

Article

Impact of ESG on Firm Performance in the MENAT Region: Does Audit Quality Matter?

Eman Fathi Attia ^{1,2,*}  and Ahmed Almoneef ³ 

¹ Accounting Department, College of Business Administration, University of Business and Technology, Jeddah P.O.Box 21448, Saudi Arabia

² Accounting and Finance Department, College of Management and Technology, Arab Academy for Science & Technology and Maritime, Cairo P.O.Box 12577, Egypt

³ Accounting Department, College of Business Administration, King Saud University, Riyadh P.O.Box 11587, Saudi Arabia; aalmoneef@ksu.edu.sa

* Correspondence: attia@ubt.edu.sa or eman.attia@aast.edu

Abstract

The main objective of this study is to examine the impact of the environmental, social and governance (ESG) pillars on financial performance. To do so, we constructed a sample of 126 non-financial companies in the MENAT region between 2017 and 2023. To estimate this relationship, we used the system GMM method, addressing endogeneity concerns like reverse causality, unobserved heterogeneity and dynamic panel bias. The empirical evidence confirms that environmental and social pillars positively and significantly contribute to financial performance, highlighting their strategic role in value creation. The governance pillar, however, does not appear to influence financial performance directly, suggesting that the governance processes within the region are not efficient enough to lead to substantial financial impacts. Of greater significance, though, are the positive and significant effects of interactions between audit quality and ESG, such that good audit practice can increase the effectiveness of ESG efforts in terms of affecting financial performance. The results may be useful for policy makers and company managers in the MENAT countries by increasing ESG performance.

Keywords: ESG; audit quality; firm performance; MENAT region; SGMM



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1. Introduction

Corporate sustainability and audit quality have attracted considerable attention over the past few years. Sustainability aims to meet the needs of the present generation without compromising the ability of future generations to meet their needs [1]. Sustainability encompasses economic, social and environmental activities through disclosure and transparency [2]. However, sustainability implementation is expensive for organisations. Accordingly, not all companies are keen on improving their environmental, social and governance (ESG) performance but rather try to circumvent these responsibilities [3].

Sustainability reporting is used by organisations to communicate sustainability performance and effects to stakeholders. Organisations find measuring and communicating sustainability objectives and effects difficult due to a lack of standardised frameworks and metrics. This reinforces the information asymmetry between management and stakeholders regarding actual sustainability performance [4].

Theoretically, ESG practices are controversial in terms of their impact on the financial performance of firms. While some believe that greater commitment to ESG promotes

sustainability and long-term profitability, others believe that it can be too costly, which is not good for shareholders. Agency theory highlights the asymmetry of information between shareholders and managers, which can cause conflicts of interest. Such would be the case, though, under extreme ESG activity, for that would become an additional cost to the business and therefore would lessen profitability as well as the wealth held by the shareholder [5]. However, stakeholder theory disagrees, asserting that taking the interest of the stakeholders—employees, customers, regulators and civil society—into consideration can contribute positively to improving a company's image, further its risk management and, most importantly, yield financial performance betterments [6]. Thus, whereas agency theory is concerned with the cost and risk of ESG programs, stakeholder theory is concerned with the economic benefits of a responsible approach.

Therefore, while agency theory directs towards the costs and risks of ESG activities, and stakeholder theory directs towards their potential usefulness, one important factor, i.e., audit quality, can potentially influence this correlation [2]. High audit quality is especially crucial in curbing information asymmetries and opportunistic ESG activities that would adversely affect the financial performance of a firm. Specifically, audit quality can be described as the likelihood of an audit discovering and avoiding material misstatements. Audit quality is effective across the dimensions of audit procedures, independence and objectivity of auditors and technical skill and equipment [7,8].

Enhanced audit quality reduces information asymmetry by releasing credible financial reports. This, in turn, promotes sustainable development activities and improves transparency, hence promoting the achievement of the Sustainable Development Goals. Auditing sustainability reports are, however, difficult for auditors to make due to the lack of standardized rules and subjectivity [9].

