ESG Performance, Auditor Choice, and Audit Opinion: Evidence from an Emerging Market

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Posted Date: 30 October 2023

doi: 10.20944/preprints202310.1871.v1

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Article

ESG Performance, Auditor Choice, and Audit Opinion: Evidence from an Emerging Market

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Abstract: Purpose –This study examines the effect of ESG performance on auditor choice and audit opinion for Egyptian-listed firms. **Design/methodology/approach** – We use univariate and multivariate analyses of 612 firm-year observations for a sample of 68 firms listed on EGX100 over 2012-2022 using binary logistic regression models. **Findings** – Consistent with the ethical perspective of corporate social responsibility, we found that firms listed in the ESG index are more likely to assign one of the Big4 auditors, and less likely to receive a qualified opinion. In addition, we find that COVID-19 moderates the relationship between ESG performance, auditor choice, and audit opinion. **Originality/value** – Our results contribute to the growing interest in the implications of ESG performance for audit practices in emerging economies. **Implications:** This research has important implications for investors, the audit profession, firms, and regulators in Egypt. It provides substantial evidence that ESG performance can enhance financial reporting quality. Further, it indicates that binding guidelines and regulations are crucial to oversee corporate ESG performance, especially during crisis time to enhance investors' protection and firms' sustainability.

Keywords: ESG performance; auditor choice; audit opinion; Egypt

1. Introduction

There is a recent growing awareness concerning the value of environmental, social and governance (henceforth, ESG) reporting and performance, and that ignoring ESG disclosure could negatively affect a firm's image and, hence, its market value (Kim et al., 2010; Omar and Zallom, 2016). The recent firms' scandals and collapses worldwide (Greenberg, 2007) have motivated modern enterprises to consider ESG seriously when formulating or reviewing their strategies (Thornton, 2008). The majority of the literature has examined the financial implications of ESG performance and disclosure (e.g., Amini and Dal Bianco, 2017; Diab and Aboud, 2018, 2019; Chen and Xie, 2022; Chen et al., 2023; Maaloul et al., 2023). However, it is also crucial to examine the strategic, not only financial, effects of ESG (Odriozola and Baraibar-Diez, 2017; Chevrollier et al., 2023). Along with this direction, recent studies have examined the implications of ESG performance and disclosure for the information environment and transparency (Garcı´a-Sanchez and Noguera-Gamez, 2017). That is, with ESG, it is anticipated that firms would act ethically considering the interests of all stakeholders (Landi & Sciarelli, 2018), which can enhance their information environment and augment their transparency level (Tamimi & Sebastianelli, 2017; Darnall et al., 2022). Against this background, it is implied that ESG might have implications for audit-related decisions, practices, and outcomes (Chen et al., 2016). We believe that firms' ESG performance and disclosure could have consequences for their auditor choice and the outcome of the audit process. This study objective is twofold. It examines the extent to which the firms listed in the ESG index act ethically in the field of financial reports, by assigning higher quality or Big-4 auditors. Further, it investigates whether these firms provide more accurate accounting information, and hence, they are less likely to receive a qualified audit opinion. In doing so, we focus on a developing market—the Egyptian stock market.

As opposed to Western developed markets, developing ones are more subject to the impact of severe information asymmetry and agency costs (Stein & Rosefielde, 2005; Samaha et al., 2012; Eissa et al., 2023). This situation is due to several reasons, including the existing weak legal systems (La Porta et al., 1998) and ineffective corporate governance mechanisms in these markets (Welford, 2007; Eissa & Eliwa, 2021). In such developing contexts with higher information asymmetry, auditors tend to play a vital role. External audit can act as a mechanism to protect investors' interest by uncovering managerial manipulation through adjusting both income-increasing and income-decreasing accruals (Hirst, 1994; Kurniawati et al., 2019; Tantawy and Moussa, 2023).

We address the Egyptian market because, in recent years, there has been an increasing focus on the importance of ESG practices in the business sector. The government of Egypt has recently implemented policies and regulations to promote sustainable development and encourage firms to adopt responsible business practices (see Seda and Ismail, 2020). For example, in 2019, the Egyptian Ministry of Manpower and Migration and the Egyptian Ministry of Environmental Affairs issued Law No. 12 to promote sustainable development by protecting workers' rights and enhancing work conditions. In the same year, the government formulated its national strategy to stress the importance of having a sustainable and responsible business environment. Further, the Egyptian Ministry of Investment and International Cooperation in its 2020 report stressed the importance of increasing the share of renewable energy in the country's energy mix. In 2021, the Egyptian Financial Supervisory Authority issued its guidelines for environmental and social risk management for the business sector. Such guidelines aimed to reduce the environmental and social risks associated with operational and financial activities (Hussein and Nounou, 2022). These recent effects of the Egyptian Government to promote sustainable investment, financing and working conditions and stress the value of maintaining a responsible business environment have motivated us to examine the implications of such a new context for audit-related practices—namely, auditor choices and the audit process outcome.

This study contributes to the literature concerned with the implications of ESG performance on auditor choice and audit opinion (henceforth, AC and AO). To our knowledge, this is the first study that examines the implications of ESG for AC and AO in Egypt as an influential emerging economy in the Middle East and North Africa. The binary logistic regression (BLR) analysis showed that the ESG firms are more likely to assign a Big4 auditor, and these firms are less likely to receive a qualified audit opinion. Moreover, as additional analyses, we considered the effects of COVID-19 on the relationship between ESG performance, AC, and AO. The results indicated that COVID-19 moderates the relations between ESG performance, AC, and AO. The findings revealed an increased probability of ESG firms assigning one of the Big4 auditors during COVID-19. However, the results suggested an increased likelihood of ESG firms receiving a qualified audit opinion during COVID-19. Our results provide significant evidence to policymakers responsible for formulating guidelines and regulations to oversee firms, enhance governance, and protect stakeholders' interests, especially during crises. Further, in line with the current findings, investors are advised to consider ESG performance while making investment decisions, especially during crisis time.

