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The Role of Auditors in the Nexus between ESG Practices and Company Performance

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ABSTRACT

In this study, we first investigate the impact of environmental, social and governance (ESG) practices on company's performance. Using samples of Chinese publicly listed (i.e. A-share companies only) from 2017 to 2021, we analyze the association between ESG practices and company's performance in terms of ROA and Tobin's Q. We argue that companies with better ESG practices tend to draw more attention from stakeholders, which in turn encourage management to improve the company ROA and Tobin's Q. Secondly, this study analyzed the effect of auditors as evidence by audit fees on the relationship between ESG practices and company performance. Our analyses show two main results. Our results show that ESG practices have a positive impact on company performance in our samples, which means that good ESG scores promote better company performance. Furthermore, the relationship between ESG practices and company performance is moderated by the audit fees of listed companies, which indicates that the higher the company audit fees, the higher the corresponding effect of ESG scores on company performance. The results imply that auditors consider ESG as part of their audit risk assessment, although the current assurance scope of the audit work does not include ESG practices. Hence, auditing does influence the nexus between ESG practices and company performance.

Keywords: China listed companies; ESG; audit fees; ROA; Tobin's Q

INTRODUCTION

The interest in environmental, social, and governance (ESG) practices has increased over the last two decades following the increased interest in investments related to sustainability (Cohen et al. 2015; Dhaliwal et al. 2011). According to PWC (2022), interest in ESG assets under management in Asia-Pacific will increase to more than triple to USD3.3 trillion by 2026. Furthermore, anecdotal evidence indicates there is also interest in ESG among customers and employees. While customers demand more ESG compliance suppliers, employees are interested in looking for companies that prioritize the environment and personal well-being as well as good governance practices. The various aspects of interest in ESG have made both shareholders and stakeholders consider ESG as an expected company norm. Despite increased interest in ESG, the issues of costs and benefits associated with implementing ESG practices remain significant concerns for managers.

The issue of ESG practices and company performance remains one of the important debates between practitioners and academics since the 1970s (Friede et al. 2015). ESG practices are argued to benefit many aspects of a firm, including reputation (De Vincentiis 2023), reduction of cost of capital and financing (Chen et al. 2008), and performance (Yu et al. 2022). Despite studies in ESG practices having garnered substantial attention from researchers, we are keen to reexamine the relationship in China. Our reason for choosing China is that China is the largest manufacturing country in the world, where the conflict between environmental pollution and economic development is particularly prominent, but ESG studies on China are relatively rare (Chen & Xie 2022). Following the dominant studies that relate ESG and performance, we anticipate that ESG practices are positively related to Chinese company performance.

We then examine the moderating effect of audit fees on the relationship between ESG practices and company performance among Chinese listed companies in Shanghai and Shenzen stock exchanges. Although there are many benefits that have been recognized in previous papers (for examples, De Vincentiis 2023; Chen et al. 2008; and Yu et al. 2022), fewer studies have focused on whether the impact of ESG practices on firm performance is influenced by audit fees. The reason is much research focused on understanding the direct effects of ESG practices in aggregate or in respective components (Li et al. 2021). We anticipate that the association between ESG scores and performance is stronger for firms with higher audit fees than for companies with lower audit fees due to the increased credibility of ESG information disclosed.

This paper's samples are sourced from the population of Chinese A-share listed companies using 17,199 sample observations for the period 2017 to 2021. The Huazheng ESG rating data are used for the ESG scores as the proxy for the level of ESG practices. The remaining financial data, such as the audit fee, ROA, and Tobin's Q, are sourced from the CSMAR database. The results of the study found that ESG practices affect ROA and Tobin's Q positively and significantly. We also found a positive and significant coefficient of audit fee as the interaction variable between ESG scores and ROA relationship. The findings imply that when audit fees rise, the impact of

ESG scores on company performance is stronger. For the robustness test, our evidence shows that an increase in ESG ratings positively contributes to the shareholder's equity performance. Our study also shows that both ESG policies and higher audit fees also led to an increase in companies' ROE.

Our first contribution to this research is firstly to answer the calls by Manetti and Becatti (2009) to identify the role of auditing on corporate social responsibility practices alike and its impact on investors. Despite many studies that provide empirical evidence on ESG benefits in many aspects of company performance, fewer studies have focused on the influence of audit fees on the relationship between ESG practices and company performance (for example, Sharma et al. 2018). As the focus of the study is mainly on developed countries or financial markets, the development and results of the research framework may not be fully applicable to the current situation in China. Hence, this research also aims to address the existing lack of research on the relationship in the context of Chinese publicly traded companies.