In the financial literature, numerous studies have tested the impact of ESG practices on the financial performance of firms, with contradictory results ([3,10–13]). Most of these studies, however, have analysed the overall impact of the ESG score, without distinguishing the specific influence of each of its three pillars—environmental, social and governance. However, such a global vision may conceal differentiated dynamics between these dimensions. It is therefore important to render the analysis more insightful by breaking down the influence of each of the ESG factors on financial performance separately, so that it is possible to understand the underlying mechanisms and reach more nuanced conclusions.

Audit quality plays an important role in constraining unfavourable ESG practices. Companies with high-quality audits boost their reputation, facilitate their access to the financial markets and improve the quality of their financial and non-financial information. This additional transparency reduces information asymmetry, reduces the perceived risks by investors and enables companies to raise funds on improved terms to finance their ESG activities. On the other hand, low quality audits can lead to investors' disbelief, higher financing costs and less access to capital, undermining companies' ability to undertake proper ESG practices. Audit quality is then a moderating variable between ESG and financial performance, as it determines how markets and stakeholders evaluate and value companies' ESG efforts [2,14].

Recent reforms in the MENAT region reflect a growing commitment to integrating ESG principles into national and corporate strategies. Driven by global climate imperatives and regional initiatives such as the 28th Conference of the Parties (COP28), MENAT countries have begun aligning their sustainability agendas with international standards [15]. Governments are increasingly embedding ESG considerations into regulatory frameworks, encouraging transparency and promoting responsible investment practices. Notably, materiality assessments and sector-specific disclosure guidelines are being adopted to enhance environmental transparency and accountability. However, harmonizing ESG ratings with

Sustainable Development Goals (SDGs) remains a challenge due to diverse economic conditions, governance structures and environmental vulnerabilities across the region [16]. Despite these complexities, the MENAT region is uniquely positioned to leapfrog traditional development pathways by leveraging its abundant renewable energy resources and capital availability. These reforms aim to not only improve corporate sustainability performance but to also strengthen sovereign creditworthiness and attract global investment through enhanced ESG integration.

The advantages of this study are twofold as follows: First, it contributes to the academic literature by offering a more granular analysis of ESG components and their individual effects on financial performance. Second, it provides practical insights for policymakers, investors and corporate leaders in the MENAT region to design more effective sustainability strategies and audit mechanisms.

The aim of this study is to investigate the impact of ESG practices on financial performance in the MENAT region. Alternatively, it is interested in establishing the moderating role of audit quality on the relationship between corporate financial performance and ESG in MENAT countries. It aims to bridge the gap in the limited existing literature within the MENAT region and provide policy makers with insights on mechanisms to promote sustainable practices through increased transparency and disclosure. This study focuses on the MENAT region, in which the shift towards a sustainable economy takes precedence in national agendas, notably through their visualisation. Despite the rising importance of ESG practices, evidence regarding their impact on the financial performance of non-financial sector companies, as well as on the moderating effect of audit quality in this regard remains absent. The unique regulatory context of the region and increased pressure from regulators and investors for disclosure necessitate a closer look at such dynamics in influencing the decisions of economic and institutional agents.

This research paper proceeds as follows. Section 2 presents the formulated hypotheses in conjunction with the relative literature. The research model that has been utilized is explained under Section 3. Section 4 explains, discusses and presents the major findings. A brief conclusion is made in Section 5 according to the findings.

2. Literature Review and Hypothesis Development

2.1. ESG and Firm Performance Nexus

The relationship between ESG and financial performance has received an increasing amount of interest from researchers and in business. While some empirical studies find that good ESG performance improves profitability through reduced risk and enhanced corporate reputation, other studies indicate a threshold effect in which too much investment in ESG initiatives results in costs but no immediate benefits [3,17]. Such complex relationships are by no means unique and are clearly in line with stakeholder theory, postulating that companies create value for all their stakeholder's long-term competitiveness and financial performance increase.