The remainder of the paper is structured as follows. Section 2 presents a contextual background of the study. Section 3 reviews literature and develops the study hypotheses. Section 4 outlines the research methods. Section 5 presents and discusses the study findings. Finally, Section 6 concludes the paper.

2. ESG in Egypt

The Government of Egypt has incorporated sustainable development goals in its national strategy for sustainability development as a part of its Vision 2030 (Ebaid, 2011). Along with this direction, the Ministry of Investment and the Egyptian Institute of Directors introduced the corporate governance code in 2005 as guidelines for firms listed in the Egyptian Stock Exchange. In 2016, the Egyptian Financial Supervisory Authority replaced the existing governance code with revised detailed governance rules to be applied by both listed and unlisted firms. The new rules highlighted the value of disclosing nonfinancial information, including ESG, to consider the interests of all

stakeholders (Abdelhalim and Eldin, 2019). Another important landmark in enhancing sustainability performance in the Egyptian market was the application of the S&P/EGX ESG index in 2010. This index identifies the best-performing companies listed in EGX 100 concerning environmental, social, and corporate governance activities and reporting (Diab and Aboud, 2018)[1].

These developments are crucial to enhance the trust of foreign investors in the Egyptian market, consistent with the government's directions to move toward a free economy and restrict its nationalization plans. However, the real impact of these activities is minimal due to the lack of a binding legal system that monitor and enforce compliance with the existing sustainability-related rules and regulations (Abdelhalim & Eldin, 2019).

3. Literature review and hypotheses development

The literature reveals two main streams regarding the perceptions and implications of ESG performance. On the one hand, it is anticipated that firms adhering to ESG performance and reporting have motives to be honest and act ethically concerning all stakeholders (Landi & Sciarelli, 2018). This is because ESG responsibility requires firms to meet the economic, legal, ethical, and voluntary expectations of the society's constituents (Carroll, 1979). In other words, commitment to ESG would require firms to treat stakeholders ethically or responsibly along with the principles of modern civil societies (Hopkins, 2004). This is consistent with the stakeholder theory postulating that corporate management should give equal attention to all stakeholders; rather than serving the interests of a particular group, namely shareholders (Hasnas, 1998). ESG performance and disclosure is one way to achieve this social objective (Gelb and Strawser, 2001). According to Branco and Rodriguez (2006), social responsibility and reporting involve compliance with a set of ethical standards that govern the decision-making process within firms, in a way that limits harm to society or stakeholders. Focusing on Turkey, Aslan and Şendoğdu (2012) found that social responsibility influences corporate ethical values and behaviors positively.

On the other, from an opportunistic perspective, ESG responsibility and reporting might be perceived by some companies as a means of greenwashing—that is, to polish their image or to hide the negative or irresponsible behaviors of corporate management (Hemingway and Maclagan, 2004; Kang, Germann, & Grewal, 2016). In this case, the 'apparent' ethical behavior of socially responsible firms would be mainly used as a tool by corporate management to attain some personal benefits; rather than benefiting all stakeholders (Lanis and Richardson, 2012). In this regard, Lindblom (1994) showed that social responsibility disclosure may be used as a means of managing legitimacy, by influencing public perception without a real positive change in the behavior of the entity. For instance, it can be used to immunize corporate management that manipulates profits (Prior et al., 2008). Hurst (2004) indicates that the presence of an ethical code and social policies in the firms does not necessarily guarantee the ethical treatment of stakeholders. Lanis and Richardson (2012) showed that higher levels of social responsibility disclosures are associated with aggressive tax practices, which contribute to tax evasion. Nirino et al. (2021) did not find a positive moderating influence of ESG concerning the association between controversies and financial performance.

3.1. CSR and auditor choice

From an opportunistic perspective, companies may engage in ESG to offset their corporate irresponsible behaviors, enhance their corporate image, or gain legitimacy to operate (Du & Vieria, 2012; Kang et al., 2016). It is believed that companies with such opportunistic perspectives will not commit to corporate ethical conduct and hence, they may not demand a higher audit quality. In this regard, using U.S. Data, Lamptey et al. (2023) suggested that CSR activities may be associated with more audit complexities and risks.

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[1] For more information about the Egyptian ESG index methodology, see https://www.egx.com.eg/en/indexrulesmethodologys-p-egx.aspx?nav=7.

 doi:10.20944/preprints202310.1871.v1

In contrast, from the ethical perspective, it is believed that ESG performance and reporting would contribute to better accounting information quality (Atkins, 2006). This ethical perspective might induce companies to protect stakeholders' interests by supporting audit quality (Velte, 2022; Du et al., 2023). In this regard, focusing on Indonesia, Handayati et al. (2022) found that firms audited by Big4 auditors are positively related to CSR disclosure. Focusing on the French context, Dakhli (2022) found that the positive implications of corporate social responsibility are more obvious in firms audited by Big4 auditors. Using the U.S. Data, Sun et al. (2017) found that firms with higher CSR performance are more likely to engage industry specialist auditors. Using international evidence, Hichri (2023) found a positive association between audit quality and integrated reporting. Using U.S. data, Du et al. (2023) found that companies with higher CSR performance are likely to engage big (high-quality) auditors. Following this perspective, we believe that firms with higher ESG performance and reporting are likely to support higher audit quality by engaging Big4 auditors. Thus, we set the first hypothesis as follows:

H1. *ESG firms are more likely to assign big4 auditors.*

3.2. ESG performance and audit opinion

As previously indicated, according to the opportunistic perspective, firms may use ESG practices to hide some of the negative activities, including reporting irregularities (Hong and Andersen, 2011; Kim et al., 2012). From this stance, it is not anticipated to find a direct association between ESG performance and receiving unqualified audit opinion. In this regard, Nguyen and Trinh (2020) found a non-linear influence of CSR on the likelihood of receiving unqualified opinion. However, several studies in the literature support the ethical perspective of ESG, suggesting its positive implications for the outcome of the audit process.