In terms of practice, our study also contributes to the stakeholders of listed companies by encouraging regulatory bodies to enhance their oversight of ESG information. We also contribute to promoting appropriate ESG disclosures to enhance investor decision-making and improve investment efficiency. Finally, we also shed light on the importance of assurance services on ESG information, particularly in increasing the ESG scores and company performance relationship.

The following is how the paper is organized: Section 2 discusses the literature on the impact of ESG on company performance and the literature on the role of auditing in the relationship. Toward the end of the section, we develop related hypotheses. Section 3 detailed the methodology applied in the research, starting with sample selection, then describing the selection and measurement of the three variables of audit fees, company performance, and ESG scores, as well as each of the control variables, followed by the construction of the model. Section 4 presents the empirical analysis in which the hypotheses are tested through the model using regression analysis. Finally, section 5 summarises the conclusions of the paper, makes recommendations, highlights the limitations of the study, and looks forward to future research venues.

LITERATURE REVIEW

ESG IN CHINA

In China, the ESG standard setters and regulatory bodies (e.g. National People Congress (NPC) Standing Committee, China Securities Regulatory Commission (CSRC), ministries, and local government) are the ones who formulate the corresponding ESG policies and rules. These policies and rules aim to induce investors and companies to encourage more ESG disclosure, improve ESG standards, and reduce the substantial negative impact of ESG risks. For example, China's CSRC has set a series of policies and rules to encourage investors and companies to disclose more ESG information (Jun et al. 2022). The National Development and Reform Commission, together with the People's Bank of China, ministries, and regulators issued the "Guiding Opinions on Building a Green Financial System" in 2016, in which aimed to enable China to become the world's leading green bond market within five years.

In order to effectively promote the willingness of companies to disclose ESG information and improve their own ESG standards, Chinese lawmakers have issued various incentives and penalties. Since 2016, some local governments in China have subsidized interest rates for green loan financing entities and green bond issuing entities and rewarded IPO activities of companies meeting green standards. In terms of administrative penalties, there are written laws such as the Measures on Administrative Penalties for Ecological Environmental under the Administrative Penalty of Law of China (2021) to protect the environment. Finally, in terms of taxation, the government gazette environmental protection tax law, which levies taxes and fees according to the degree of impact on the environment. Given the implementation of various ESG rules and China's government commitment to sustainable development (Shen et al. 2023), there is now a greater need for research to effectively influence and inform the government about the progress of ESG practices.

ESG PRACTICES AND COMPANY PERFORMANCE

Since the 1970s, practitioners and academics have been debating how ESG practices influence company performance (Friede et al. 2015). However, empirical research on the effect of ESG practices on company performance indicates inconsistent results. For example, recent research by Leite et al. (2023) have investigated the influence of ESG practices on investors' demand for company share equity. The paper finds that favorable ESG information has a positive impact on investors in terms of the share price of the company. On the other hand, Alareeni et al. (2020) found that the disclosure of ESG components (i.e. environment and social) is negatively related to the company's ROA and ROE. They argued that companies that engage in more social responsibility behaviors are costly to company operations and performance.

Moreover, Sandberg et al. (2022) also support the idea that ESG practices can affect company performance.

Specifically, the paper examines whether ESG ratings are related to the performance of the European food industry companies. The findings show that ESG rating is substantially related to ROA and ROE. In Malaysia, Ismail et al. (2022) found that the ROE was higher when companies participated more in environmental, social, and governance activities. In contrast, Ruan and Liu (2021) and Duque-Grisales and Aguilera-Caracuel (2019) found that the relationship between ESG practices and performance is significantly statistically negative. While other evidence from Malaysia shows that ESG practices had an insignificant impact on firms' financial performance (i.e., return on assets, return on equity, and Tobin's Q) measurements (Thomas et al. 2021).

Egorova et al. (2022) suggest that excellent ESG-rated companies have a competitive advantage in terms of their operational and company performance and their ability to attract investment using information technology companies as samples. Aydogus et al. (2022) also suggest that the components of ESG are related to company value and profitability. Based on stakeholder theory, they argued that the market may reward the companies if the companies meet and exceed these expectations of the stakeholders (i.e. shareholders, investors, creditors, governments, and other stakeholders). Yu et al. (2022) studied the Chinese market to examine whether ESG has a positive impact on Tobin's Q and ROA. In addition, it is found that state-owned listed companies value is more influenced by the overall ESG performance than its counterpart. Moreover, the relationship is particularly significant for companies that with less pollution.

Naeem et al. (2022) suggest that ESG practices are more widely recognized in developed countries and have a greater impact on their financial success compared to developing market companies. They found that the association between ESG practices and company performance was greater for environmental firms in rich countries than in developing countries, which may be due to more open and ethical business practices in rich countries. On the other hand, Nollet et al. (2016) propose a U-shaped relationship between ESG and accounting and market-based performance. This implies that corporate social responsibility is only rewarded once a certain threshold of corporate investment and achievement has been reached. Rojo-Suárez et al. (2023) examine the short- and long-term impact of company performance on value creation. The results show that ROA is unaffected by changes in ESG scores in the countries and industries analyzed, except for the insurance sector. The study also shows that ESG policies have less impact on ROE.

