.65	6.374	28.35	43.05**	60.35***	60.22***
	(18.93)	(21.11)	(21.86)	(19.34)	(18.79)	(20.12)	(20.20)
2017.year	115.5***	89.72***	48.51**	51.36**	90.89***	96.13***	116.5***
	(22.65)	(21.92)	(22.55)	(21.15)	(22.59)	(24.72)	(25.27)
2018.year	54.60**	56.34**	52.38**	73.55***	106.1***	73.62***	123.9***
	(21.82)	(23.85)	(25.03)	(24.56)	(25.10)	(27.67)	(29.02)
2019.year	186.3***	160.8***	90.05***	27.61			
	(33.38)	(34.27)	(31.97)	(29.91)			
Constant	-442.1	-439.4	-313.2	-139.9	-283.2	-298.4	-156.4
	(634.7)	(688.7)	(669.4)	(608.5)	(673.0)	(777.1)	(825.1)
Observations	2,941	2,941	2,941	2,941	2,395	2,395	2,395
R-squared	0.444	0.549	0.501	0.547	0.502	0.385	0.566
Number of id	562	562	562	562	548	548	548

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S10 - without control variables Stoxx Index and EPS

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu
ESGScore	-2.445*	-2.593*	-2.035	-1.424	-2.949**	-2.671**	-3.607***
	(1.270)	(1.408)	(1.293)	(1.137)	(1.197)	(1.255)	(1.350)
CSRSustainabilityCommittee	-120.7	-103.9	-63.29	-0.882	-95.50	-80.87	-138.3*
	(77.57)	(82.07)	(80.12)	(72.37)	(70.46)	(76.49)	(79.98)
c.ESGScore#c.CSRSustainabilityCommittee	1.318	1.060	0.569	-0.286	1.106	0.998	1.836

	(1.177)	(1.267)	(1.243)	(1.100)	(1.119)	(1.174)	(1.245)
lnTotAss	102.3	101.8	92.05	67.96	94.27	96.07	79.39
	(70.13)	(76.51)	(74.39)	(67.49)	(73.31)	(84.41)	(90.40)
BookValueperShare	2.855***	3.422***	2.547***	2.750***	2.597***	2.274***	3.203***
	(0.0205)	(0.0177)	(0.0296)	(0.0250)	(0.0172)	(0.0144)	(0.0187)
ROE	1.070	-0.496	-1.856	-1.464	-4.783	-7.027	-5.871
	(4.490)	(4.089)	(4.427)	(4.065)	(4.998)	(5.924)	(6.385)
EBIT	-0.00404**	-0.00464**	-0.00208	-0.00154	-0.00241	-0.00195	-0.00267
	(0.00187)	(0.00193)	(0.00219)	(0.00216)	(0.00157)	(0.00179)	(0.00190)
2015.year	42.86	-2.734	-31.65*	-5.649	-13.38	-5.764	4.133
	(32.73)	(22.97)	(18.07)	(21.96)	(19.07)	(27.44)	(20.70)
2016.year	22.84	7.582	4.395	27.90	40.53**	58.29***	56.86***
	(19.06)	(21.12)	(21.66)	(19.23)	(18.84)	(20.11)	(20.39)
2017.year	111.4***	86.03***	46.08**	50.60**	88.01***	93.81***	112.8***
	(22.57)	(21.87)	(22.30)	(21.03)	(22.49)	(24.67)	(25.29)
2018.year	49.96**	52.27**	49.81**	73.18***	102.9***	70.92**	119.3***
	(21.58)	(23.53)	(24.41)	(24.23)	(24.93)	(27.61)	(28.97)
2019.year	181.8***	157.1***	87.79***	27.70			
	(32.99)	(33.85)	(31.29)	(29.48)			
Constant	-452.0	-451.8	-324.8	-155.4	-298.0	-308.7	-169.1
	(630.1)	(684.7)	(667.6)	(608.3)	(669.6)	(774.9)	(821.6)
Observations	2,941	2,941	2,941	2,941	2,395	2,395	2,395
R-squared	0.445	0.550	0.501	0.547	0.502	0.385	0.567
Number of id	562	562	562	562	548	548	548

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S11 - without control variables Stoxx Index, EPS and EBIT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	PriceCloseDic	price1gen	price1feb	price1mar	price1apr	price1mag	price1giu