According to the ethical perspective, firms committed to ESG practices are likely to be honest and trustworthy by having a strict code of ethics (Waddock, 2008) that, in turn, would restrict reporting irregularities (Kim et al., 2012), and, instead, support transparency of financial reports and information quality (Atkins, 2006; Nair et al., 2019). Supporting this view, some studies revealed that firms' ESG practices are related to lower misstatement and client business risk (Kim et al., 2012; Lin & Dong, 2018). Similarly, other studies indicated that the ESG firms are likely to be associated with fewer auditors and analysts forecasting errors (Dhaliwal et al., 2012), less auditor engagement risk (Du et al., 2023), and less litigation risk (Chen et al., 2016).

This context makes us infer that firms committed to ESG may receive an unqualified audit opinion. Along with this argument, using evidence from energy firms listed in Vietnam, Nguyen and Trinh (2020) indicated that companies with noticeable CSR activity are anticipated to get unqualified opinions due to the quality of their financial reports. Wang et al. (2023) indicated that firms' engagement with ESG practices decreases the probability of receiving a qualified audit opinion. Thus, we set the second hypothesis as follows:

H2. *ESG firms are less likely to receive qualified audit reports.*

4. Research design

4.1. Sample and data sources

Our sample includes all the firms indexed in EGX100 across the period 2014-2019. We obtained the firm's auditors and audit opinion data as well as financial data over the study period from the firms' annual reports. Governance data was collected from the companies' governance reports published by Egypt for Information Dissemination (EGID) Company. Finally, ESG performance data was collected through the ESG index published by the Egyptian Stock Exchange across the study period. Table 1 shows the process of sample selection and sample distribution according to industry.

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Table 1. Sample selection and distribution by industry .

Panel A: Sample selection	No. of firms	Observations
EGX100 across the study period 2014-2022.	100 firms	900
(-) Banking and financial firms.	(22)	(198)
(-) firms with missing financial and governance data.	(10)	(90)
Final sample	68	612
Panel B: Sample distribution		
Merchandising	18	2.9%
Manufacturing	495	80.9%
Service	99	16.2%
Total	612	100%

4.2. Research models

Since the dependent variables (AC&AO) are dichotomous, we analyzed data depending on binary logistic regression (BLR). The maximum likelihood approach is used to estimate the model parameters, and an iterative algorithm is used to pick the coefficients that result in the most "likely" observation outcomes. Following Kurniawati et al. (2019), Diab et al. (2021), and Tantawy and Moussa (2023), we depend on the following logistic regressions to test our hypotheses:

$$AC_{it} = \alpha + B_1(ESG_{it}) + B_2(FSIZE_{it}) + B_3(LEVERAGE_{it}) + B_4(PROFITABILITY_{it}) + B_5(FGROWTH_{it}) + B_6(LOSS_{it}) + B_7(FAGE_{it}) + B_8(BSIZE_{it}) + B_9(BMEETINGS_{it}) + B_{10}(DUALITY_{it}) + B_{11}(BINDEPENDENCE_{it}) + B_{12}(ACSIZE_{it}) + B_{13}(ACMEETINGS_{it}) + B_{14}(ACINDEPENDENCE_{it}) + B_{15}(INDUSTRIES) + B_{16}(YEARS) \quad \text{Model (1)}$$

$$AO_{it} = \alpha + B_1(ESG_{it}) + B_2(FSIZE_{it}) + B_3(LEVERAGE_{it}) + B_4(PROFITABILITY_{it}) + B_5(FGROWTH_{it}) + B_6(LOSS_{it}) + B_7(FAGE_{it}) + B_8(BSIZE_{it}) + B_9(BMEETINGS_{it}) + B_{10}(DUALITY_{it}) + B_{11}(BINDEPENDENCE_{it}) + B_{12}(ACSIZE_{it}) + B_{13}(ACMEETINGS_{it}) + B_{14}(ACINDEPENDENCE_{it}) + B_{15}(INDUSTRIES) + B_{16}(YEARS) \quad \text{Model (2)}$$

Where: AC is a binary variable showing whether the firm is audited by one of the Big-4 or non-Big-4 auditors. AO is a binary variable showing whether the auditor has issued a qualified or unqualified opinion. ESG is a binary variable showing whether firms are listed in the EGX index or not.

We follow some literature in controlling for some variables that influence independent variables, such as firm size, leverage, firm profitability, firm growth, loss, firm age, board size, board meetings, duality, nonexecutive directors in the board, audit committee size, meetings and independence, industries and years (Kurniawati et al., 2019; Tantawy and Moussa, 2023). All variables used in models 1 and 2 are reported in Table 2.

Table 2. Variables acronyms and definitions.

Variables	**Definition**
AC	Auditor choice, measured as a dummy variable, assigning one for firms audited by a Big-4 audit firm in the year t, and zero otherwise.
AO	Audit opinion, measured as a dummy variable, assigning one for firms that received a qualified opinion in the year t, and zero otherwise.
ESG	ESG performance, measured as a dummy variable, assigning one for firms listed in the ESG index in the year t, and zero otherwise.
FSIZE	Firm size, calculated as a natural logarithm of total assets in year t.
LEVERAGE	Financial leverage, calculated as total debt over total assets in year t.
PROFITABILITY	Firm profitability is net profit after tax and extraordinary items in year t, scaled to total assets.

