



Borsa İstanbul Review

Borsa İstanbul Review xxx (xxxx) xxx

<http://www.elsevier.com/journals/borsa-istanbul-review/2214-8450>

Full Length Article

The role of audit quality in the ESG-corporate financial performance nexus: Empirical evidence from Western European companies

R.M. Ammar Zahid ^a, Muhammad Kaleem Khan ^{b,*}, Waseem Anwar ^c, Umer Sahil Maqsood ^d

^a School of Accounting, Yunnan Technology and Business University, Kunming, Yunnan, PR China

^b Asia-Australia Business College, Liaoning University, PR China

^c Department of Management Sciences, COMSATS University Islamabad (Lahore Campus), Pakistan

^d School of Economics and Finance, Xi'an Jiaotong University, Xi'an, PR China

Received 25 April 2022; revised 28 August 2022; accepted 28 August 2022

Available online ■ ■ ■

Abstract

The study explores the moderating role of audit quality in the relationship between environmental, social, and governance (ESG) factors and corporate financial performance (CFP) in Western European countries. The research sample includes 620 firms headquartered in Western Europe, including Austria, Belgium, France, Germany, Luxembourg, Monaco, the Netherlands, and Switzerland from 2010 to 2019. Panel data estimations are used to examine the direct and moderating effects. The results show that ESG has a significantly negative effect on a firm's financial performance as measured by the return on assets (ROA), supporting the trade-off hypothesis in which investing in ESG activities increases the cost of business. Additionally, we find that ESG's adverse influence on CFP is more evident at enterprises that are certified by Big Four accounting firms. However, ESG has a significantly positive effect on revenue, suggesting that customers are more attracted to firms that invest in ESG. The analysis of the subcomponents of ESG supports the main results. The results are robust to alternative model specifications and alternative measures of CFP and audit quality and are free of endogeneity issues. The findings contribute to the existing knowledge on ESG by elucidating the effect of external auditor quality on the ESG-CFP relationship. We also examine overall ESG scores as well as individual ESG characteristics (environmental, social, and governance).

Copyright © 2022 Borsa İstanbul Anonim Şirketi. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Keywords: Audit quality; Environment; ESG; Financial performance; Governance; Social; Western Europe

1. Introduction

Globally, corporations recognize that a short-term emphasis on merely financial objectives is no longer adequate. The rationale is that stakeholders have developed interest in sustainability performance. However, the European Union (EU) is truly leading the charge, having launched a series of reforms in the sustainable finance arena, transforming how financial and nonfinancial corporations operate in this paced development of

environment, social, and governance activities. Corporations use ESG disclosure as a voluntary practice. Despite a few attempts at standardizing reporting procedures for ESG activities (e.g., the Global Reporting Initiative's [GRI] Sustainability Reporting Guidelines or the EU legislation on nonfinancial reporting), ESG disclosure practices vary significantly between organizations. Supporters of standardization argue that standards ensure uniformity in reporting (Zahid & Simga-Mugan, 2019) and allow comparisons of firms' ESG performance, at least within sectors. An independent audit firm can be relied upon to ensure that a company's sustainability reporting is truthful. A key stumbling block for the ESG movement is that most firms publish sustainability reports separately from their financial reports, making it challenging to identify the connection between financial performance and sustainability

* Corresponding author.

E-mail addresses: amrzahid@gmail.com (R.M.A. Zahid), MuhammadKaleem.Khan@vu.edu.au (M.K. Khan), wasyhcc@yahoo.com (W. Anwar), omersahil@stu.xjtu.edu.cn (U.S. Maqsood).

Peer review under responsibility of Borsa İstanbul Anonim Şirketi.

<https://doi.org/10.1016/j.bir.2022.08.011>

2214-8450/Copyright © 2022 Borsa İstanbul Anonim Şirketi. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

performance. Additionally, the outbreak of COVID-19 and the accompanying lockdowns sowed uncertainty and had far-reaching consequences, disrupting commonality and imposing numerous adjustments in the ESG policies. This study connects ESG and corporate financial performance (CFP) in Western European markets. Moreover, this study explores how audit quality moderates the nexus between ESG and CFP.

Earlier studies about ESG initiatives examined its determinants and economic consequences. However, recent corporate finance research has shifted its focus to financial and accounting aspects of the company's ESG initiatives in terms of governance, external stakeholders (David et al., 2007), society (Matten & Moon, 2008), and institutional pressure (Bondy et al., 2012; Matten & Moon, 2008). Meanwhile, the key question for companies and shareholders is whether ESG disclosure policies can improve a company's financial performance. Environmental and social disclosure are the two most commonly studied ESG topics in past studies (Barnett & Salomon, 2012). Because ESG disclosure concerns are inter-related, focusing exclusively on one facet might pose difficulties. Only a few ESG studies have examined all three ESG aspects and their influence on CFP in a single scenario (Nollet et al., 2016; Tarmuji et al., 2016). Moreover, distinct viewpoints and ambiguous results make this discussion inconclusive. Considering these diverse findings, the ESG-CFP nexus should be re-examined to obtain a new understanding. It is imperative to include all ESG aspects when measuring their impact on CFP. So, this study goes beyond these extant studies because of its multifaceted contributions.

Additionally, recent research relies on oversimplified models that focus exclusively on the direct association between CSR and financial performance (Cho et al., 2019; McGuire et al., 1988), ignoring alternative moderating factors. Organizational behavior is moderated by certain corporate governance systems, which they fail to consider (Rodriguez-Fernandez, 2016). Thus, it is worthwhile to investigate areas that previous studies have mostly overlooked to gain more nuanced knowledge about the ESG-CFP relationship, such as audit quality. Adding the importance of audit quality helps shed light on the relationship between ESG and CFP, in addition to looking beyond the obvious connection. Recent empirical investigations indicate that, even when the ESG-CFP relationship is positive, the relationship might be influenced by a variety of situational (moderating or mediating) variables (Busch & Friede, 2018; Liu et al., 2021). In that light, a specialized governance mechanism, such as audit quality, might be critical for improving the quality of strategic choices and ensuring the effective implementation of new initiatives. Audit quality is a critical governance technique for resolving agency issues (Watkins et al., 2004). Information asymmetry between stakeholders and management generates agency costs in an agency environment. Thus firms should use independent auditors to help them avoid opportunistic conduct (Buchanan et al., 2021). Thus, this article examines the correlation between ESG and financial performance and emphasize the moderating role of audit quality.

The study sample includes 620 nonfinancial listed companies headquartered in Western Europe, with 6195 firm-year observations from 2010 to 2019. The ESG overall score and subcomponents are used as independent variables, and the ROA and revenue assess financial performance as the dependent variable. The interaction term $\text{Big4} \times \text{ESG}$ is used as a moderator for audit quality. We base our analysis on the Thomson-ESG Eikon ratings, data that also provide information on the use of auditing techniques for nonfinancial information. The study also includes control factors such as firm size, financial leverage, dividends paid, and the price-to-book ratio. Our results show that ESG has a negative impact on past financial performance as assessed by ROA, validating the trade-off theory or traditional perspective that ESG increases costs and diminishes profitability (Galant & Cadez, 2017; Saygili et al., 2022). However, ESG benefits the organization's revenues/sales, as customers tend to reward good ESG strategies (Okafor et al., 2021). The subcomponents of ESG corroborate the main findings. In the second phase of the research, we examine the moderating effect of audit quality on the ESG-CFP nexus. The findings show that ESG and incremental audit quality judged by Big Four auditors negatively affect historical financial performance. At the same time, ESG's positive impact on revenue is more evident at Big Four-certified companies.