Tsang et al. (2022) found that research on ESG reports has increased rapidly in accounting journals. The availability of ESG reporting data lately has increased the opportunity for research and publication. ESG reporting shows how the company performs on environmental, social, and governance issues over a specific time frame. It is the primary mechanism for companies to disclose ESG information and provide ESG data primarily for investors' decision-making. In short, ESG reporting is considered one of the most active research areas in accounting in the last ten years. Despite these advancements, there is inconsistency in research on the impact of ESG reporting on financial performance.

In the aforementioned studies, although some scholars have different views on the ESG and company performance relationship, most of them are more optimistic in terms of ESG's impact on companies. The differences in views are mainly due to the various indicators used by the developed markets. We follow the optimistic argument on the effect of ESG practices on companies' performance (i.e. ROA and Tobin's Q) for testing the data obtained from companies in China. Due to the growing interest in ESG, the higher ESG practices (i.e., proxy by ESG scores) have more chances to attract investors, which in turn improves the company's performance. Therefore, the following hypothesis is proposed:

H_1 High ESG scores companies will positively and significantly associate with company's performance.

ESG PRACTICES AND COMPANY PERFORMANCE: THE ROLE OF AUDITOR AS MODERATOR

Although ESG assurance is not compulsory, prior research has studied the relationship between ESG in an auditing context. Du et al. (2020) found that companies with high corporate social responsibility (CSR) performance tend to choose Big 4 auditors over non-Big 4 auditors, which demonstrates that firms with strong CSR performance demand high-quality audits. On the other hand, Asante-Appiah (2020) shows that the relationship between ESG's reputation and misstatements depends on auditors' efforts proxied by audit report lag. Wijaya (2020) also used the audit variable as a moderator. The author found that audit quality strengthened the influence of profitability on the capital market value of manufacturing companies in Indonesia. However, more recent evidence suggests that audit quality has a negative influence on ESG and company performance relationship (Zahid et al. 2022). The phenomenon can be attributed to the higher financial costs incurred by socially responsible companies to engage with "Big 4" auditors and affect companies' performance. Nevertheless, the existing studies mainly focus on the role of the auditor as a moderator in terms of financial misstatement (Asante-Appiah 2020) and capital market value (Wijaya 2020), leaving a gap in understanding the role of the auditor in the nexus between ESG practices and company's accounting performance.

Through the lens of stakeholder theory, companies with strong ESG practices align their operations with stakeholders' values and expectations, thus leading to better financial performance. Furthermore, these companies are expected to incur higher audit fees not only as part of the cost of assurance services but also to meet stakeholders' expectations (Gul & Tsui 2001) and maintain transparency. We further posit that audit fees enhance companies' performance through companies' risk management and credibility in reporting ESG practices.

On the other hand, there is also growing research that includes other moderating variables to discuss the link between ESG and performance. For example, Rahman et al. (2023) explain that top management commitment moderates the relationship between ESG practices and performance. ESG practices that are supported by top management will be more effective in producing better ROA. Saeidi et al. (2015) also argue that ESG performance and firm performance are indirectly linked. They argue that companies' reputations, competitive advantages, and higher customer satisfaction mediate the relationship between ESG performance and company performance. Similarly, Li et al. (2018) and Pham and Tran (2020) investigated the influence of business reputation and CEO honesty in the connection between CSR disclosure and corporate performance. It demonstrates that CSR disclosure has an indirect impact on performance via business reputation. CSR disclosure improves company reputation, which improves corporate performance. CEO integrity has been identified as a critical element determining the effectiveness of CSR disclosure in creating a business reputation. Finally, Seth and Mahenthiran (2022) argue that CSR disclosure indirectly affects firm value through dividends.

From the above literature, we concur that ESG practices do not always directly affect firm performance. CEO decisions and corporate reputation are being more frequently mentioned as important factors that have a positive moderating effect on the relationship. As suggested by Zahid et al. (2022), auditors may cause companies to incur higher financial costs and affect company performance. Audit firms with a reputation for providing high-quality audits typically charge higher audit fees, and the engagement may improve the quality of voluntary disclosure, especially on ESG disclosures, to be more reliable but at a higher expense. Our paper is different from Zahid et al. (2022) as we investigate how the influence of the score of ESG practices on company performance varies based on audit fees. Through literature research, we found fewer articles focusing on the roles of audit fees in the relationship between ESG scores and performance. Furthermore, we aim to examine the relationship in developing country settings, particularly the Chinese listed companies.