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FGROWTH	Firm growth, calculated according to change in net sales in year t, scaled to revenue in year t-1.
LOSS	A carryforward loss, measured as a dummy variable that equals one if the firms have carryforward loss in year t, and zero otherwise.
FAGE	Firm age, measured by the natural logarithm of the number of the years since the firm has been listed in Egyptian Exchange.
BSIZE	Board size, calculated as number of directors in the board in year t.
BMEETINGS	Board meetings, calculated as number of meetings in year t.
DUALITY	Duality, calculated as a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise.
BINDEPENDENCE	Board independence, measured as the number of non-executive directors in the board, scaled to its total number of directors in year t.
ACSIZE	Audit committee size, calculated as the number of members in the audit committee in year t.
ACMEETINGS	Audit committee meetings, calculated as the number of meetings in year t.
ACINDEPENDENCE	Audit committee independence, measured as the number of non-executive directors in the audit committee, scaled to its total number of directors in year t.

5. Research results and discussion

5.1. Descriptive statistics

Panel A of Table 3 shows descriptive results for the whole sample. The mean values of AC and AO are 0.327 and 0.413, indicating that 32.7% of firms assign one of the Big4 auditors, and 41.3% of firms receive a qualified audit opinion, which is consistent with previous studies such as Tantawy and Moussa (2023). The mean value of ESG is 0.240, indicating that 24% of our sample companies are indexed in the ESG index. Panel B shows the mean differences and t-tests for firms listed in the ESG index versus non-listed firms. The findings indicate that the ESG firms are more likely to assign one of the Big4 auditors and are less likely to receive a qualified audit opinion. These results are significant at the 1% significance level.

Table 3. Descriptive results.

Panel A: Descriptive results for all samples (Full Sample = 612)					
Variables	Mean	Median	SD	Minimum	Maximum
AC	0.327	0.000	0.469	0.000	1.000
AO	0.413	0.000	0.493	0.000	1.000
ESG	0.240	0.000	0.428	0.000	1.000
FSIZE	21.050	21.138	1.728	16.822	25.639
LEVERAGE	0.432	0.433	0.248	0.001	0.986
PROFITABILITY	0.046	0.036	0.086	-0.124	0.225
FGROWTH	0.133	0.080	0.452	-0.848	1.057
LOSS	0.240	0.000	0.426	0.000	1.000
FAGE	2.910	3.044	0.546	0.693	4.080
BSIZE	8.173	8.000	2.797	3.000	16.000
BMEETINGS	10.005	9.000	4.628	2.000	23.000
DUALITY	0.716	1.000	0.451	0.000	1.000
BINDEPENDENCE	0.701	0.750	0.201	0.200	1.000
ACSIZE	3.583	3.000	0.987	2.000	8.000
ACMEETINGS	5.291	4.000	2.678	1.000	14.000
ACINDEPENDENCE	0.934	1.000	0.170	0.000	1.000
Panel B: Univariate analysis (Full Sample = 612)					

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Variables	Firms listed in ESG index. (147 observations)		Firms not listed in ESG index. (465 observations)		t-test	Sig.
	Mean	SD	Mean	SD		
AC	0.646	0.480	0.226	0.419	10.239	0.000***
AO	0.211	0.409	0.477	0.500	-5.870	0.000***
FSIZE	22.255	1.515	20.669	1.614	10.534	0.000***
LEVERAGE	0.401	0.250	0.441	0.247	-1.711	0.088*
PROFITABILITY	0.071	0.076	0.039	0.087	4.003	0.000***
FGROWTH	0.172	0.418	0.121	0.462	1.176	0.240
LOSS	0.068	0.253	0.294	0.455	-5.749	0.000***
FAGE	2.715	0.504	2.971	0.545	-5.049	0.000***
BSIZE	9.673	2.740	7.699	2.647	7.818	0.000***
BMEETINGS	10.347	5.140	9.897	4.455	1.028	0.304
DUALITY	0.612	0.489	0.748	0.434	-3.211	0.001***
BINDEPENDENCE	0.731	0.157	0.692	0.212	2.058	0.040**
ACSIZE	3.707	1.218	3.544	0.899	1.753	0.080*
ACMEETINGS	5.354	2.415	5.271	2.758	0.326	0.744
ACINDEPENDENCE	0.976	0.073	0.921	0.189	3.457	0.001***

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. Where: AC is a dummy variable that equals one for firms audited by a Big-4 auditor, and zero otherwise. AO is a dummy variable that equals one for firms receiving a qualified opinion, and zero otherwise. ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is total debt to total assets. PROFITABILITY is net profit after tax and extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged-revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors in the board, scaled to its total number of directors. ACSIZE is audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

Table 4 presents the Pearson's correlation matrix for our variables. ESG is positively (negatively) correlated with AC (AO) at the 1% level, respectively. This result supports the hypothesis that the ESG firms focus more on financial reporting quality. So, ESG firms are more likely to assign one of the Big4 auditors and are less likely to receive a qualified audit opinion. These findings are consistent with some previous studies such as Gonçalves et al. (2021) and Wang et al. (2023). Further, the correlations matrix shows that independent variables are correlated under 0.5, which indicates that the multi-collinearity problem is not-existent.

Table 4. The correlation matrix **.**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1-AC	1.000															
2-AO	-0.380***	1.000														
3-ESG	0.383***	-0.231***	1.000													
4-FSIZE	0.337***	-0.082**	0.392***	1.000												
5-LEVERAGE	-0.055	0.175***	-0.069*	0.036	1.000											
6-PROFITABILITY	0.072*	-0.093**	0.160***	0.272***	-0.305***	1.000										
7-FGROWTH	0.006	-0.048	0.048	0.090**	0.042	.135***	1.000									
8-LOSS	-0.163***	0.229***	-0.227***	-0.349***	0.319***	-0.478***	0.037	1.000								
9-FAGE	-0.256***	0.179***	-0.200***	-0.007	0.271***	-0.103**	0.022	0.147***	1.000							
10-BSIZE	0.140***	-0.118***	0.302***	0.414***	-0.116***	0.249***	0.014	-0.093**	-0.074	1.000						
11-BMEETINGS	-0.093**	0.246***	0.042	0.167***	0.126***	0.191***	0.028	-.089**	-0.039	0.138***	1.000					
12-DUALITY	-0.240***	0.191***	-0.129***	-0.093**	-0.028	0.016	-0.006	0.074*	0.004	0.017	0.202***	1.000				
13-BINDEPENDENCE	0.197***	-0.289***	0.083**	0.060	-0.211***	0.045	-0.021	0.014	-0.154***	0.379***	-0.096**	-0.269***	1.000			
14-ACSIZE	-0.055	0.180***	0.071*	0.158***	-0.035	0.171***	0.028	-0.025	0.111***	0.273***	0.267***	0.164***	0.013	1.000		
15-ACMEETINGS	-0.097**	0.313***	0.013	0.013	0.067*	-0.008	0.039	0.114***	0.142***	0.049	0.404***	0.108***	-0.233***	0.401***	1.000	
16-ACINDEPENDENCE	0.197***	-0.187***	0.139***	0.035	-0.065	0.062	-0.016	0.005	0.006	0.175***	-0.099**	-0.227***	0.289***	-0.184***	-0.186***	1.000