Thus this paper contributes (theoretically and practically) to the existing literature not only by adding to the vast literature on the sustainability-financial performance nexus but also by deviating from extant studies as follows. First, this study covers all aspects of sustainability (i.e., environment, social, and governance), so our findings offer a complete picture. Until now, most ESG research has focused on the total ESG score, whereas the influence of the constituents CSR have been studied infrequently (Liu et al., 2021). Second, the study looks at the intersection of ESG, CFP, and auditing. No other study has examined these three aspects together in a single analysis. Audit quality is a critical governance characteristic that is likely to prevent management opportunism. In conjunction with ESG performance, audit quality is correlated with improved financial success for businesses (Alareeni & Hamdan, 2020). Therefore, the study answers a very important question: Does audit quality make a difference in the relationship between ESG rating and CFP? Third, we present a more complete picture by examining the influence of different ESG components, alternative financial performance measures, critical control variables, the robustness of estimation techniques, and a longer period (2010–2019). Finally, this study empirically explores this phenomenon in Western European markets, considered pioneers in sustainability practices and the world's loudest voice in advocacy of sustainable development.

The rest of the article is organized as follows. Section 2 reviews the ESG-CFP literature and formulates hypotheses. Section 3 discusses the methodology used in the research, whereas Section 4 discusses the empirical findings and further tests. Finally, Section 5 summarizes the findings and their practical consequences, acknowledges the study's significant

limitations, suggests further research, and offers management and regulatory implications.

2. Relevant literature and development of our hypotheses

2.1. ESG and CFP

The CSR and CG concepts emerged in the setting of major listed corporations in highly industrialized countries, which sparked a boom in sustainable business and investment (Alareeni & Hamdan, 2020). The relationship between ESG and various firm-level components has been extensively researched over the past few decades. The ESG literature could be divided into two streams, of which the first is the determinants of CSR disclosure, and the second is the impact of ESG on firm-level economic outcomes. The determinants of CSR disclosure include company size, profitability, financial leverage, industry environmental sensitivity, board size, women members of the board, internationalization, and reputation (Dyduch & Krasodomska, 2017). Second, a large corpus of research examines how ESG affects different firm-level outcomes. Research shows that ESG improves a company's public image, which leads to an increase in sales and revenue (Nyame-Asiamah & Ghulam, 2019). Risk-related studies find a negative impact of ESG on the financial leverage and overall risk profile of the firm (Harjoto, 2017). Although company image, leverage, and risk are some of the most important indicators of firm performance, do these factors lead to better financial performance? Managers are more concerned about the financial performance of the firm, as it is directly related to firm value (Hill & Snell, 1988; Saygili et al., 2022).

The nexus between ESG and CFP has been extensively researched in terms of the theoretical and applied aspects. One established notion holds that no single theory can encompass the sustainability-related phenomenon (Khan et al., 2022; Zahid & Simga-Mugan, 2022). The current study incorporates insights mainly from stakeholder theory (Freeman et al., 2010), managerial myopia theory (Stein, 1988), trade-off theory (Aupperle et al., 1985), and agency theory (Jensen & Meckling, 1976). Two contradictory theoretical approaches explain the ESG-CFP nexus; the trade-off hypothesis and the social effects (doing well while doing good) hypothesis show a negative and positive association between ESG and CFP, respectively. The social effects hypothesis holds if the costs of socially responsible operations surpass the benefits. ESG has some hidden value that converges with stakeholder and social impact theories (Freeman et al., 2010). Freeman (2010) supports the engagement of management in ESG activities and states that corporations can use ESG activities to resolve conflicts among stakeholders, such as managers, shareholders, employees, and customers (Khan et al., 2021; Zahid et al., 2022). ESG reporting is a tool used by an organization to control, manage, influence, or even manipulate various stakeholders. "Information—including financial accounting and social accounting—is a major element that can be deployed by the organization to manage (or manipulate) the stakeholder to

gain their support and approval (or to distract their opposition and disapproval)" (Huang & Kung, 2010, p. 449). Employee, customer, and stakeholder (including local governments and banks) interests have been promoted as long-term key strategies in ESG (McWilliams & Siegel, 2001), with corporations that have social responsibility (Hussainey & Achek, 2015). Socially responsible firms have conflicts with society, which coincides with a decrease in the cost of conflict and hence increases shareholder value (Heal, 2005). According to managerial myopia, managers tend to favor actions with short-term profit above those that optimize long-term shareholder value. In contrast, investors with a short-term focus tend to undervalue long-term advantages. Because the expenses of socially responsible acts are incurred immediately, their benefits are realized in the long run. Therefore, the accompanying gains are more difficult to foresee and less enticing to investors with a short-term focus.

In contrast, the neoclassical approach of Friedman (2007) emphasized profit maximization and value creation for shareholders and management. Accordingly, corporate performance can be harmed by appeasing other stakeholder groups (Brown & Caylor, 2006). Increasing costs, decreasing profitability, and reducing competitive advantage are the consequences of investing resources in achieving social and environmental objectives (e.g., reducing pollution, increasing employee compensation and benefits, and supporting the community through donations and sponsorships) (Galant & Cadez, 2017; Zahid et al., 2022). According to Barnea and Rubin (2010), socially responsible activities that represent extravagant expenditures by managers motivated by personal benefits, such as public appreciation, as opposed to the idealistic intent of nonfinancial value, result in a significant decrease in shareholder value and inferior financial performance. Therefore, an agency issue arises. According to Krüger (2015), investors respond adversely (positively) to the announcement of socially responsible actions by enterprises with a high (low) liquidity position, and these investments are seen as inefficient. Agency theory is employed to support H1 and H2. Agency theory captures attention in ESG-related studies because of the governance aspect of ESG.

Many earlier investigations came to different conclusions about the ESG-CFP relationship. Some discovered a neutral, negative, or positive connection, while others reported a U-shaped or inverted U-shaped ESG-CFP link. For instance, Shahzad et al. (2022) find a positive influence of ESG on a firm's financial performance. Surroca et al. (2010) see no significant relation between ESG on a firm's financials. In comparison, Wang and Bansal (2012) suggest that the adoption and application of ESG inflate its cost, adversely affecting the firm's financial performance. Gilley et al. (2000) demonstrate that, as the positive effects of the implementation of ESG offset the adverse effects, the relation between ESG and financial performance becomes U-shaped. Barnett and Salomon (2012) confirm the existence of this U-shaped curve in their study. This U-shaped relationship is also supported by Nollet et al. (2016) in the context of US firms. Han et al. (2016) find

convexity in the ESG and financial performance of firms in Korea. Friede et al. (2015) compares the nonlinearity of the ESG-CFP relationship in developed and emerging markets. They highlight the role of moderating variables and institutional settings in changing the course of the ESG-CFP curve.

The trade-off argument supports studies that show negative relationships in which ESG raises business costs and adversely affects CFP (Wang & Bansal, 2012). At the same time, a positive association shows that being socially responsible firms boosts profits (Lee & Choi, 2021; Shahzad et al., 2022). However, studies that show a neutral connection reveal that being socially responsible does not influence profitability because the good impacts outweigh the negative ones (Gilley et al., 2000; Surroca et al., 2010). Then, studies with U-shaped or inverted U-shaped links imply that the ESG-CFP nexus is influenced by the degree of ESG investment (Brammer & Millington, 2008). Barnett and Salomon (2012) demonstrate a U-shaped link. At the beginning, ESG activity harms CFP because costs outweigh benefits, but later on, the connection is reversed and becomes positive.