ESGScore	-2.145**	-2.425**	-2.005*	-1.719*	-2.587**	-2.291**	-2.856**
	(1.084)	(1.205)	(1.127)	(1.022)	(1.068)	(1.128)	(1.183)
lnTotAss	92.34	91.53	86.20	64.89	85.27	88.78	68.19
	(69.13)	(75.43)	(73.67)	(66.80)	(71.69)	(82.64)	(88.23)
BookValueperShare	2.857***	3.424***	2.548***	2.750***	2.599***	2.276***	3.205***
	(0.0212)	(0.0181)	(0.0287)	(0.0243)	(0.0171)	(0.0136)	(0.0191)
ROE	0.988	-0.619	-1.889	-1.514	-4.757	-6.997	-5.789
	(4.480)	(4.087)	(4.422)	(4.055)	(4.968)	(5.889)	(6.331)
2015.year	46.78	1.277	-29.04	-4.552	-10.17	-3.197	8.544
	(32.55)	(22.84)	(18.44)	(22.20)	(19.08)	(27.50)	(20.61)
2016.year	26.96	11.46	6.917	28.88	43.69**	60.85***	60.90***
	(18.88)	(21.05)	(21.93)	(19.42)	(18.67)	(20.01)	(20.06)
2017.year	116.1***	90.51***	48.63**	51.50**	91.26***	96.07***	117.0***
	(22.63)	(21.90)	(22.76)	(21.38)	(22.42)	(24.65)	(25.13)
2018.year	54.33**	56.38**	52.34**	73.46***	106.1***	73.22***	123.9***
	(21.73)	(23.76)	(25.07)	(24.61)	(24.94)	(27.57)	(28.86)
2019.year	186.1***	161.1***	90.21***	27.80			
	(33.31)	(34.17)	(32.00)	(29.97)			
Constant	-413.2	-403.7	-297.0	-127.5	-258.8	-279.6	-129.3
	(632.7)	(686.3)	(669.3)	(609.4)	(666.6)	(772.0)	(818.1)
Observations	2,949	2,949	2,949	2,949	2,402	2,402	2,402
R-squared	0.444	0.549	0.501	0.547	0.502	0.384	0.566
Number of id	563	563	563	563	549	549	549

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE S12 - without control variables Stoxx Index, EPS and EBIT

VARIABLES	(1) PriceCloseDic	(2) price1gen	(3) price1feb	(4) price1mar	(5) price1apr	(6) price1mag	(7) price1giu

ESGScore	-2.428*	-2.583*	-2.028	-1.417	-2.935**	-2.647**	-3.593***
	(1.272)	(1.410)	(1.293)	(1.136)	(1.197)	(1.254)	(1.350)
CSRSustainabilityCommittee	-116.7	-98.73	-60.57	0.956	-93.49	-79.35	-136.1*
	(77.25)	(81.72)	(79.28)	(71.46)	(70.18)	(76.04)	(79.50)
c.ESGScore#c.CSRSustainabilityCommittee	1.257	0.981	0.527	-0.314	1.077	0.976	1.804
	(1.173)	(1.262)	(1.230)	(1.086)	(1.115)	(1.167)	(1.237)
lnTotAss	97.91	96.61	89.66	66.22	90.72	93.22	75.40
	(69.77)	(76.10)	(74.35)	(67.58)	(72.47)	(83.72)	(89.45)
BookValueperShare	2.854***	3.421***	2.547***	2.750***	2.597***	2.274***	3.202***
	(0.0212)	(0.0183)	(0.0293)	(0.0249)	(0.0174)	(0.0143)	(0.0191)
ROE	0.876	-0.720	-1.958	-1.539	-4.886	-7.108	-5.979
	(4.479)	(4.089)	(4.425)	(4.054)	(4.995)	(5.920)	(6.383)
2015.year	43.85	-1.300	-30.71*	-4.889	-12.35	-4.984	5.613
	(32.54)	(22.82)	(18.25)	(22.08)	(18.93)	(27.36)	(20.58)
2016.year	23.68	8.575	5.036	28.47	41.27**	58.87***	57.68***
	(19.00)	(21.06)	(21.74)	(19.32)	(18.71)	(19.99)	(20.24)
2017.year	112.2***	87.02***	46.31**	50.79**	88.50***	93.85***	113.4***
	(22.55)	(21.86)	(22.52)	(21.27)	(22.31)	(24.59)	(25.14)
2018.year	49.92**	52.55**	49.90**	73.15***	103.0***	70.64**	119.6***
	(21.49)	(23.46)	(24.49)	(24.31)	(24.76)	(27.50)	(28.79)
2019.year	181.9***	157.6***	88.10***	27.96			
	(32.94)	(33.78)	(31.36)	(29.58)			
Constant	-421.8	-415.3	-307.9	-143.2	-271.7	-288.2	-139.4
	(628.1)	(682.3)	(667.5)	(609.1)	(663.0)	(769.5)	(814.3)
Observations	2,949	2,949	2,949	2,949	2,402	2,402	2,402
R-squared	0.445	0.549	0.501	0.547	0.502	0.385	0.566
Number of id	563	563	563	563	549	549	549

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusions

This thesis analyzes different aspects of the sustainable approach of European companies in a period of economic crisis.