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. Where: AC is a dummy variable that equals one for firms audited by a Big-4 auditor, and zero otherwise. AO is a dummy variable that equals one for firms receiving a qualified opinion, and zero otherwise. ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is total debt to total assets. PROFITABILITY is net profit after tax and extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged-revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors in the board, scaled to its total number of directors. ACSIZE is audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

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5.2. Logistic regression results

We estimate models 1 and 2 depending on the binary logistic regression (BLR) method. The BLR models have met the requirements of the goodness of fit to predict AC and AO based on ESG performance, as presented in Table 5, panels A, B, and C. The omnibus test results presented in panel A show that the ESG affects the AC and AO as the Chi-square value of the omnibus test is significant at the 1% level for both models. This indicates that the independent variables in our models have a significant effect on both AC and AO. Thus, the BLR models are fitted to predict the relation between the dependent and independent variables.

To ensure that the models are fitted with the observation data we depend on the Hosmer-Lemeshow's which are required in BLR analysis. Panel B reveals a chi-square value of 9.455 and 11.310 with a significance of 0.305 and 0.185 for models 1 and 2, respectively. These values are greater than the alpha value of 0.05, indicating that the BLR models are fitted with our data, and, hence, our models can predict the relation between ESG, AC, and AO from the existing data.

The ability of ESG, in total, to illustrate the variances in AC and AO variables in the BLR models was tested using Nagelkerke R^2 presented in Panel C. The Nagelkerke R^2 values are 0.464, and 0.384 for models 1 and 2, respectively, indicating that 46.4% of the variance in AC and 38.4% of the variance in AO could be explained by ESG or independent variables in our models. Overall, the results show that BLR models can significantly predict the relation between ESG, AC and AO.

Panel D confirms the effect of independent variables individually on AC and AO. The coefficient value of ESG in model 1 is positive (1.127) and significant at the 1% level, meaning that the ESG firms tend to assign one of the Big4 auditors. Therefore, we accept H1. This result is consistent with the view that the ESG firms are more likely to demand higher audit quality to enhance financial reporting quality (Ben Amar and Chakroun, 2018; Du et al., 2020; Saeed et al., 2020; Gonç et al., 2021). Model 1 also presents the probability of ESG firms to assign Big4 auditors. The Exp (B) for firms indexed in the ESG index is 3.088. This finding implies that the ESG firms more likely to assign one of the Big4 auditors are 3.088 times higher than other firms. However, the coefficient value of the ESG in model 2 is negative (-1.083) and significant at the 1% level. This finding means that the ESG firms are less likely to receive a qualified audit opinion or they are more likely to receive an unqualified audit opinion. This result ensures that a sound ESG performance improves financial reporting quality, which consequently reduces the likelihood of issuing a qualified opinion (Nguyen1 and Trinh, 2020; Gonçalves et al., 2021; Wang et al., 2023). Therefore, we accept H2. Model 2 also presents the probability of ESG firms receiving a qualified audit opinion. The Exp (B) for firms indexed in the ESG index is 0.339. This finding suggests that the ESG firms less likely to receive a qualified audit opinion are 0.661 times higher than other firms.

Table 5. Testing hypotheses depending on BLR models.

Panel A: Omnibus test of model coefficients						
	Model (1): Auditor Choice			Model (2): Audit opinion		
Step 1	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step	247.868	24	0.000	205.309	24	0.000
Block	247.868	24	0.000	205.309	24	0.000
Model	247.868	24	0.000	205.309	24	0.000
Panel B. Hosmer-Lemeshow's goodness of fit test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step 1	9.455	8	0.305	11.310	8	0.185
Panel C: Nagelkerke R^2 square test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2

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Step 1	525.563	0.333		0.464	624.651	0.285		0.384
Panel D: Wald test								
Variables	Model (1): Auditor Choice				Model (2): Audit opinion			
	B (Wald)	Exp (B)	95% C.I. for EXP(B)		B (Wald)	Exp (B)	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper
Step1 ESG	1.127*** (16.604)	3.088	1.795	5.311	-1.083*** (14.193)	0.339	0.193	0.595
FSIZE	0.604*** (43.296)	1.830	1.529	2.191	0.005 (0.003)	1.005	0.860	1.174
LEVERAGE	0.279 (0.233)	1.322	0.425	4.112	0.512 (0.952)	1.669	0.596	4.673
PROFITABILITY	-0.111 (0.005)	0.895	0.038	21.242	0.643 (0.194)	1.903	0.108	33.360
FGROWTH	0.050 (0.036)	1.051	0.632	1.748	-0.497** (4.330)	0.608	0.381	0.972
LOSS	-0.153 (0.200)	0.858	0.438	1.680	1.374*** (21.576)	3.952	2.213	7.057
FAGE	-1.005*** (19.871)	0.366	0.235	0.569	0.436** (4.494)	1.547	1.033	2.314
BSIZE	-0.122** (6.316)	0.885	0.805	0.974	-0.036 (0.the 594)	0.964	0.879	1.058
BMEETINGS	-0.092*** (10.972)	0.912	0.864	0.963	0.094*** (14.524)	1.098	1.047	1.152
DUALITY	-0.530** (4.273)	0.588	0.356	0.973	0.229 (0.859)	1.257	0.775	2.040
BINDEPENDENCE	2.712*** (12.124)	15.057	3.272	69.294	-2.587*** (15.724)	0.075	0.021	0.270
ACSIZE	0.047 (0.120)	1.048	0.804	1.365	0.234** (3.952)	1.263	1.003	1.591
ACMEETINGS	0.003 (0.002)	1.003	0.893	1.126	0.162*** (9.846)	1.176	1.063	1.302
ACINDEPENDENCE	3.243*** (6.924)	25.606	2.287	286.661	-1.172* (3.810)	0.310	0.096	1.005
Constant	-14.810*** (33.728)	0.000			-1.394 (0.534)	0.248		
Years Effect	Included				Included			
Industries Effect	Included				Included			
Observations	612				612			