More precisely, the stakeholder theory developed refers to performance that is not based purely on the maximization of shareholder value but on the satisfaction of all the stakeholders' expectations, including those of customers, employees, investors, suppliers, regulators and the community [6]. From such a perspective, ESG performance has a fundamental role in fostering the alignment of the interests of the subjects mentioned and strengthening the legitimacy of the firm in the market [18]. Three dimensions for this theory are indicated as follows: descriptive (companies naturally integrate stakeholder expectations), instrumental (good stakeholder management enhances financial performance), and normative (companies bear a moral responsibility towards all their stakeholders). According to this perspective, good ESG practices build a company's reputation and cred-

ibility, improve consumer loyalty, attract socially responsible investment and improve financial performance as a result. On the same line, ref. [19] proposes another concept that is shared value to identify those firms adopting ESG practices to answer the demands from society and develop new economic possibilities that enable improvement in long-run competitiveness.

In practice, however, the influence of ESG on firm performance is found to differ based on the context and sectors under study. Indeed, most of the current literature suggests that there is a positive link between ESG practices and corporate financial performance (e.g., [10–12,20,21]). However, another group confirms the reverse. For instance, ref. [22] proves that ESG performance indeed positively and significantly affects the value and profitability of a company. The authors illustrate how the general score for ESG is related to company value while the scores on social and governance are of considerable effect too, unlike environmental ones. Furthermore, ESG performance, including environmental, social and governance dimensions, is positively related to profitability, which shows that investing in high ESG performance pays off financially for the company. In addition, Wu et al. find that in the Chinese manufacturing sector, ESG performance has a positive effect on firm value [20]. This relationship is further strengthened by management governance and institutional ownership but is insignificantly affected by ownership concentration or equity balance. These results suggest the integration of ESG principles into business strategies to pursue corporate sustainability and improve performance. More recently, ref. [11] has demonstrated that, within the Chinese high-tech sector, effective governance and social practices predominantly raise ESG performance, improving both ROA and NPM. Whereas the governance and social issues provide benefits in immediate context, environmental impact is achieved over the long term, highlighting the importance of integrating ESG strategies in a sustainable manner. In the same vein, ref. [12] can prove that ESG performance significantly and positively affects the performance of Indonesian companies, especially on ROE. The authors conclude that the integration of ESG principles into the business world is necessary to improve ROE and, therefore, meets the need to adopt these factors in business strategies that will lead to enhancing the sustainability of the business and optimize financial performance.

However, few studies report that ESG could decrease financial performance. For example, ref. [3] demonstrates that overinvestment in CSR practices can decrease firm performance. Ref. [10] indicates that Small and Medium-Sized enterprises (SMEs)' ESG practices can negatively affect the performance of a firm. The author has contextualized this considering the inability of SMEs to bear the costs associated with the adoption of ESG practices. From this, it follows that firm size is the conditioning factor in the investments into ESG initiatives. In [23], the authors also present evidence from the UK that higher ESG scores are related to lower Tobin's Q; therefore, investors may not immediately reward ESG investments because of a perceived trade-off in value. More specifically, ref. [12] finds that the turnover of CEOs lessens the positive relationship between ESG and ROE, emphasizing that it is leadership stability that matters in maximizing such benefits in Indonesia. The first hypothesis will then be outlined as follows:

Hypothesis 1. *There is a significant and positive relationship between ESG dimensions and financial performance (FP).*

H1(a). *There is a significant and positive impact of the environmental dimension on the FP.*

H1(b). *There is a significant and positive impact of the social dimension on the FP.*

H1(c). *There is a significant and positive impact of the governance dimension on the FP.*