Audit fees always vary based on the client risk, the complexity of the audit, the level of expertise required, and the cost structure of the accounting firm. Rahmina et al. (2014) argue that audit fees determine the level of audit quality produced. Gunn et al. (2019) found that the audit fee is higher for countries with high entry barriers (i.e. customer scale, international business, and the use of international financial reporting standards) by focusing on the concentration of the four major accounting firm groups in various countries. When the entry barriers of competitive auditors are high, the audit fees are found to increase. Unlike the other jurisdictions, the presence of Big 4 audit firms is not dominant in China. Zhang (2015) reported only 6% of public companies listed in the Shanghai and Shenzhen Exchange audited by Big 4. It would be interesting to examine the role of audit fees in China. This is another reason why we are focusing on Chinese publicly listed companies.

Sharma et al. (2018) argued that higher audit charges by auditors may indicate a complex and risky client environment. They argue that if auditors consider the company's environmental initiatives to be riskier, then the auditors would likely charge higher audit fees. As a result of higher audit fees, investors feel that information in the annual reports is more reliable. In this study, we extend Sharma's et al. (2018) argument that audit risks are not only related to the environment but also other aspects of ESG, such as social and governance. We argue that due to an increase in auditor effort and extra attention from the market, managers of companies with better ESG scores and higher audit fees will make better decision-making that leads to better company performance. Hence, based on the above argument, we test the second hypothesis as follows:

H_2 The association between ESG scores and company performance is stronger for higher audit fee companies.

METHODOLOGY

SAMPLE SELECTION

To test the association between ESG scores and performance (ROA and Tobin's Q), hypothesis H_1, this paper selects samples from Chinese listed companies (A-share only) as the initial sample. These listed companies comprise 19 industries in China, such as manufacturing, mining, wholesale and retail trade, education, and real estate. We analyze and screen the data to exclude the financial industry companies and delisted companies. Financial companies are excluded from our samples as financial companies have different financial structures and operations from non-financial companies. We also exclude the outliers in the data and finally take the 17,199 data of Chinese listed companies (A-share only) in the years 2017-2020 as the final research sample.

Due to the increasing emphasis on ESG practices in China, we discovered that more companies disclosing ESG information and has been growing year by year, with 2,947 companies in 2017, 3,145 companies in 2018, 3,305 companies in 2019, 3,641 companies in 2020 and 4,161 companies in 2021. The reason why the sample interval starts from 2017 is that ESG data of company scores before 2017 are much less and more difficult to collect. Hence, this paper selects 2017-2021 as the sample interval. The ESG scores data come from the Huazheng ESG scores data. The remaining financial data, such as the audit fee, ROA, and Tobin's Q, are obtained from the CSMAR database.

MEASUREMENT OF KEY VARIABLES

Our independent variable in this research is the ESG scores for Chinese A-share listed companies. At present, there are many ESG rating agencies in the world such as Business Gateway Green, Bloomberg, Social Investment Alliance, China Securities, and others. Nevertheless, these scores are limited to us in terms of access and the incomplete coverage for domestic Chinese A-share. Hence, we use the Huazheng ESG rating system, which is available to us and the most comprehensive in terms of coverage. The Huazheng ESG rating is consistent with the mainstream foreign ESG evaluation framework and includes 9 grades from AAA to C. In this paper, we assigned each of the nine grades from C to AAA with a score of 1 to 9.

Following Gul et al. (2020), we use ROA and Tobin's Q to measure company performance. ROA is measured using companies' net income over total assets and Tobin's Q is based on a comparison of the companies' market value and the net book value over companies' total assets. In other words, we measure both the firm's accounting performance and capital market value.

This paper uses a natural log of audit fees as the moderating variable for the study. Our data on audit fees of Chinese-listed companies are also obtained from the CSMAR database. The control variables used in this study are the total number of directors, independent directors, women directors, firm size, leverage, liquidity, company growth, complexity, and Big 4 auditors. The number of directors is expected to have a positive relationship with performance. Belkhir (2009) argues that companies with more directors perform better due to more resources available at the companies' managerial level. On the other hand, Lei et al. (2014) concluded that company value also increased if the company has more independent directors. While Liu et al. (2014) have demonstrated that there is a relationship between gender diversity and companies' performance. Alareeni et al. (2020) found that company growth, represented by the difference in sales between the current and prior year over sales in the prior year, is related to companies' performance and value. Finally, Ahmad and Zabri (2018) claim that firm complexity tends to have higher chances of financial malpractice, suggesting that higher complexity reduces firm performance.