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. Where: ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is total debt to total assets. PROFITABILITY is net profit after tax and extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged-revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors on the board, scaled to its total number of directors. ACSIZE is audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

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5.3. Robustness tests

To ensure the robustness of our main results, we, firstly, addressed the concerns of the potential simultaneity through re-estimating models 1 and 2 by including a one-year lag for independent and control variables (Tantawy and Moussa, 2023). By doing so, we allow time for the effects of ESG on AC and AO to be discerned. The results reported in Table 6 are consistent with those previously presented in Table 5. Panel D shows that the coefficient value of the lagged ESG in model 1 is positive (0.829) and significant at the 1% level, meaning that the ESG firms tend to assign one of the Big4 auditors in the next year. The Exp (B) for firms indexed in the ESG index is 2.292, suggesting that the ESG firms more likely to assign one of the Big4 auditors are 2.292 times higher than other firms. However, the coefficient value of ESG in model 2 is negative (-1.102), and significant at the 1% level, meaning that the ESG firms are less likely to receive a qualified audit opinion in the subsequent year. Model 2 also presents the probability of ESG firms receiving a qualified audit opinion, where the Exp (B) for firms indexed in the ESG index is 0.332. This finding implies that the ESG firms less likely to receive a qualified audit opinion in the subsequent year are 0.668 times higher than other firms.

Table 6. BLR models depending on lagged ESG, auditor choice and audit opinion.

Panel A: Omnibus test of model coefficients						
	Model (1): Auditor Choice			Model (2): Audit opinion		
Step 1	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step	240.272	24	0.000	205.629	24	0.000
Block	240.272	24	0.000	205.629	24	0.000
Model	240.272	24	0.000	205.629	24	0.000
Panel B. Hosmer-Lemeshow's goodness of fit test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step 1	10.690	8	0.220	9.134	8	0.331
Panel C: Nagelkerke R^2 square test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2
Step 1	533.158	0.325	0.453	624.330	0.285	0.384

Panel D: Wald test:

Variables	Model (1): Auditor Choice				Model (2): Audit opinion			
	B (Wald)	Exp (B)	95% C.I. for EXP(B)		B (Wald)	Exp (B)	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper
Step1 Lagged ESG	0.829*** (9.348)	2.292	1.347	3.899	-1.102*** (14.394)	0.332	0.188	0.587
FSIZE	0.622*** (46.301)	1.863	1.557	2.229	0.003 (0.001)	1.003	0.859	1.171
LEVERAGE	0.242 (0.179)	1.274	0.416	3.904	0.499 (0.904)	1.648	0.589	4.612
PROFITABILITY	0.222 (0.019)	1.249	0.053	29.531	0.379 (0.066)	1.461	0.081	26.356
FGROWTH	0.064 (0.062)	1.066	0.645	1.762	-0.485** (4.123)	0.616	0.386	0.983
LOSS	-0.145 (0.181)	0.865	0.443	1.689	1.340*** (20.478)	3.820	2.138	6.826
FAGE	-1.073*** (22.910)	0.342	0.220	0.531	0.444** (4.700)	1.559	1.044	2.330
BSIZE	-0.112**	0.894	0.813	0.983	-0.036	0.964	0.879	1.058

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	(5.381)				(0.593)			
BMEETINGS	-0.095*** (11.821)	0.910	0.862	0.960	0.095*** (14.699)	1.099	1.047	1.154
DUALITY	-0.554** (4.775)	0.574	0.349	0.944	0.228 (0.852)	1.256	0.774	2.040
BINDEPENDENCE	2.533*** (10.837)	12.596	2.787	56.921	-2.555*** (15.378)	0.078	0.022	0.279
ACSIZE	0.057 (0.176)	1.058	0.812	1.380	0.233** (3.909)	1.262	1.002	1.590
ACMEETINGS	0.008 (0.020)	1.008	0.899	1.131	0.162*** (9.716)	1.176	1.062	1.301
ACINDEPENDENCE	3.467*** (7.505)	32.055	2.683	383.043	-1.155* (3.699)	0.315	0.097	1.022
Constant	-15.078*** (34.490)	0.000			-1.396 (0.539)	0.248		
Years Effect	Included				Included			
Industries Effect	Included				Included			
Observations	612				612			

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. Where: ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is total debt to total assets. PROFITABILITY is net profit after tax and extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged-revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors on the board, scaled to its total number of directors. ACSIZE is audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

Besides, we addressed the potential endogeneity problems using the instrumental variables (IV). We followed previous research by employing two IVs to predict ESG in addition to control variables (e.g., Harjoto and Jo, 2015; Cui et al., 2018). The first IV is the average ESG in the industry because the firm-level ESG is closely related to in industry norms, and the second IV is two years lagged ESG at the firm level. The results reported in Table 7 are consistent with those previously presented in Table 5. Panel D reveals that the coefficient value of the predicted ESG in model 1 is positive (0.555) and significant at the 5% level, meaning that the ESG firms tend to assign one of the Big4 auditors. The Exp (B) for firms indexed in ESG index is 1.741, indicating that the ESG firms more likely to assign one of the Big4 auditors are 1.741 times higher than other firms. However, the coefficient value of the ESG in model 2 is negative (-0.942) and significant at the 1% level, meaning that the ESG firms are less likely to receive a qualified audit opinion. Model 2 also presents the probability of ESG firms receiving a qualified audit opinion, where the Exp (B) for firms indexed in ESG index is 0.390. This ensures that the ESG firms less likely to receive a qualified audit opinion are 0.61 times higher than other firms.