2.2. Moderating Role of Audit Quality

According to agency theory, the quality of the audit plays a fundamental role in the alignment of interests between shareholders and management [5]. According to this theory, managers, as agents, may be tempted to adopt opportunistic behaviour, using asymmetric information to maximize their own interests at the expense of those shareholders. It is here that audit quality plays an important role in reducing the agency costs of the company because increased financial transparency enhances the reliability of financial statements. As [24] states, with their efficient market theory, the investor needs reliable financial information for rational decision-making. Furthermore, ref. [25] in their positive theory of accounting explanation emphasized that managers have incentives to manipulate financial statements to maximize their utility, for example, performance-related pay. A high-quality audit, performed by independent and competent auditors, curbs these practices by enhancing the credibility of accounting information, thus enhancing company performance through reduced risk as perceived by investors and the cost of capital optimization.

Sustainability audits have gained increasing attention as a tool to assess and verify a company's environmental and social practices. Unlike traditional financial audits, sustainability audits focus on evaluating ESG-related activities, ensuring transparency and accountability in corporate sustainability efforts [26].

The benefit of an audit also enhances corporate governance mechanisms through the improvement of internal control and reduction of opportunistic managerial behaviour, according to the governance theory [27]. They do this because the existence of relevant monitoring mechanisms, among them external audit, reduces conflicts of interest and increases the strategic quality of decisions taken within the company. In addition, under the theory of transaction costs, companies seek to minimize their costs linked to uncertainties and the opportunism of agents; the quality of audit contributes to reducing those costs by reinforcing transparency and the confidence of stakeholders [28].

Several prior studies have already empirically analysed the direct impact of audit quality on firm performance [2,14]. Other studies, on the other hand, analyse the moderating effect of audit quality on ESG (or other variables) affecting firm performance (or other variables) (e.g., [7,8,29–31]). For instance, ref. [14] presents evidence on the moderating role of audit quality in the relationship between ESG factors and CFP in Western Europe. Based on the findings in ROA, the significant negative impact of ESG factors reveals the validity of the trade-off hypothesis, increasing companies' operating costs through their ESG investments. Meanwhile, this study underscores that the described negative impact can be even worse for those audited by Big Four accounting auditors; more specifically, the increased stringency of the audit might reinforce the perception about the costs from ESG initiatives. In addition, by investigating French companies, ref. [2] demonstrates that CSR has a positive impact on firm financial performance and that this positive impact is significantly stronger for firms audited by the Big Four. However, ref. [29] illustrates how audit quality does not play the role of moderator in affecting ESG factors and company or board size towards influencing the financial performances of the firm in Indonesian companies.

In addition, refs. [7,8] find that audit quality negatively moderates the positive relationship between ESG scores and the dividend policy of European firms. Indeed, though companies that have good practices in sustainability issues maintain dividend yields, engaging in high-quality sustainability initiatives tends to slow their growth. It indicates that the higher the audit quality, the more negative the moderating effect will be exacerbated for companies audited by the Big Four, with no statistically significant effect of the quality of ESG assurance. Therefore, from the above results comes the relevance that audit quality assumes in ESG and dividend policy dynamics. More recently, ref. [32] has proved that Big Four auditors positively moderate the relationship between the board's gender diversity

and listed companies' ESG performance. Precisely, firms with diversified boards and supported by auditors of the Big Four show improved ESG performances. Thus, the second hypothesis is as follows:

Hypothesis 2. *Audit quality strengthens the relationship between ESG dimensions and financial performance (FP).*

3. Research Design

3.1. Sample and Data

This study selected a sample of 126 firms listed on ten stock exchanges in nine MENAT countries over the period 2017–2023. These countries include Saudi Arabia, United Arab Emirates, Oman, Qatar, Kuwait, Bahrain, Egypt, Jordan, Morocco, and Turkey (see Table 1 for the distribution of firms). The financial data and ESG scores were obtained from the Bloomberg database, while the audit quality data were manually collected. The period of the study, from 2017 to 2023, allows the evolution of sustainability reporting and financial performance to be explored against the backdrop of increasing sustainability regulation in the MENAT region. The choice of companies and period is based on the availability of data relating to ESG scores. Before applying exclusion criteria, the initial number of companies was 1300. However, we excluded firms from the financial sector, as they do not have the same governance characteristics. In addition, we have excluded firms that do not have three successive years of data in the period under consideration, and firms that do not have an ESG score. After applying these criteria, our final sample includes 126 firms from nine different industries (see Table 2), giving a total of 882 firm–year observations.