The analyses carried out demonstrate trends and relationships which, although significant, must be contextualized, in any case, in the particular historical period that characterized the background of all three articles.

The economic effects of the Covid-19 pandemic, indeed, have deeply changed the social dynamics and with them those of companies and all stakeholders. However, it is not possible to know whether these changes will be perpetual or, over time, will weaken and make room for the economic dynamics that characterized the first two decades of the third millennium.

In any case, the results illustrated in the thesis demonstrate that the approach to corporate sustainability is increasingly sought after by companies, to the point that they are trying to change their organizational structures or set up new internal board committees to show the market their own proactive and perpetual commitment in implementing corporate growth without harming the environment in which it operates.

In the first article, we discover that although the Covid-19 pandemic heavily influenced firm behavior in terms of workforce, investments, supply chain, etc., it did not affect the firm tendency to follow the best ESG practices, since like in the pre-Covid-19 period, they continued to invest in ESG with notable results in terms of ESG score. These results are relevant as they show how companies today are inclined to follow the best ESG practices, even during a turbulent time. This means that ESG is a key aspect that firms are prone to consider even during a huge exogenous shock.

In the second article, we demonstrate that Audit Committee determinants may influence the ESG score since the effect is statistically significant. Specifically, the association between the independence of the Audit Committee and the ESG score is found to be significant and positive. On the other hand, we find a negative and significant association between the Audit Tenure and ESG score.

The contribution of this paper validates the significance of the auditors' characteristics in improving ESG performance. In particular, it provides significant insights into the role of AC activism and independence in enhancing the quality and quantity of ESG reporting for European firms.

The third article shows a negative relationship between ESG score and stock prices, while the presence of a CSR committee seems to have a moderation effect on price, revealing a "less negative" relationship between ESG score and stock prices. From this, it is possible to deduce, in line with the stakeholder theory, that the CSR committee is an appropriate tool available to managers to settle differences between companies and shareholders.

The results discussed in the three articles allow us to state that the management of the sustainable approach can combine the company's objectives with the maximization of value for the stakeholders.

In an attempt to deal with the economic crisis originating from the Covid-19 pandemic, the cause and effect of the change in the global socio-economic system, companies are implementing a path aimed at concretely considering the opportunities for creating value linked to a more ethical conduct of their business.

The common message that emerges from the three articles is a constant interest by companies in non-financial performance, especially in a time of economic crisis such as the one generated by the Covid-19 pandemic.

This commitment, of course, lies in several reasons.

First of all, the constant evolution of EU laws on non-financial disclosure which, indirectly, encourages companies themselves to increase their commitment to a productivity that is not only economically profitable but also sustainable and respectful of the environment and the society that hosts.

In addition, market dynamics constantly require companies to rise above their competitors, not only by focusing on innovative operating strategies but also by considering sustainable performance.

Last but not least, the development of a sustainable entrepreneurial approach seems to give full essence to the company seen as a living economic organism within a constantly evolving social context.

Business economics, as a social science, finds its fundamental purpose in systematizing the economic phenomena concerning companies and

stakeholders, which make up the system in which they act (Bertini, 1990). Therefore, it is evident that the understanding of the phenomena cannot be divided from the evolution of the system in which the company operates, being the company cause and effect of the process of change.

Precisely for this reason the company plays a very important role since it has a deep commitment to safeguarding the environment in which it operates, without which no future is possible, both for companies and for future society.

As indicated by Coda (2023), the company's purpose incorporates three values: mission, continuity, and development. The "mission" concerns the effort to provide an output (product/service) to the market; the "continuity" recalls the nature of the company seen as an economic-social institution created to last (Zappa, 1956); the "development", in a qualitative sense, is an essential element to give continuity to the company.

In the current economic context, as indicated by the articles of this thesis, the company has the intrinsic task of actively participating in the protection of the environment in which it operates, as well as being “a production unit for the implementation of the fulfillment of the needs of individuals” (Caramiello, 1993).

Therefore, unity of intent cannot occur if the search for the "production mission" contrasts the ethical aspect, damaging the socio-economic system of reference, given that the company's pursuit is conditioned by the environment (Masini, 1970).

In conclusion, a propensity of companies to create non-economic value emerges, seen as a fundamental element for achieving the final goal of economic entities: to persist in the economic scenario.

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