Table 7. BLR models depending on predicted ESG, auditor choice and audit opinion.

Panel A: Omnibus test of model coefficients						
	Model (1): Auditor Choice			Model (2): Audit opinion		
Step 1	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step	234.705	24	0.000	200.570	24	0.000
Block	234.705	24	0.000	200.570	24	0.000

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Model	234.705	24	0.000	200.570	24	0.000
Panel B. Hosmer-Lemeshow's goodness of fit test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step 1	14.397	8	0.072	14.507	8	0.069
Panel C: Nagelkerke R^2 square test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2
Step 1	538.725	0.319	0.444	629.390	0.279	0.376

Panel D: Wald test:

Variables	Model (1): Auditor Choice				Model (2): Audit opinion			
	B (Wald)	Exp (B)	95% C.I. for EXP(B)		B (Wald)	Exp (B)	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper
Step1 Predicted ESG	0.555** (3.863)	1.741	1.002	3.027	-0.942*** (9.836)	0.390	0.216	0.702
FSIZE	0.642*** (48.771)	1.899	1.586	2.274	-0.001 (0.000)	0.999	0.855	1.168
LEVERAGE	0.202 (0.127)	1.223	0.404	3.700	0.503 (0.927)	1.653	0.594	4.602
PROFITABILITY	0.200 (0.015)	1.221	0.051	29.326	0.525 (0.129)	1.691	0.096	29.644
FGROWTH	0.061 (0.056)	1.062	0.644	1.753	-0.487** (4.166)	0.615	0.385	0.981
LOSS	-0.193 (0.326)	0.825	0.425	1.599	1.381*** (21.948)	3.978	2.233	7.088
FAGE	-1.122*** (24.906)	0.326	0.210	0.506	0.456** (4.959)	1.577	1.056	2.356
BSIZE	-0.111** (5.162)	0.895	0.812	0.985	-0.036 (0.574)	0.965	0.880	1.058
BMEETINGS	-0.096*** (12.270)	0.908	0.861	0.959	0.095*** (15.012)	1.099	1.048	1.153
DUALITY	-0.560** (4.876)	0.571	0.347	0.939	0.204 (0.676)	1.226	0.754	1.996
BINDEPENDENCE	2.524*** (10.717)	12.473	2.753	56.510	-2.588*** (15.854)	0.075	0.021	0.269
ACSIZE	0.069 (0.257)	1.071	0.821	1.398	0.231** (3.861)	1.260	1.001	1.586
ACMEETINGS	0.010 (0.029)	1.010	0.901	1.133	0.160*** (9.637)	1.174	1.061	1.299
ACINDEPENDENCE	3.693*** (8.151)	40.145	3.182	506.489	-1.217** (4.124)	0.296	0.091	0.958
Constant	-15.409*** (35.122)	0.000			-1.364 (0.507)	0.256		
Years Effect		Included				Included		
Industries Effect		Included				Included		
Observations		612				612		

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. Where: ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is total debt to total assets. PROFITABILITY is net profit after tax and

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extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors on the board, scaled to its total number of directors. ACSIZE is audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

5.4. Additional analysis: ESG Performance, auditor choice and audit opinion during COVID-19

Previous literature refers to the implications of COVID-19 on financial reporting quality and auditing outcomes (e.g., Diab, 2021; Hsu and Yang, 2022). For further insights in this regard, we examined the probable effect of COVID-19 on our hypotheses by adding COVID-19 as a moderator in our models. The results shown in Table 8 are consistent with those presented in Table 5, suggesting that COVID-19 has a significant negative effect on AC (at the 1% level), and an insignificant negative effect on AO. Also, the results reveal an increase in the likelihood of ESG firms assigning one of the Big4 auditors during COVID-19 as the coefficient value of COVID-19*ESG is 1.027 in model 1, and this result is significant at the 5% level. However, the results suggest an increase in the likelihood of ESG firms receiving a qualified audit opinion during COVID-19, as the coefficient value of COVID-19*ESG is 1.055 in model 2, and this result is significant at the 5% level. These results are consistent with Hsu and Yang (2022) who found a decrease in financial reporting quality during the pandemic.

Table 8. BLR models during COVID-19.

Panel A: Omnibus test of model coefficients						
	Model (1): Auditor Choice			Model (2): Audit opinion		
Step 1	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step	249.064	18	0.000	204.980	18	0.000
Block	249.064	18	0.000	204.980	18	0.000
Model	249.064	18	0.000	204.980	18	0.000
Panel B: Hosmer-Lemeshow's goodness of fit test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	Chi-square	Df.	Sig.	Chi-square	Df.	Sig.
Step 1	11.073	8	0.198	7.290	8	0.506
Panel C: Nagelkerke R^2 square test						
	Model (1): Auditor Choice			Model (2): Audit opinion		
	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2
Step 1	524.366	0.334	0.466	624.980	0.285	0.383
Panel D: Wald test:						
Variables	Model (1): Auditor Choice				Model (2): Audit opinion			
	B (Wald)	Exp (B)	95% C.I. for EXP(B)		B (Wald)	Exp (B)	95% C.I. for EXP(B)	
			Lower	Upper			Lower	Upper
Step1 ESG	0.830*** (6.858)	2.292	1.232	4.265	-1.483*** (16.263)	0.227	0.110	0.467
COVID-19	-1.634*** (22.300)	0.195	0.099	0.384	-0.078 (0.107)	0.925	0.580	1.476
COVID-19*ESG	1.027** (3.612)	2.793	0.968	8.054	1.055** (4.050)	2.871	1.028	8.017
FSIZE	0.586***	1.797	1.503	2.148	-0.019	0.981	0.841	1.144