Table 1. Distribution of firms.

Countries	Number of Firms	Number of Observations	%
Saudi Arabia	24	168	19%
United Arab Emirates	7	49	6%
Oman	4	28	3%
Qatar	15	105	12%
Kuwait	6	42	5%
Bahrain	3	21	2%
Egypt	6	42	5%
Morocco	3	21	2%
Turkey	58	406	46%
Total	126	882	100%

Table 2. Distribution of firms by industry.

Industry	Number of Firms	Percentage (%)
Industrials	23	18.25
Basic Materials	22	17.46
Telecommunications	21	16.67
Real Estate	14	11.11
Consumer Staples	14	11.11
Consumer Discretionary	13	10.32
Utilities	7	5.56
Energy	7	5.56
Health Care	5	3.97
Total	126	100%

3.2. Variables

3.2.1. Dependent Variable

In line with previous research [3,11,12], we measured firms' financial performance using the following two key accounting measures: return on assets (ROA) and return on equity (ROE). More precisely, ROA is measured by the ratio of net income to total assets. ROA is used to calculate how well the company can use its assets to generate profit. ROE is measured by the ratio of net profit to total equity. This calculates the ability of the company to generate profits for shareholders. These two factors are extensively used in the finance literature to gauge firm performance.

3.2.2. Main Independent Variables

According to [11], to examine the impact of ESG factors on the financial performance of firms, the current study focuses on the role of sustainability reporting as the main explanatory variable. The reporting is assessed based on several indicators borrowed from the Global Reporting Initiative (GRI) guidelines, enabling us to investigate the integration of ESG factors into business management practices.

The instruments utilized in this study are as follows: The ESG (Environment (EP), Social (SP) and Governance (GP)) score provides an overall assessment of a company's sustainability and social responsibility practice, considering the firm's environmental record of accomplishment, social responsibility and quality of governance. The environmental pillar score reflects the environmental performance of the company, namely, its carbon, energy, water and waste management. It reflects the extent to which the company integrates environmental factors into its operations. The social pillar score is a measure of the company's commitment to social responsibility, including working conditions, diversity and inclusion and community relations. This pillar focuses on the company's efforts to create a socially responsible setting. The governance pillar score examines the quality of corporate governance practices, considering factors like transparency, board independence and business ethics. It is crucial for evaluating the management of a company as well as the stakeholders' confidence in its operations. These ESG criteria are the core indicators employed in ascertaining the sustainability of corporate conduct, and their economic effect is evaluated regarding how corporations report their attempts at being sustainable and responsible.

3.2.3. Moderator Variable

Audit quality is a dichotomous moderator variable in this study, which is used to test its influence on the association between ESG and financial performance. It is built on the distinction between the Big Four audit firms (PwC, Deloitte, EY, and KPMG) and others, the former which is widely known to have better audit quality [14]. A binary variable is also utilized to differentiate between them into two groups, whereby the Big Four are given code 1 while the rest are given code 0. Auditor skills are fundamental to the quality of firms' financial and non-financial information and, therefore, to the sentiment of stakeholders and the degree to which the practice of sustainability contributes to profitability.