RESEARCH MODEL

Following Zahid et al. (2022), we apply the following panel data regression models to test the first hypothesis as follows:

$$(1) \quad ROA\ (Tobin's\ Q)=\beta_1+ \beta_2 ESG_{it} + \beta_3 LnTA_{it} + \beta_4 Lev_{it} + \beta_5 Liq_{it} + \beta_6 Growth_{it} + \beta_7 Complex_{it} + \beta_8 TotDir_{it} + \beta_9 IndDir_{it} + \beta_{10} Women_{it} + 11_{11} Big4_{it} + \beta_{12} Industry_{it}+ \beta_{13} Year_{it} +\mathcal{E}$$

In Equation (1), our dependent variables are *ROA* and *Tobin's Q,* as both are proxies for company performance, while our interested variable is *ESG,* which is measured by the environmental, social, and governance scores, and Ɛ is the error term. We provide all variables definitions in Appendix 1.

In addition, to examine our second hypothesis, H_2, we include a natural log of audit fees in Equation (1) as our interaction variable. We introduce a variable between audit fees and ESG scores as an interaction term, *LnAF×ESG*. The following is Equation (2) to test the second hypothesis of this study:

$$(2) \quad ROA\ (Tobin's\ Q)=\beta_1 + \beta_2 ESG_{it} + \beta_3 LnAF_{it} + \beta_4 LnAF_{it}\times ESG_{it} + \beta_5 LnTA_{it} + \beta_6 Lev_{it} + \beta_7 Liq_{it} + \beta_8 Growth_{it} + \beta_9 Complex_{it} + \beta_{10} TotDir_{it} + \beta_{11} IndDir_{it} + \beta_{12} Women_{it} + \beta_{13} Big4_{it}+ \beta_{14} Industry_{it}+ \beta_{15} Year_{it}+\mathcal{E}$$

With the exception of the interaction term between *LnAF × ESG*, all other variables are the same as in Equation (1). The interaction variable captures the role of audit fees in the earlier model.

RESULTS

OVERALL DESCRIPTIVE STATISTICS

Table 1 shows the overall descriptive statistics results of the study. The main dependent variables' mean values, i.e., ROA and Tobin's Q, in this paper, are 0.0440 and 1.930. The results suggest that the average companies' ROA in the samples is around 4.4% of total assets. While for Tobin's Q, since the value is greater than 1.0, the market value of the company is greater than the value of our sampled companies' total assets. The minimum (maximum) values for ROA and Tobin's Q are -0.269 (0.832) and 0.235 (8.201) respectively. The standard deviations are 0.0710 and 1.217, respectively, which show that the company performance of the sample companies varies.

On the other hand, the maximum value of our interested variable, ESG scores, in this paper is 6.5, and the minimum value is 0. The mean value is 3.959, and the standard deviation is 1.295. Our ESG mean value is lower than Wang et al. (2023), who sourced Chinese A-share listed companies from 2009-2020. These results suggest that during the period from 2017 to 2021, the ESG scores of the individual A-share listed companies in China are not very high, and the ESG scores of these sample companies are varied.

The mean value of assets is 22.29 with a standard deviation of 1.299. In terms of growth, the average growth of the samples is around 17.7%, with a maximum growth value of 2.043 and a minimum value of -0.542. The results indicate that the growth rate of operating income of the sample companies varies and has a large gap. In terms of company liquidity, the mean value of company liquidity is 0.182, and the standard deviation is 0.124, which indicates that there is some gap in company liquidity, but not obvious. For the financial leverage ratio, we find that the average financial leverage ratio is 40.7%, with the maximum and minimum financial leverage ratios of 87.2% and 6%. We find that the financial leverage ratios of each company vary greatly, with a significant difference in the level of indebtedness of each company. In terms of auditors, only 6.3% of the companies are audited by a Big4 indicating that most companies are not audited by a Big 4.

In terms of directorship, our samples show the average of total directors of 8 and around 37.8% of the directors are independent directors. Finally, the average number of female directors is 1.6, with a maximum of 10 female directors. There are also observations with no female directors in our samples.

TABLE 1. Overall descriptive analysis

Variable	N	Mean	Median	Std. Dev.	Min	Max
ROA	17199	0.044	0.043	0.071	-0.269	0.235
Tobin's Q	17199	1.930	1.551	1.217	0.832	8.201
ROE	17199	0.068	0.078	0.133	-0.632	0.367
ESG	17199	3.959	4.000	1.295	0.000	6.500
LnAF	17199	13.950	13.820	0.657	12.770	16.210
LnTA	17199	22.290	22.080	1.299	20.090	26.370
Lev	17199	0.407	0.400	0.196	0.060	0.872
Liq	17199	0.182	0.149	0.124	0.0190	0.623
Growth	17199	0.177	0.124	0.355	-0.542	2.043
Complex	17199	0.130	0.105	0.114	0.000	0.631
TotDir	17199	8.368	9.000	1.626	4.000	17.000
IndDir	17199	0.378	0.364	0.054	0.333	0.571
Women	17199	1.596	1.000	1.288	0.000	10.000
Big4	17199	0.063	0.001	0.243	0.000	1.000

Note: Refer to Appendix 1 for variables definitions.