Researchers have also examined the impact of ESG on various corporate performance measures in a European context. For instance, Nirino et al. (2021) consider the moderating effect of ESG on the impact of corporate controversies on financial performance. By employing linear regression models on 365 European companies, they could not confirm the positive impact of ESG on the financial performance of the European firms engaged in corporate controversies. Rahi et al. (2021) employ static and dynamic estimators on financial sector corporations in the Nordic countries and find a negative relationship between ESG and return on equity (ROE) and earnings per share (EPS). Looking at 200 French enterprises listed from 2007 to 2018, Dakhli (2021) discover a significant positive correlation between CSR and financial performance. The proxies used to measure financial performance were ROA, ROE, and Tobin's Q. Dakhli also considers the moderating effect of audit quality and finds that the positive impact of the CSR is greater at French firms that are audited by Big Four auditors.

More than a simple cause-and-effect relationship exists between ESG and CFP. Some experts argue that ESG policies are nothing more than a cost to a company, resulting in a decrease in profitability (Kim & Lyon, 2015). Others show that CFP and ESG components are positively related (Shahzad et al., 2022). In short, the evidence in the literature linking ESG and the firm's financial performance is not conclusive. The literature above shows that the direction of the relationship between ESG and CFP varies, depending on the market in which the research was conducted and the profitability indexes that are used. The unavailability of a conclusive relation creates an opportunity for future research, and our research fill this gap, in particular regarding Western Europe markets.

Based on the preceding theoretical explanations and empirical evidence, we expect to see a negative influence of ESG ratings and its components on CFP in Western European markets. The following hypothesis is proposed:

Hypothesis 1. ESG and its components have a negative impact on corporate financial performance.

2.2. Moderating effect of audit quality and audit cost in ESG-CFP nexus

According to the agency theory by Jensen and Meckling (1976), auditing is a vital method for reducing information inequality, restraining opportunistic conduct, and enhancing ESG performance (Agyei-Mensah, 2018; Habbash & Alghamdi, 2017). Angelo (1988) defines audit quality as the auditors' capacity to discover and disclose serious errors. A low probability of misinterpretation of financial statements, including errors or misconduct, is a sign of high audit quality. The extent to which an auditor renders an appropriate audit opinion is what we refer to as the "quality" of an audit, explained by Dewi and Monalisa (2016). Better auditing results in more accurate financial reporting, greater trustworthiness, and less self-serving behavior (Watkins et al., 2004).

According to audit theory, the efficacy of external auditing is contingent on audit quality (Kausar et al., 2016; Knechel et al., 2013). Various characteristics are proposed in prior research to evaluate auditors' competency, including audit firm size. Along these lines, Angelo (1988) asserts that audit quality rises with an audit firm's size or brand. Well-known auditors produce higher-quality audits to protect their reputational capital and remain independent from their customers (Bacha et al., 2020). Customers of the Big Four accounting firms appear to be better off financially, according to recent studies (Phan et al., 2020). Accredited audit firms help ensure that audited companies' financial statements are reliable, transparent, and valuable because they adhere to high-quality auditing standards. Aside from supporting good corporate governance and internal control, rigorous audits can help improve financial performance. It may be difficult to persuade Big Four firms to breach established auditing norms because of the need to preserve their reputation (Ado et al., 2020). Large audit firms always have higher audit quality, which infers that high audit quality can help corporations perform better financially. Customers of Big Four firms, according to past studies, demonstrate exceptional social performance (Agyei-Mensah, 2018). CSR information may be more credible because of the investment in human capital and technology made by the Big Four firms.

Auditing cost is generally associated with audit quality. Audit firms, known for their audit quality, tend to charge a higher audit cost. Stakeholders link the audit cost and audit quality with the notion that corporate social governance enhances firm value and image. The voluntary disclosure of more reliable nonfinancial information and more accurate ESG scores can be ensured by setting up good-quality, cost-effective audits. For example, Ali and Lesage (2013) and Griffin et al. (2010) show that audit pricing takes into account the characteristics of the clients and any potential agency issues. If auditors are implicated in a company controversy, they risk losing

their reputation and incurring legal fees. High-risk clients are charged a higher audit fee to offset anticipated losses (Simunic, 1980).

As discussed in the preceding section, literature on ESG and firm performance demonstrates negative, positive, neutral, and U-shaped results. This shows a need for further investigation of this relationship to improve understanding. To fill this gap, we introduce audit quality in this model. Moreover, despite the plethora of research on the relationship between ESG and CFP, none of the studies has incorporated the moderating impact of audit quality underlying the ESG-CFP nexus. The present study also fills this gap. Following prior research, we propose that a contingency approach is necessary for understanding ESG's influence on CFP. Accordingly, this study examines how audit quality and cost influence the link between ESG and the financial performance of companies. Accordingly, higher audit quality contributes to both ESG and corporate financial performance (by restraining opportunistic behavior and lowering agency conflict concerns); therefore, audit quality is expected to moderate the ESG-CFP relationship positively:

Hypothesis 2. Audit quality positively moderates the ESG-CFP relationship.

3. Data and methodology

3.1. Data description and sample selection

The ESG and the firm performance have become the need of the hour in the context of sustainability. In this regard, the disclosure of these practices varies by countries and companies. The Eikon Refinitiv database is used to identify the firms that practice ESG reporting. Initially, the data were gathered from 651 nonfinancial listed companies headquartered in Western countries, including Austria, Belgium, France, Germany, Luxembourg, Monaco, the Netherlands, and Switzerland, from 2010 to 2019. Because ESG is a voluntary disclosure, most firms do not report it. In 2014, the EU approved a regulation on nonfinancial reporting, pursuant to which major public firms (those employing more than 500 people) were required to provide information about their operations concerning the environment, social, and governance issues (European Parliament, 2014). Moreover, the EU released the “European Green Deal” initiative in December 2019, an action plan to make Europe a climate-neutral continent by 2050 (European Commission, 2019). We selected Western European countries because they focus on ESG-related reporting and data availability. Another reason for selecting this sample is that Europe is a pioneer in raising its voice against environmental harm by industry and is among the regions where firms started to disclose ESG-related practices. In fact, the 651 firms comprise all the nonfinancial firms in these countries that reported ESG data in the database. After scrutiny, 620 companies, with 6195 firm-year observations, were chosen because of the unavailability of data on some companies. The highest number of

firms is in Germany (27.55%, 171 firms), with 1707 firm-year observations, followed by France with a total of (23.41%, 145 firms), and the fewest firms were selected from Monaco (0.64%, 4 firms), with 40 firm-year observations.

3.2. Variable measurements

3.2.1. Dependent variable

We use two different parameters—namely, return on assets (ROA) and sales revenue (Rev(ln)) of the firms—to measure corporate financial performance (CFP), the dependent variable. ROA is the ratio of net earnings to total assets, and sales revenue is the natural logarithm of net sales for a year. They are some of the most popular measures used in the literature (Chakroun & Amar, 2021; Cho et al., 2019).

3.2.2. Independent variables

We use the ESG score and its components (environmental, social, and governance) scores as independent variables. The ESG score is a multidimensional index based on several financial and nonfinancial indicators. In particular, Thomson Reuters obtains and processes more than 400 ESG measures in the public domain to construct the 178 most comparable measures, which are then grouped into ten categories, that range on a scale of 0–100, with a higher score showing better ESG accomplishment. ESG scores are constructed from the outputs of environmental, social, and governance disclosures. It is beneficial to have independent data accessible for each component to avoid the potential for one dimension to influence another, which can cancel out the overall impact (Buallay et al., 2020). This categorization enables us to determine which component of the ESG score is the primary driver of CFP and which variable has the most significant impact on CFP.

3.2.3. Moderating variables

Audit quality is used as a moderating variable in the study. Based on prior research, audit quality is proxied by the Big Four, the world's four largest accounting firms (Deloitte, Ernst & Young, KPMG, and PriceWaterhouseCoopers). Because of their well-established brand names, Big Four companies are more motivated to provide higher-quality auditing services in order to preserve their reputation (Angelo, 1988; Watkins et al., 2004). It is a dummy variable, which takes a value of 1 if a Big Four companies audits the company's financial statements; otherwise, 0.