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	(41.363)				(0.061)			
LEVERAGE	0.277 (0.228)	1.319	0.423	4.113	0.448 (0.741)	1.566	0.564	4.348
PROFITABILITY	-0.255 (0.026)	0.775	0.035	17.348	0.198 (0.019)	1.219	0.074	20.176
FGROWTH	-0.004 (0.000)	0.996	0.607	1.633	-0.510** (4.840)	0.601	0.381	0.946
LOSS	-0.140 (0.168)	0.869	0.445	1.699	1.342*** (20.901)	3.825	2.152	6.799
FAGE	-1.014*** (20.568)	0.363	0.234	0.562	0.401** (3.922)	1.493	1.004	2.220
BSIZE	-0.114** (5.604)	0.892	0.812	0.981	-0.028 (0.353)	0.973	0.887	1.066
BMEETINGS	-0.089*** (10.523)	0.914	0.866	0.965	0.097*** (15.360)	1.101	1.049	1.156
DUALITY	-0.569** (4.915)	0.566	0.342	0.936	0.187 (0.573)	1.206	0.743	1.958
BINDEPENDENCE	2.675*** (11.825)	14.508	3.159	66.632	-2.668*** (16.678)	0.069	0.019	0.250
ACSIZE	0.025 (0.036)	1.026	0.789	1.333	0.225* (3.638)	1.252	0.994	1.578
ACMEETINGS	0.013 (0.048)	1.013	0.903	1.137	0.171*** (10.665)	1.186	1.071	1.314
ACINDEPENDENCE	3.215*** (6.810)	24.908	2.226	278.652	-1.176** (3.866)	0.308	0.095	0.996
Constant	-12.787*** (28.086)	0.000			-0.592 (0.106)	0.553		
Years Effect	Not included				Not included			
Industries Effect	Included				Included			
Observations	612				612			

Where: * is significant at level < 10%, ** is significant at level < 5%, *** is significant at level < 1%. ESG is a dummy variable that equals one for firms listed in the ESG index, and zero otherwise. COVID-19 is a dummy variable that equals one for the period during COVID-19 (2020-2021-2022), and zero otherwise. FSIZE is the natural logarithm of total assets. LEVERAGE is the total debt over total assets. PROFITABILITY is the net profit after tax and extraordinary items scaled to total assets. FGROWTH is the change in net sales in year t, scaled to lagged-revenue. LOSS is a dummy variable that equals one if the firms have carryforward loss, and zero otherwise. FAGE is the natural logarithm of the number of years since the firm has been listed in the Egyptian Stock Exchange. BSIZE is the number of directors on the board. BMEETINGS is the number of board meetings. DUALITY is a dummy variable that equals one if the Chairman and CEO are the same person, and zero otherwise. BINDEPENDENCE is the number of non-executive directors on the board, scaled to its total number of directors. ACSIZE is the audit committee size. ACMEETING is the number of audit committee meetings. ACINDEPENDENCE is the number of non-executive directors in the audit committee, scaled to its total number of directors.

6. Conclusion

This study has examined the relation between ESG performance, auditor choice and audit opinion. There are two arguments in this regard. The first one indicates that firms with higher ESG performance will be more ethical, and motivated to demand higher audit quality through assigning one of the Big4 auditors to provide transparent information to the stakeholders. On the contrary, firms may engage in ESG activities to conceal their misbehaviors. Consequently, the real intention of ESG performance, under this argument, is to mislead stakeholders with opportunistic behaviors, negatively influencing financial reporting. Then, ESG firms are less likely to demand higher audit

quality. In addition, we examined the relation between ESG performance and audit opinion. To test our hypotheses, we used a sample of listed firms on EGX100 during the period 2014-2022. The results revealed that higher ESG performance firms are more likely to assign one of the Big4 auditors. These results are consistent with the view that firms with higher ESG performance are more likely to demand higher audit quality to enhance financial reporting quality (Du et al., 2020; Saeed et al., 2020; Gonçalves et al., 2021). In addition, our results indicated that higher ESG performance firms are more likely to have an unqualified audit opinion. This is consistent with the view that auditors in these firms are less likely to issue a qualified opinion, which ensures that ESG performance improves financial reporting quality (Nguyen and Trinh, 2020; Gonçalves et al., 2021; Wang et al., 2023). Moreover, as an additional analysis, we have examined the effect of COVID-19 on our results. The results showed an increase in the likelihood of ESG firms assigning one of the Big4 auditors during COVID-19. However, COVID-19 increases the likelihood of ESG firms receiving a qualified audit opinion, which is consistent with Hsu and Yang (2022) who reported a decrease in financial reporting quality during the pandemic period.

Our study contributes to the literature as the first study that examines the relationships between ESG, AC, and AO in Egypt and considers the effect of COVID-19 on these relationships. Our results support the ethical perspective of ESG firms in Egypt. The current findings provide significant evidence to policymakers, auditors, and investors in emerging markets. They can guide policymakers in formulating guidelines and regulations to better oversee firms, enhance governance, and protect stakeholders' interests, especially during crisis. Further, the current findings advise investors to consider ESG performance while making investment decisions, especially during crisis time. However, this study is not without limitations. Considering the focus of this study on the Egyptian market, we suggest that future research could reinvestigate the relationship between ESG performance, AC, and AO in other countries with different cultural and institutional contexts. Further, employing a qualitative research method in future research may add value to the context of the implications of ESG for the auditor's decisions during different audit phases.

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