CORRELATION ANALYSIS

The correlation between variables of this study in shown in Table 2. Our main variable, which is ESG scores, is significantly correlated with the company's performance (ROA). The correlation of ROA and liquidity, growth, and Big4 is also positively and significantly correlated with ROA at 0.247***, 0.283***, and 0.031***, respectively. On the contrary, there are negative and significant correlations between ROA and audit fees, size, leverage, and complexity. Whereas the total number of directors, female directors, and the percentage of independent directors do not seem to be correlated with ROA. From the correlation analysis, there is no highly correlated variable. More importantly, in unreported results, the variance inflation factors (VIF) are below the threshold level (mean VIF = 1.66; maximum = 3.24 for LnTA; minimum = 1.06 for Women and Growth), indicating that there is no problem of multicollinearity in the model.

REGRESSION RESULTS ANALYSIS

We use panel data regression methods to examine both hypotheses. The first step is to regress the ESG scores of Chinese listed companies on company performance. Then, it is followed by the second step, which is when we introduce audit fees as the moderating variable (*LnAF*ESG*) between ESG performance and company performance relationship.

Table 3 shows the results between ESG scores and company performance. The results of column (1) in Table 3 demonstrates a positive and significant association between ESG scores and ROA at 1% level with the coefficients of 0.0037. The results are consistent with H_1 that ESG reporting is positively and significantly affected ROA of Chinese listed companies. Similarly, the results of column (2) in Table 3 show that the relationship between ESG scores and Tobin's Q is positive and significant at 1% level with the coefficients of 0.069 for Tobin's Q. Hence, the first hypothesis of this study is supported, therefore, the results suggest that A-share listed companies with higher ESG scores in China tend to perform better. The results of R-squared for the regression model are 30.2% and 18% which also indicate that the models are reliable.

TABLE 2. Correlation matrix

	ROA	ESG	LnAF	IndDir	LnTA	lev	liq	Growth	TotDir	Women	Complex	Big4
ROA	1											
ESG	0.078***	1										
LnAF	-0.108***	0.167***	1									
IndDir	-0.011	0.061***	0.004	1								
LnTA	-0.025***	0.279***	0.758***	-0.016**	1							
Lev	-0.371***	0.075***	0.421***	-0.003	0.521***	1						
Liq	0.247***	-0.076***	-0.149***	0.000	-0.196***	-0.332***	1					
Growth	0.283***	0.008	0.004	-0.008	0.041***	0.022***	0.008	1				
TotDir	-0.006	0.054***	0.210***	-0.550***	0.291***	0.138***	-0.047***	-0.008	1			
Women	-0.010	-0.042***	-0.064***	-0.093***	-0.085***	-0.041***	0.012	-0.007	0.123***	1		
Complex	-0.052***	0.088***	0.038***	0.011	0.103***	0.262***	-0.140***	0.036***	-0.028***	-0.007	1	
Big4	0.031***	0.091***	0.427***	0.019**	0.322***	0.097***	-0.001	0.005	0.091***	-0.047***	-0.014*	1

Note: Refer to Appendix 1 for variables definitions. Correlation figures with *, **, *** is significance at the 0.10, 0.05, and 0.01 levels, respectively.

TABLE 3. ESG Scores and performance

	(1)	(2)
Variables	ROA	Tobin's Q
ESG	0.0037***	0.0690***
	(9.8382)	(9.9233)
LnTA	0.0113***	-0.2462***
	(23.2917)	(-27.2367)
Lev	-0.1597***	-0.4673***
	(-52.8605)	(-8.3089)
Liquidity	0.0950***	0.5499***
	(23.7783)	(7.3976)
Growth	0.0550***	0.3685***
	(41.9318)	(15.0845)
Complex	0.0346***	0.1771*
	(6.8648)	(1.8897)
TotDir	-0.0002	0.0126*
	(-0.4972)	(1.8732)
IndDir	-0.0160	0.8418***
	(-1.5435)	(4.3731)
Women	-0.0005	0.0062
	(-1.4965)	(0.9272)
Big4	0.0018	0.2554***
	(0.9267)	(6.9080)
Constant	-0.1903***	6.8842***
	(-16.4431)	(31.9601)
Observations	17,199	17,199
R-squared	0.3020	0.1793
Industry	Yes	Yes
Year	Yes	Yes

Note: Refer to Appendix 1 for variables definitions. *, **, *** present significance at the 0.10, 0.05, and 0.01 levels, respectively.