3.2.4. Control variables

Several factors are involved in determining the firm's performance. In order to examine the impact of ESG on CFP, we consider some control variables based on prior literature, including size, financial leverage, dividends paid, and the price-to-book value in order to capture the impact of size, flexibility, profitability, and firm growth, respectively. The literature shows a positive relation between firm size and a firm's financial performance, so firm size is considered as a

control variable, measured as the natural log of total assets (Zhu et al., 2014). Financial leverage has a negative relation to the firm's financial performance (Naseem et al., 2020), so it is included as a control variable, measured as the ratio of total liabilities to total assets. Firms with high dividend payments are seen as having healthy financial performance; we measure it as the ratio of dividends paid to total assets (Benlemlih, 2019). Finally, the price-to-book value is measured as the ratio of the market value of shares of a company to its book value of equity, which shows the firm's opportunities for growth.

3.2.5. Empirical models

The following multivariate regression model is estimated to test the hypothesized relationships between ESG and CFP.

$$\begin{aligned} Fin_Perf = & \alpha + \beta_1 ESG_{it} + \beta_2 Size_{it} + \beta_3 FL_{it} + \beta_4 Div_payout_{it} \\ & + \beta_5 PTB_{it} + \sum_{i=1}^n \beta_n Country_Dummies_{it} \\ & + \sum_{i=1}^n \beta_n Industry_Dummies_{it} \\ & + \sum_{i=1}^n \beta_n Year_Dummies_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

In Equation (1), i is the firm, and t is the time in years. Fin_Perf is the financial performance, measured by ROA and sales revenue (Rev(ln)); ESG refers to the environment, social, and governance scores; $Size$ is the log of the total assets of the firm; financial leverage (FL) is measured as the ratio of total debt to total assets; dividend payout (DP) is the measured as the dividend paid divided by total assets, and PTB is the price-to-book ratio. We include country, industry, and year dummies to avoid common endogeneity issues that arise over time across industries and countries. ε is the error term.

Further, to examine the moderating role of audit quality and the cost of audits in the ESG-CFP nexus, we introduced an interaction term, $Big4 \times ESG$, that is, the interaction effect between being audited by Big Four accounting firms and ESG and its components. Equation (2) shows the model in detail.

$$\begin{aligned} Fin_Perf = & \alpha + \beta_1 ESG_{it} + \beta_2 Big4_{it} + \beta_3 Big4_{it} \times ESG_{it} \\ & + \beta_4 Div_Payout_{it} + \beta_5 FL_{it} + \beta_6 ROA_{it} + \beta_7 PTB_{it} \\ & + \sum_{i=1}^n \beta_n Country_Dummies_{it} \\ & + \sum_{i=1}^n \beta_n Industry_Dummies_{it} \\ & + \sum_{i=1}^n \beta_n Year_Dummies_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

where all the variables are the same as in Equation (1), except the interaction term, $Big4 \times ESG$, to capture the moderating impact of audit quality.

Table 1
Descriptive statistics.

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
ROA	5723	.036	.127	-3.813	.623
Rev(ln)	5385	2.122	.205	.6934	2.6876
ESG	3562	52.995	21.075	2.25	94.117
Environment	3562	51.951	28.163	0	99.1
Social	3562	57.682	24.287	.122	98.249
Governance	3562	49.352	23.057	.495	97.76
Big4_Auditor	5509	.785	.411	0	1
Audit fee	4842	14.119	1.482	7.185	18.231
ROE	5379	-.021	8.889	-650.6	14.316
Size	5851	22.001	1.925	13.008	28.044
FL	5849	.548	13.545	-877.372	169.566
Dividend Paid (ln)	4595	18.156	1.845	7.601	23.475
Price-to-Book	5427	2.587	19.032	-783.876	764.776

Notes: ROA = return on assets, Rev(ln) = natural logarithm of revenue/sales, ESG = Environmental, Social and Governance score (Thomson Reuters Eikon Refinitiv), Big4_Auditor = audited by a Big Four firm, ROE = return on assets, size = natural logarithm of total assets, FL = debt to assets ratio.

4. Results and discussions

4.1. Descriptive statistics and correlation analysis

Table 1 contains descriptive data for the variables used in the study. The mean value is 0.036 for ROA and 2.122 for Rev(ln), with standard deviations of 0.127 and 0.205, respectively. The mean value of the ESG score is 52.99, with the highest score (57.68) in the social component, whereas the standard deviation of ESG ratings is 21.7, with a higher standard deviation (28.16) in the environmental component. Financial leverage and price-to-book ratios have higher standard deviations than size and dividends payable, showing that the enterprises have a range of indebtedness risk and profitability characteristics.

4.2. ESG and corporate financial performance

Table 2 summarizes the results of the ESG and CFP relationship based on the estimation of Equation (1). We use a panel ordinary least squares (OLS) regression with fixed effects for the year, company, and country (the Hausman tests also suggest a preference for the fixed-effect [FE] model). Table 2, panels A and B, illustrates the effect of ESG factors and its components on ROA and Rev(ln), respectively. Models 1, 2, 3, and 4 illustrate the impact of the ESG, Environment, Social, and Governance ratings on CFP.

The findings indicate that the ESG score and its components have a statistically significantly negative effect on ROA. The social and governance scores have a significantly positive impact on revenue, whereas the overall ESG and environmental components are not significantly related to revenue. ESG and its components have a negative effect on ROA, showing that the expense of ESG practices becomes a cost to shareholders, limiting investment opportunities and overall performance (Kim & Lyon, 2015). Therefore, our findings are consistent with H1 and support the trade-off hypothesis or traditionalist perspective of a negative relationship between ESG and CFP. Spending money on environmental and social

Table 2
ESG and corporate financial performance.

Variables	Panel A: ROA				Panel B: Rev(ln)			
	1	2	3	4	1	2	3	4
ESG	-0.388*** (0.0925)				0.293 (0.557)			
Environment		-0.264*** (0.0750)				0.642 (0.467)		
Social			-0.227*** (0.0683)				-0.849** (0.406)	
Governance				-0.187*** (0.0683)				0.836** (0.407)
Size	-6.690* (3.775)	-7.926** (3.740)	-8.082** (3.742)	-9.582*** (3.673)	0.610*** (0.0222)	0.606*** (0.0219)	0.625*** (0.0219)	0.606*** (0.0215)
FL	1.101*** (0.308)	1.112*** (0.309)	1.108*** (0.309)	1.128*** (0.309)	-0.0139 (0.177)	-0.0110 (0.176)	-0.0282 (0.176)	-0.0122 (0.176)
Dividend Paid (ln)	5.625*** (1.068)	5.361*** (1.064)	5.394*** (1.065)	5.371*** (1.068)	0.098*** (0.0624)	0.195*** (0.0621)	0.215*** (0.0621)	0.188*** (0.0622)
Price-to-Book	0.0781 (0.0590)	0.0766 (0.0591)	0.0804 (0.0591)	0.0760 (0.0591)	0.0254 (0.0336)	0.0255 (0.0336)	0.0267 (0.0335)	0.0260 (0.0335)
Constant	120.0 (83.66)	146.6* (82.93)	148.6* (83.07)	179.5** (81.75)	7.938*** (0.486)	8.022*** (0.481)	7.618*** (0.482)	8.028*** (0.473)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3011	3011	3011	3011	2705	2705	2705	2705
Number of Firms	520	520	520	520	477	477	477	477

Notes: See notes to Table 1. Equation (1) is the model estimated. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

goals (e.g., pollution control, higher salaries and benefits, and community donations and sponsorships) increases expenditure, lowers profitability, and diminishes competitive advantage (Galant & Cadez, 2017).

However, the positive impact of the social and governance components of ESG on CFP shows that investment in social initiatives enables businesses to develop a positive brand image and reputation (Bahta et al., 2021) and attract a diverse range of creditors and investors (Barnett & Salomon, 2012). Social initiatives and better governance signal the market and attract more customers than revenue increases. According to McGuire et al. (1988) and (Bacha et al., 2020), enterprises with better ESG performance are less risky than their counterparts. As a result, socially responsible businesses are related to greater investor preference (Bacha et al., 2020). These findings corroborate those of Rodriguez-Fernandez (2016), Okafor et al. (2021), and Shahzad et al. (2022), who all say that enterprises with a stronger social mission achieve superior performance. They contend that a company's image can be enhanced through social programs. Our results show that customers feel gratified when they purchase products or services from firms that participate in social initiatives (Phan et al., 2020); as a result, corporate sales grow. However, excessive spending by managers in ESG activities is driven by self-interest, rather than the idealistic purpose of nonfinancial value. Consequently, agency problems can emerge, which increase the overall cost of doing business, thus shareholder value and financial performance are significantly decreased (Barnea & Rubin, 2010). Short-term profits are prioritized by management, while long-term benefits are undervalued in the minds of investors, who are focused on short-

term profit. Acts of social responsibility have a short-term financial cost but a long-term financial reward. Thus it is difficult to predict the associated benefits of ESG firms and less appealing to investors with a focus on the short term (Stein, 1988).

Corporate size negatively influences ROA, but financial leverage and dividend payout have a positive effect. These findings corroborate earlier research indicating that larger enterprises generate more competition than smaller competitors. This advantage enables businesses to obtain economies of scale and consolidate their market position (Chakroun & Amar, 2021; Cho et al., 2019).

4.3. ESG and CFP nexus: the moderating role of audit quality

Table 3 states that the audit quality (i.e., Big Four auditor) of financial statements has a significantly positive influence on the effect on ROA. At the same time, the interaction term (i.e., Big4 \times ESG and its components, respectively) have a significantly negative moderating impact on the ESG-ROA relationship. In other words, ESG policies, when combined with improved audit quality as demonstrated by Big Four certification of company financial reports, result in a decline in historical financial performance during the period studied. The effect is consistent with that for the subcomponents of environment, social, and governance. Further, the financial audit quality (Big4 Auditor) strongly moderates the relation between ESG and corporate performance indicators. A comparison of the results of Table 3 with those in Table 2 reveals that including the Big Four

Table 3
Moderating role of Audit Quality (Big4) in the ESG-CFP nexus.

Variables	Panel A: ROA				Panel B: Rev(ln)			
	1	2	3	4	1	2	3	4
ESG	-0.404** (0.159)				0.0588 (0.0973)			
Environment		-0.309** (0.123)				0.0116 (0.0770)		
Social			-0.210* (0.123)				0.166** (0.0748)	
Governance				-0.176 (0.122)				0.0757 (0.0751)
Big4_Auditor	3.280* (9.008)	1.378** (7.331)	3.594* (7.766)	4.061 (6.839)	-0.0478* (0.0552)	-0.0303* (0.0460)	-0.0520 (0.0473)	0.0128* (0.0418)
Big4 × ESG	-0.0343* (0.151)				0.119* (0.0926)			
Big4 × Environment		-0.0397* (0.114)				0.0835* (0.0710)		
Big4 × Social			-0.0320* (0.122)				0.123** (0.0744)	
Big4 × Governance				-0.0535** (0.119)				0.0138* (0.0737)
Size	-6.530* (3.863)	-7.695** (3.829)	-8.380** (3.835)	-9.706*** (3.759)	0.615*** (0.0235)	0.613*** (0.0232)	0.631*** (0.0232)	0.612*** (0.0227)
FL	1.631*** (0.370)	1.644*** (0.370)	1.644*** (0.371)	1.672*** (0.371)	0.0508 (0.220)	0.0519 (0.220)	0.0298 (0.220)	0.0498 (0.219)
Dividend Paid (ln)	6.297*** (1.099)	5.998*** (1.094)	6.002*** (1.097)	6.019*** (1.098)	0.216*** (0.0663)	0.216*** (0.0660)	0.234*** (0.0660)	0.205*** (0.0661)
Price-to-Book	0.0674 (0.0581)	0.0655 (0.0581)	0.0699 (0.0582)	0.0661 (0.0582)	0.0248 (0.0341)	0.0253 (0.0341)	0.0254 (0.0341)	0.000252 (0.0341)
Constant	103.3 (85.79)	130.5 (85.05)	141.5* (85.12)	168.4** (83.81)	7.801*** (0.516)	7.838*** (0.510)	7.480*** (0.511)	7.832*** (0.503)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
\Observations	2808	2808	2808	2808	2527	2527	2527	2527
R-squared	0.310	0.297	0.278	0.279	0.302	0.302	0.303	0.303
Number of Firms	516	516	516	516	473	473	473	473

Notes: See notes to Table 1. Equation (2) is the model estimated. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

auditor in the model increases the negative impact of ESG on financial performance (ROA) from -0.388 to -0.404 . Thus, improved audit quality, as evidenced by Big Four certification of company financial reports, negatively affects the link between ESG practices and historical financial performance in Western European countries in the period investigated. However, panel 2 of Table 3 reveals that audit quality has a significantly positive relation to revenue. This means that auditing by Big Four auditors increases the firm's overall revenue. These findings corroborate earlier empirical findings (Phan et al., 2020), showing that customers of Big 4 firms achieve superior financial performance. They suggest that rigorous audits can help firms strengthen their corporate governance and internal control systems, improving their financial performance. Additionally, stakeholders believe that organizations audited by the Big 4 are free of significant misstatements, promoting and strengthening their trust in these firms to invest more.

Further, the coefficients of the interaction term (Big4 auditor \times ESG) are all positive and significant. When a Big 4 firm audits a socially responsible business (high ESG scores),

the company is more likely to achieve success in terms of growth. Thus, our findings lend credence to the agency theory (Jensen & Meckling, 1976), which identifies auditing as a critical monitoring tool for mitigating information asymmetry, constraining opportunistic behavior, and enhancing ESG performance and disclosure (Agyei-Mensah, 2018; Cho et al., 2019; Habbash & Alghamdi, 2017). According to Ado et al. (2020), Big 4 auditors are seen as more trustworthy because they devote significant resources to improving audit quality and facilitating the spread and implementation of best practices, such as ESG (Bacha et al., 2020). By retaining Big 4 auditors, socially conscious businesses commit to ethical standards, openness, and trustworthiness.

Overall, the results indicate that adding audit quality to ESG practices improves business revenues because Big 4 auditors give creditors and customers additional confidence regarding the success of the firm's strategy and the legitimacy of ESG data. However, ESG's negative influence on company financial performance is more evident at enterprises certified by the Big 4 accounting firms.

Table 4
ESG-CFP nexus-Alternative dependent variable (ROE).