This study then tests whether audit fees moderate the relationship between ESG and performance. The results are shown in Table 4. Based on the results, the estimated coefficient of the *LnAF×ESG* (interaction term for ESG scores and audit fees) is positively and significantly related to ROA at 0.0028 with a significance level of $p<0.01$. The results indicate that the influence of the ESG scores on company performance is stronger consistent with the increase of audit fees. This result supports H_2 that audit fees will positively moderate the association between ESG scores and the performance of Chinese A-share listed companies. Nevertheless, the result on the effect of *LnAF×ESG* on Tobin's Q is found insignificant. The result of R-squared for the regression model for Column (1) is reliable at 31.2%.

TABLE 4. Audit fees as interaction variable between ESG scores and performance

Variable	(1) ROA	(2) Tobin's Q
ESG	-0.0359***	-0.3362**
	(-4.8139)	(-2.4079)
LnAF	-0.0275***	-0.0635
	(-11.4960)	(-1.4140)
LnAF*ESG	0.0028***	0.0293***
	(5.2672)	(2.9120)
IndDir	-0.0141	0.7956***
	(-1.3665)	(4.1229)
LnTA	0.0171***	-0.2723***
	(26.9428)	(-22.9139)
Lev	-0.1554***	-0.4666***
	(-51.4547)	(-8.2437)
Liquidity	0.0918***	0.5421***
	(23.0744)	(7.2762)
Growth	0.0545***	0.3725***
	(41.7456)	(15.2412)
TotDir	-0.0002	0.0122*
	(-0.5552)	(1.8215)
Women	-0.0005	0.0070
	(-1.4866)	(1.0375)
Complex	0.0319***	0.1740*
	(6.3629)	(1.8547)
Big4	0.0109***	0.2041***
	(5.1721)	(5.1899)
Constant	0.0646*	8.3567***
	(1.9218)	(13.2727)
Observations	17,199	17,199
R-squared	0.3120	0.1802
Industry	Yes	Yes
chi2	Yes	Yes

Note: Refer to Appendix 1 for variables definitions. *, **, *** denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

ROBUSTNESS TESTS

This paper replaces ROE as the dependent variable to conduct the robustness test. Our earlier evidence shows that an increase in ESG scores is positively related to the company's performance (i.e. ROA and Tobin's Q). In addition, we then replaced the main dependent variable with ROE for the robustness test. The robustness test results show that the coefficient is 0.0075 with a significance level of $p<0.01$. The result of R-squared is 23.2%. The significant result, which aligns with the earlier results, proves that the results are robust. The study results demonstrate that the use of funds for ESG objectives, although it increases the company's expenses, will enhance the competitiveness advantage and thus strengthen the company's profitability.

TABLE 5. ESG Scores and ROE

Variable	(2) ROE
ESG	0.0075***
	(10.2456)
IndDir	-0.0269
	(-1.3136)
LnTA	0.0261***
	(26.1567)
Lev	-0.2281***
	(-38.2220)
Liquidity	0.1588***
	(20.1580)
Growth	0.1067***
	(41.2285)

TotDir	-0.0001
	(-0.1210)
Women	-0.0019***
	(-2.6912)
Complex	0.0954***
	(9.6052)
Big4	0.0048
	(1.2156)
Constant	-0.5145***
	(-21.5694)
Observations	17,199
R-squared	0.2322
Industry	Yes
Year	Yes

Note: Refer to Appendix 1 for variables definitions. *, **, *** denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

The following regression tests whether audit fees have a moderating effect on ESG scores and ROE. The regression coefficient of the interaction term (*LnAF × ESG*) on the ESG scores and ROE relationship is 0.0065 with a significance level of $p<0.01$ and R-squared of 24.2%. The result suggests the combination of higher ESG scores and higher audit fees also led to an increase in shareholder's equity performance for the samples of the study.

TABLE 6. ESG Scores and ROE: The moderating effect of audit fees

Variable	ROE
ESG	-0.0830***
	(-5.6443)
LnAF	-0.0564***
	(-11.9352)
LnAF*ESG	0.0065***
	(6.1183)
IndDir	-0.0287
	(-1.4114)
LnTA	0.0360***
	(28.7508)
Lev	-0.2187***
	(-36.6869)
Liquidity	0.1523***
	(19.4122)
Growth	0.1058***
	(41.1264)
TotDir	-0.0002
	(-0.2715)
Women	-0.0019***
	(-2.6101)
Complex	0.0889***
	(8.9926)
Big4	0.0191***
	(4.6198)
Constant	0.0540
	(0.8138)
Observations	17,199
R-squared	0.2423
Industry	Yes
Year	Yes

Note: Refer to Appendix 1 for variables definitions. *, **, *** denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

CONCLUSION

Managers continue to have substantial concerns over the costs and advantages involved with implementing ESG practices. This research focuses on the impact of ESG practices on company performance of Chinese listed companies (A-listed only) and the role played by auditors in the relationship. By analyzing 17,199 annual observations from 2017 to 2021, the findings are, firstly, ESG practices are positively and significantly related to the performance of Chinese-listed companies. Meaning companies that do better financially are also likely to have higher scores on ESG measures. The findings are aligned with the optimistic viewpoint of the impact of ESG practices on companies' performance. It suggests that higher levels of ESG practices attract greater attention from investors, resulting in improved corporate performance.

Secondly, our results also show that audit fees influence the relationship between ESG practices and company performance, particularly on ROA. We argue that as high ESG-scored companies attract extra attention from the market, managers of these companies tend to choose better decision-making that leads to better company performance. Hence, auditors also tend to devote more effort to assessing the audit risk, particularly on the environmental, social, and governance aspects of the company that relate to financial information. As evident in our findings, the relationship between high ESG-scored companies and companies' performance is stronger for companies with high audit fees. Our robustness test also supports the main results for both hypotheses.

The findings of this study have significant effects not only on potential investors but also on those who oversee regulatory agencies and formulate public policy, particularly in Asia and other developing nations. According to our findings, ESG practices is beneficial to investors in terms of the performance of companies and the value of those companies. Significant resources should be allocated to increase ESG initiatives and disclosures. In addition, regulators for stock exchanges and the auditing profession are encouraged to review ESG assurance requirements and guidance to increase the quality of ESG reporting and the reliability of ESG scores. In addition, stakeholders such as investors should advocate for companies to improve their ESG practices so that investors can make more informed investment decisions. This will allow investors to have a more positive impact on the environment. Auditing is an important tool that should be used to promote the positive impact that ESG scores can have on the performance of the company.

Several limitations and directions for the future are now addressed. First, even though the ESG database used in this study has almost completely covered all China A-share listed companies that disclosed ESG information during the sampled years, there is still room for further expansion of the sample size. Second, in the follow-up, future studies could divide the samples into different subsamples and further discuss how ESG scores and auditing affect company performance in each of those subsamples. Third, because each agency that calculates ESG scores uses a unique set of criteria, it is essential to consider other ESG scores and the impact those scores have on the company's performance. Finally, the impact of COVID-19 in 2020 was not taken into consideration by itself in this study. Therefore, it would be beneficial to conduct separate research into the effects of the pandemic on the relationship.

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APPENDIX

APPENDIX 1. Variable definition

Variable	Symbol	Proxy	Citation	Source
ESG scores	*ESG*	ESG scores of the nine grades from C to AAA with a score of 0-9.	Yu et al. (2022)	Huazheng
Audit Fee	*LnAF*	Natural log of total audit fee	Zahid et al. (2022)	CSMAR
Performance	*ROA*	Net Income/Total Assets	Ergun et al. (2022)	CSMAR
Performance	*ROE*	Net Income / Total Equity	Sandberg et al. (2022)	CSMAR
Performance	*Tobin's Q*	(Market value of shares outstanding + number of non-marketable shares * net assets per share + book value of liabilities) / Total assets	Yu et al. (2022)	CSMAR
Total Asset	*TA*	Total Asset	Rahman et al. (2023)	CSMAR
Size	*LnTA*	Natural log of Total Assets	Rahman et al. (2023)	CSMAR
Leverage	*Lev*	Total debt/ Total assets	Leite et al. (2023)	CSMAR
Liquidity	*Liq*	Cash / TA	Yu et al. (2022)	CSMAR
Growth	*Growth*	Sales $_{T1-T0}$/ Sales $_{T0}$	Alareeni et al.(2020)	CSMAR
Complexity	*Complex*	Inventory/TA	Ahmad et al. (2018)	CSMAR
No of director	*TotDir*	Total Director	Belkhir, M. (2009)	CSMAR
No of independent director	*IndDir*	Independent director/ Total Director	Lei, A.C. and Deng, J., (2014)	CSMAR
No of women director	*Women*	Total Women director	Liu et al. (2014)	CSMAR
Auditor size	*Big4*	1 if the company is audited by the Big 4 and 0 otherwise	Zahid et al. (2022)	CSMAR

APPENDIX 2. Sample selection

	Observation
China A-share listed companies covered by in 2017-2021	5419*5=27395
Number of companies in the financial sector in 2017-2021	(127*5=635)
Number of ST in 2017-2021	(196*5=980)
Lack of sample size of ESG rating data of Huazheng	(8161)
Sample size of China A-share listed companies rated by Huazheng in 2017 - 2021	17619
Number of companies with missing data for each variable	(420)
Final sample number	17199