Variables	ROE							
	1	2	3	4	5	6	7	8
ESG	-0.296** (0.408)				-0.0833* (0.719)			
Environment		-0.392* (0.339)				-0.598* (0.568)		
Social			-0.354* (0.297)				-0.109* (0.554)	
Governance				0.186 (0.297)				0.579 (0.553)
Big4_Auditor					3.842** (4.044)	9.899 (3.390)	4.065* (3.462)	4.701* (3.071)
Big4 × ESG					-0.293* (0.677)			
Big4 × Environment						0.198 (0.521)		
Big4 × Social							-0.312* (0.547)	
Big4 × Governance								-0.488* (0.541)
Size	-62.31*** (16.13)	-60.89*** (15.99)	-60.84*** (15.97)	-67.19*** (15.65)	-66.54*** (17.21)	-65.06*** (17.05)	-65.46*** (17.05)	-71.60*** (16.67)
FL	-5.071*** (1.432)	-5.094*** (1.432)	-5.102*** (1.432)	-5.050*** (1.432)	-4.931*** (1.870)	-4.963*** (1.870)	-4.969*** (1.870)	-4.910*** (1.869)
Dividend paid (ln)	13.35*** (5.060)	13.35*** (5.019)	13.56*** (5.038)	12.34** (5.036)	13.73*** (5.260)	13.84*** (5.215)	13.86*** (5.238)	12.74** (5.233)
Price-to-Book	-2.486*** (0.251)	-2.487*** (0.251)	-2.481*** (0.251)	-2.485*** (0.251)	-2.464*** (0.258)	-2.465*** (0.258)	-2.459*** (0.258)	-2.462*** (0.258)
Constant	1336*** (355.5)	1309*** (351.9)	1304*** (352.4)	1441*** (345.7)	1395*** (379.9)	1389*** (376.0)	1371*** (376.1)	1496*** (369.2)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2806	2806	2806	2806	2623	2623	2623	2623
Number of Firms	492	492	492	492	488	488	488	488

Notes: See notes to Table 1. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.4. Robustness analysis

4.4.1. Alternative dependent variable

We replaced the primary dependent variables with an alternate measure of CFP, that is, ROE, and calculated our main and moderating models to confirm their robustness. Table 4 summarizes the findings in detail. Models 1–4 show that the signs and significance levels of the main explanatory variables remain unchanged following the substitution. Models 5–8 give the findings for the moderating variable (i.e., audit quality), demonstrating that the coefficient of the Big Four auditor interaction term significantly negatively affects the ESG-CFP nexus. The robustness tests, on the whole, confirm the main results of the primary model.

4.4.2. Alternative moderating variable of audit quality

To ensure the robustness of our main findings, we next examine whether the moderating effect of audit quality remains intact after the measure of audit quality is changed. So, audit quality (AQ) is quantified in terms of audit fees (Audit_fee) as an alternative to Big Four auditors. We use the logarithm of

audit fees to calculate audit fees in the manner described by Bacha et al. (2020) and Garcia et al. (2018). The audit fee multiplied by ESG (Audit_fee × ESG) denotes the impact of auditing quality in ESG (its components) and the CFP relationship.

Equation (2) is re-estimated using audit fees (Audit_fee) as a proxy for audit quality. Table 5 demonstrates that our findings are similar to those in Table 3. The interaction term Audit_fee × ESG has a significantly negative effect on the financial performance of Western European enterprises. However, although the impacts are identical in direction (all are positive), their magnitudes vary.

4.4.3. Endogeneity issue

We used the conventional endogeneity procedure to confirm that our findings are free of any endogeneity biasness, consisting of a two-stage least squares regression (2SLS). We employ an instrumental variable for ESG (i.e., change in ESG (Δ ESG)), which is likely to satisfy the criterion of correlation with ESG but not CFP. 2SLS is preferred over OLS because of

Table 5
ESG-CFP nexus Alternative Audit Quality (Audit fee) moderating variable.

Variables	Panel A: ROA				Panel B: Rev(ln)			
	1	2	3	4	1	2	3	4
ESG	-1.248*				0.186***			
	(0.970)				(0.0623)			
Environment		-0.348*				0.0954*		
		(0.737)				(0.0503)		
Social			-0.409*				0.104**	
			(0.760)				(0.0471)	
Governance				-1.708**				0.134***
				(0.763)				(0.0481)
Size	-3.723	-5.806	-5.275	-6.868	0.583***	0.579***	0.601***	0.576***
	(4.296)	(4.261)	(4.258)	(4.207)	(0.0254)	(0.0251)	(0.0251)	(0.0248)
FL	1.598***	1.617***	1.604***	1.637***	0.0653	0.0706	0.0380	0.0787
	(0.385)	(0.386)	(0.386)	(0.386)	(0.223)	(0.223)	(0.223)	(0.223)
Dividend paid (ln)	5.721***	5.349***	5.490***	5.509***	0.198***	0.195***	0.219***	0.181**
	(1.216)	(1.214)	(1.214)	(1.218)	(0.0718)	(0.0715)	(0.0716)	(0.0717)
Price-to-Book	0.0666	0.0644	0.0693	0.0658	0.0169	0.0182	0.0184	0.0188
	(0.0605)	(0.0607)	(0.0606)	(0.0607)	(0.0347)	(0.0347)	(0.0347)	(0.0347)
Audit fee	-8.857**	-6.132*	-6.269*	-11.60***	0.119***	0.0829***	0.0936***	0.101***
	(4.365)	(3.658)	(3.792)	(3.847)	(0.0274)	(0.0232)	(0.0230)	(0.0238)
ESG × Audit fee	0.515*				-0.126***			
	(0.658)				(0.0426)			
Environment × Audit fee		0.0265				-0.0603*		
		(0.500)				(0.0348)		
Social × Audit fee			0.0607*				-0.0777**	
			(0.516)				(0.0321)	
Governance × Audit fee				0.995*				-0.0859***
				(0.512)				(0.0325)
Constant	184.9*	190.4*	179.7*	286.6***	6.833***	7.419***	6.796***	7.244***
	(103.0)	(97.91)	(99.32)	(96.06)	(0.618)	(0.587)	(0.588)	(0.567)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2667	2667	2667	2667	2396	2396	2396	2396
R-squared	0.032	0.027	0.029	0.027	0.293	0.292	0.294	0.294
Number of Firms	496	496	496	496	454	454	454	454

Notes: See notes to Table 1. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

its ability to mitigate endogeneity issues. Table 6 details the 2SLS regression results on the ESG-CFP nexus. The overall results of 2SLS confirm the main regression findings, indicating that the results are consistent after accounting for possible endogeneity.

5. Conclusions and policy implications

This study examines the effect of ESG on CFP and the moderating role of audit quality in this relationship. The regression models show that ESG has a negative effect on a firm's historical financial performance, measured by ROA, corroborating the trade-off hypothesis or traditional perspective that spending on environmental, social, and sustainable activities increases costs and decreases profitability. This might be because socially responsible businesses incur more financial expenses, resulting in worse operational and financial performance. However, ESG positively affects firm revenue because customers reward good ESG strategies,

boosting short-run performance. ESG disclosure and strategies can add value to a company's products and boost buyers and investors' desire to buy, resulting in increased business revenue. ESG activities boost corporate image and revenue. We address our second objective by investigating the moderating influence of audit quality on the ESG-CFP nexus. The findings indicate that incremental audit quality, measured by Big 4 auditors, when combined with ESG, adversely affects a firm's historical financial performance. However, ESG's beneficial influence on performance, measured as revenue, is more evident at enterprises certified by the Big 4 accounting firms.

The findings of this study have significant implications for managers and policy makers in European countries and other advanced economies. Our results suggest that ESG is advantageous to shareholders in the long run, so substantial resources should be allocated to this area. In addition, authorities such as central banks, auditors, and stock market organizers are encouraged to examine ESG as a source of accurate financial

Table 6
Robustness test: ESG-CFP relationship 2SLS estimation.

Variables	Panel A: ROA				Panel B: Rev(ln)			
	1	2	3	4	1	2	3	4
ESG	-0.303** (0.249)				0.0721* (0.159)			
Environment		-0.379* (0.311)				0.0958 (0.212)		
Social			0.315* (0.258)				0.0756* (0.168)	
Governance				0.245* (0.201)				0.0557 (0.123)
Size	-8.693* (4.937)	-8.793 (5.443)	-8.765* (5.291)	-8.572* (4.459)	0.588*** (0.0305)	0.586*** (0.0339)	0.586*** (0.0336)	0.591*** (0.0272)
FL	1.132*** (0.412)	1.133*** (0.413)	1.134*** (0.413)	1.131*** (0.412)	0.000800 (0.00247)	0.000807 (0.00247)	0.000834 (0.00248)	0.000772 (0.00246)
Dividend paid (ln)	3.668*** (1.231)	3.668*** (1.232)	3.667*** (1.233)	3.669*** (1.228)	0.0189** (0.0748)	0.0189** (0.0750)	0.0189** (0.0752)	0.0190** (0.0744)
Price-to-Book	0.213** (0.0961)	0.213** (0.0961)	0.212** (0.0966)	0.213** (0.0961)	0.0527 (0.0568)	0.0538 (0.0569)	0.0501 (0.0573)	0.0538 (0.0568)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Instrumental variable	ESG	Env	Soc	Gov	ESG	Env	Soc	Gov
Observations	2405	2405	2405	2405	2151	2151	2151	2151
Number of Firms	338	338	338	338	308	308	308	308

Notes: See notes to Table 1. Instrumental variable: Δ ESG. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

data. Moreover, stakeholders, such as investors, advocate greater understanding of ESG and its significance to businesses to enable them to make more informed investment decisions. The findings show investors that business performance can be improved not only through social initiatives but also through the hiring of a competent auditor. Audits conducted by the Big Four auditors improve the financial performance of businesses with a social conscience. The benefit is evident from a boost in short-run revenue. With respect to the efficacy of CG code application in Europe and other developed countries, regulators of CG codes can use the findings of this study to develop new rules and amendments and implement critical corrective measures.

One of the study's major shortcomings is that the ESG ratings do not consider the type of ESG disclosure used by a firm. Additionally, when many types of ESG disclosures are merged into a single score, the associated impacts might cancel each other out when the actual effect is calculated. Other research could incorporate additional independent factors, such as the company's age, industry, and composition of the board of directors, to conduct a more in-depth examination of the determinants of CFP. To obtain constructive and valuable comparisons, further study is advised to evaluate the effects of ESG disclosure on other publicly traded companies, such as those in developing countries, or on various industries in Europe. Additionally, the small sample size is another limitation of the study. Further research could be conducted with a larger sample size, making the results more reliable. Finally, it would be worthwhile to investigate the moderating effect of other factors on the link between ESG and company performance. What results could be achieved with the same research

design but in different institutional settings? We leave this question to future research.

Declaration of competing interest

The authors have no relevant financial or non-financial interests to disclose.

Acknowledgments

We are thankful to Dr. Alina Taran and Dr. Shoaib Irshad in helping data extraction; and Debra Soled for language editing. We are grateful to the editor, Professor Ali Kutan, and anonymous referees for their valuable comments. All remaining errors are our own.

References

- Ado, A. B., Rashid, N., Mustapha, U. A., & Ademola, L. S. (2020). The impact of audit quality on the financial performance of listed companies Nigeria. *Journal of Critical Reviews*, 7(9), 37–42.
- Agyei-Mensah, B. K. (2018). The effect of audit committee effectiveness and audit quality on corporate voluntary disclosure quality. *African Journal of Economic and Management Studies*, 10(1), 17–31.
- Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance: The International Journal of Business in Society*, 20(7), 1409–1428.
- Ali, C. B., & Lesage, C. (2013). Audit pricing and nature of controlling shareholders: Evidence from France. *China Journal of Accounting Research*, 6(1), 21–34.
- Angelo, D. (1988). Managerial competition, information costs, and corporate governance. *Journal of Accounting and Economics*, 10, 3–36.

- Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal*, 28(2), 446–463.
- Bacha, S., Ajina, A., & Saad, S. B. (2020). CSR performance and the cost of debt: Does audit quality matter? *Corporate Governance: The International Journal of Business in Society*, 21(1), 137–158.
- Bahta, D., Yun, J., Islam, M. R., & Bikanyi, K. J. (2021). How does CSR enhance the financial performance of SMEs? The mediating role of firm reputation. *Economic Research–Ekonomika Istraživanja*, 34(1), 1428–1451.
- Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics*, 97(1), 71–86.
- Barnett, M. L., & Salomon, R. M. (2012). Does it pay to be really good? Addressing the shape of the relationship between social and financial performance. *Strategic Management Journal*, 33(11), 1304–1320.
- Benlemlih, M. (2019). Corporate social responsibility and dividend policy. *Research in International Business and Finance*, 47, 114–138.
- Bondy, K., Moon, J., & Matten, D. (2012). An institution of corporate social responsibility (CSR) in multi-national corporations (MNCs): Form and implications. *Journal of Business Ethics*, 111(2), 281–299.
- Brammer, S., & Millington, A. (2008). Does it pay to be different? An analysis of the relationship between corporate social and financial performance. *Strategic Management Journal*, 29(12), 1325–1343.
- Brown, L. D., & Caylor, M. L. (2006). Corporate governance and firm valuation. *Journal of Accounting and Public Policy*, 25(4), 409–434.
- Buallay, A., Fadel, S. M., Alajmi, J., & Saudagaran, S. (2020). Sustainability reporting and bank performance after financial crisis: Evidence from developed and developing countries. *Competitiveness Review: An International Business Journal*, 31(4), 747–770.
- Buchanan, J. L., Commerford, B. P., & Wang, E. (2021). Auditor actions and the deterrence of manager opportunism: The importance of communication to the board and consistency with peer behavior. *The Accounting Review*, 96(3), 141–163.
- Busch, T., & Friede, G. (2018). The robustness of the corporate social and financial performance relation: A second-order meta-analysis. *Corporate Social Responsibility and Environmental Management*, 25(4), 583–608.
- Chakroun, S., & Amar, A. B. (2021). Earnings management, financial performance and the moderating effect of corporate social responsibility: Evidence from France. *Management Research Review*, 45(3), 331–362.
- Cho, S. J., Chung, C. Y., & Young, J. (2019). Study on the relationship between CSR and financial performance. *Sustainability*, 11(2), 343.
- Dakhli, A. (2021). Does financial performance moderate the relationship between board attributes and corporate social responsibility in French firms? *Journal of Global Responsibility*, 12(4), 373–399.
- David, P., Bloom, M., & Hillman, A. J. (2007). Investor activism, managerial responsiveness, and corporate social performance. *Strategic Management Journal*, 28(1), 91–100.
- Dewi, K., & Monalisa, M. (2016). Effect of corporate social responsibility disclosure on financial performance with audit quality as a moderating variable. *Binus Business Review*, 7(2), 149–155.
- Dyduch, J., & Krasodomska, J. (2017). Determinants of corporate social responsibility disclosure: An empirical study of Polish listed companies. *Sustainability*, 9(11), 1934.
- European Commission. (2019). *European green deal*. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF/. (Accessed 15 June 2022).
- European Parliament. (2014). *Directive 2014/95/EU of the European parliament and of the council*. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&from=PL/>. (Accessed 15 June 2022).
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder theory: The state of the art*. New York: Cambridge University Press.
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233.
- Friedman, M. (2007). The social responsibility of business is to increase its profits. In *Corporate ethics and corporate governance* (pp. 173–178). Berlin, Heidelberg: Springer.
- Galant, A., & Cadez, S. (2017). Corporate social responsibility and financial performance relationship: A review of measurement approaches. *Economic Research–Ekonomika Istraživanja*, 30(1), 676–693.
- Garcia, E. A. R., Sousa-Filho, J. M., & Boaventura, J. M. G. (2018). The influence of social disclosure on the relationship between corporate financial performance and corporate social performance. *Revista Contabilidade & Finanças*, 29, 229–245.
- Gilley, K. M., Worrell, D. L., Davidson, W. N., III, & El-Jelly, A. (2000). Corporate environmental initiatives and anticipated firm performance: The differential effects of process-driven versus product-driven greening initiatives. *Journal of Management*, 26(6), 1199–1216.
- Griffin, P. A., Lont, D. H., & Sun, Y. (2010). Agency problems and audit fees: Further tests of the free cash flow hypothesis. *Accounting and Finance*, 50(2), 321–350.
- Habbash, M., & Alghamdi, S. (2017). Audit quality and earnings management in less developed economies: The case of Saudi Arabia. *Journal of Management & Governance*, 21(2), 351–373.
- Han, J.-J., Kim, H. J., & Yu, J. (2016). Empirical study on relationship between corporate social responsibility and financial performance in Korea. *Asian Journal of Sustainability and Social Responsibility*, 1(1), 61–76.
- Harjoto, M. A. (2017). Corporate social responsibility and degrees of operating and financial leverage. *Review of Quantitative Finance and Accounting*, 49(2), 487–513.
- Heal, G. (2005). Corporate social responsibility: An economic and financial framework. *The Geneva Papers on Risk and Insurance - Issues and Practice*, 30(3), 387–409.
- Hill, C. W., & Snell, S. A. (1988). External control, corporate strategy, and firm performance in research-intensive industries. *Strategic Management Journal*, 9(6), 577–590.
- Huang, C.-L., & Kung, F.-H. (2010). Drivers of environmental disclosure and stakeholder expectation: Evidence from Taiwan. *Journal of Business Ethics*, 96(3), 435–451.
- Hussainey, K., & Achek, I. (2015). The effect of national culture on the association between profitability and corporate social and environmental disclosure: A meta-analysis. *Meditari Accountancy Research*, 23(3), 296–321.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kausar, A., Shroff, N., & White, H. (2016). Real effects of the audit choice. *Journal of Accounting and Economics*, 62(1), 157–181.
- Khan, M. K., Naeem, K., & Xie, M. (2022). Does managerial ability transform organization from the inside out? Evidence from sustainability performance of financially constrained firms in an emerging economy. *Borsa İstanbul Review* (in press).
- Khan, M. K., Zahid, R., Saleem, A., & Sági, J. (2021). Board composition and social & environmental accountability: A dynamic model analysis of Chinese firms. *Sustainability*, 13(19), Article 10662.
- Kim, E.-H., & Lyon, T. P. (2015). Greenwash vs. brownwash: Exaggeration and undue modesty in corporate sustainability disclosure. *Organization Science*, 26(3), 705–723.
- Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2013). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory*, 32(Supp. 1), 385–421.
- Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2), 304–329.
- Lee, W. J., & Choi, S. U. (2021). Internal and external corporate social responsibility activities and firm value: Evidence from the shared growth in the supply chain. *Borsa İstanbul Review*, 21, S57–S69.
- Liu, Y., Saleem, S., Shabbir, R., Shabbir, M. S., Irshad, A., & Khan, S. (2021). The relationship between corporate social responsibility and financial performance: A moderate role of fintech technology. *Environmental Science and Pollution Research*, 28(16), 20174–20187.
- Matten, D., & Moon, J. (2008). “Implicit” and “explicit” CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2), 404–424.
- McGuire, J. B., Sundgren, A., & Schneeweis, T. (1988). Corporate social responsibility and firm financial performance. *Academy of Management Journal*, 31(4), 854–872.

- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117–127.
- Naseem, T., Shahzad, F., Asim, G. A., Rehman, I. U., & Nawaz, F. (2020). Corporate social responsibility engagement and firm performance in Asia Pacific: The role of enterprise risk management. *Corporate Social Responsibility and Environmental Management*, 27(2), 501–513.
- Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices. *Technological Forecasting and Social Change*, 162, 120341.
- Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52, 400–407.
- Nyame-Asiamah, F., & Ghulam, S. (2019). The relationship between CSR activity and sales growth in the UK retailing sector. *Social Responsibility Journal*, 16(3), 387–401.
- Okafor, A., Adeleye, B. N., & Adusei, M. (2021). Corporate social responsibility and financial performance: Evidence from US tech firms. *Journal of Cleaner Production*, 292, 126078.
- Phan, T., Lai, L., Le, T., & Tran, D. (2020). The impact of audit quality on performance of enterprises listed on Hanoi Stock Exchange. *Management Science Letters*, 10(1), 217–224.
- Rahi, A. F., Akter, R., & Johansson, J. (2021). Do sustainability practices influence financial performance? Evidence from the nordic financial industry. *Accounting Research Journal*, 35(2), 292–314.
- Rodriguez-Fernandez, M. (2016). Social responsibility and financial performance: The role of good corporate governance. *BRQ Business Research Quarterly*, 19(2), 137–151.
- Saygili, E., Arslan, S., & Birkan, A. O. (2022). ESG practices and corporate financial performance: Evidence from Borsa İstanbul. *Borsa İstanbul Review*, 22(3), 525–533.
- Shahzad, F., Baig, M. H., Rehman, I. U., Saeed, A., & Asim, G. A. (2022). Does intellectual capital efficiency explain corporate social responsibility engagement-firm performance relationship? Evidence from environmental, social and governance performance of US listed firms. *Borsa İstanbul Review*, 22(2), 295–305.
- Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of Accounting Research*, 18(1), 161–190.
- Stein, J. C. (1988). Takeover threats and managerial myopia. *Journal of Political Economy*, 96(1), 61–80.
- Surroca, J., Tribó, J. A., & Waddock, S. (2010). Corporate responsibility and financial performance: The role of intangible resources. *Strategic Management Journal*, 31(5), 463–490.
- Tarmuji, I., Maelah, R., & Tarmuji, N. H. (2016). The impact of environmental, social and governance practices (ESG) on economic performance: Evidence from ESG score. *International Journal of Trade, Economics and Finance*, 7(3), 67–74.
- Wang, T., & Bansal, P. (2012). Social responsibility in new ventures: Profiting from a long-term orientation. *Strategic Management Journal*, 33(10), 1135–1153.
- Watkins, A. L., Hillison, W., & Morecroft, S. E. (2004). Audit quality: A synthesis of theory and empirical evidence. *Journal of Accounting Literature*, 23, 153–193.
- Zahid, R. M. A., Khurshid, M., & Khan, W. (2022a). Do chief executives matter in corporate financial and social responsibility performance nexus? A dynamic model analysis of Chinese firms. *Frontiers in Psychology*, 13, 897444. <https://doi.org/10.3389/fpsyg.2022.897444>
- Zahid, R. M. A., Khurshid, M., Waheed, M., & Sanni, T. (2022b). Impact of environmental fluctuations on stock markets: Empirical evidence from South Asia. *Journal of Environmental and Public Health*, 2022, 7692086. <https://doi.org/10.1155/2022/7692086>
- Zahid, R. M. A., & Simga-Mugan, C. (2019). An analysis of IFRS and SME-IFRS adoption determinants: A worldwide study. *Emerging Markets Finance and Trade*, 55(2), 391–408.
- Zahid, R. M. A., & Simga-Mugan, C. (2022). The impact of International Financial Reporting Standards adoption on the integration of capital markets. *International Journal of Finance & Economics*, 1–22. <https://doi.org/10.1002/ijfe.2684>
- Zhu, Y., Sun, L.-Y., & Leung, A. S. (2014). Corporate social responsibility, firm reputation, and firm performance: The role of ethical leadership. *Asia Pacific Journal of Management*, 31(4), 925–947.