3.2.4. Control Variables

In line with previous studies (e.g., [3,11,33]), the article includes various control variables to explore the link between ESG, audit quality and financial performance. The introduction of control variables aims to reduce problems related to variables that may have been omitted. To control firm size (FSize), we use the natural logarithm of total assets. Furthermore, we use the current ratio (CR), which gauges the ability of a company to repay short-term debt with its current assets; this is a fundamental indicator of short-term financial health. Moreover, the immediate liquidity ratio (QR), since it is more

conservative in that it excludes inventories, provides a clearer indication of the company's actual liquidity. In addition, market capitalization (MC), which represents the overall market value of the company, is a key indicator of its success in investor attraction and its ability to effectively communicate its sustainability efforts. Finally, the debt-to-asset ratio (DebtA) serves as an indicator of the extent to which a company's assets are financed through debt, thereby reflecting its overall financial risk. In contrast, the debt-to-equity ratio (DebtE) captures the degree of financial leverage employed by the firm, offering insights into its exposure to debt-related obligations. The inclusion of both variables enables a more nuanced analysis by accounting for the structural characteristics of the firms under study. This approach facilitates a deeper understanding of the intricate interrelationships among financial performance, sustainability practices and audit quality.

3.3. Econometric Models

Following [3,11,12], we investigate the impact of ESG dimensions on corporate financial performance in the MENAT region and the moderating role of audit quality in this relationship. We extend the study by [14] for the dynamic nature of firm performance using the system GMM estimator. The basic model tries to assess the effect of ESG practices on firm performance in relation to the first hypothesis. To this end, we applied the GMM technique in a system suggested by [34]. The functional form of the firm performance model can be expressed as follows:

$$FP_{cit} = \alpha_i + \beta_1 FP_{t-1} + \beta_2 ESG_{cit} + \beta_n \sum_{n=3}^8 X_{cit} + \varepsilon_{it} \quad (1)$$

where FP is the dependent variable (ROA and ROE) firm i at time t ; ESG is the ESG score for firm i at time t ; FP_{t-1} is the lag on one year of FP ; X_{cit} is the vector of control variables; and ε_{it} represents error terms. Some studies have used the System Generalized Method of Moments (SGMM) technique to study firm performance (e.g., [3,11,12]). SGMM possesses inherent advantages. It addresses issues like omitted variable bias, measurement error, dynamic panel differences and potential endogeneity between the error term and the independent variables. This approach is particularly beneficial in circumstances where the horizon in time of a panel is relatively brief; more specifically, our study monitors T equal to 7, against a cross-sectional horizon of N equal to 126.

Furthermore, the second-order autocorrelation test, according to [35], yielded non-significant findings on the AR model (2), which confirms the absence of autocorrelation. This implies that the model has a clearly specified offset, and therefore, a single offset for the insurance performance variable is enough. The precision of the GMM procedure in the system can be improved by conditionally altering the values at time points $t - 1$ and $t - 2$ for the difference equation and a single lag in the level equation. The instruments used are deemed valid, as validated by Hansen's J statistics for testing over-identification restrictions.

Secondly, we investigate the moderating role of audit quality between ESG dimensions and financial performance in the MENAT region to draw further implications. To test the second hypothesis, the original model is respecified. The following interaction terms are incorporated into Equation (2):

$$FP_{cit} = \alpha_i + \beta_1 FP_{t-1} + \beta_2 ESG_{cit} + \beta_3 AQ_{cit} + \beta_4 ESG_{cit} * AQ_{cit} + \beta_n \sum_{n=5}^{10} X_{cit} + \varepsilon_{it} \quad (2)$$

where FP is the dependent variable (ROA and ROE) of firm i at time t ; ESG is the ESG score for firm i at time t ; FP_{t-1} is the lag on one year of FP ; AQ_y is the audit quality;

$ESG_{cit} * AQy_{cit}$ is the interaction variable between ESG scores and audit quality; X_{cit} is the vector of control variables; and ε_{it} represents error terms.

4. Empirical Results

4.1. Statistically Analysis

Table 3 summarizes the descriptive statistics for all variables used in this study. The average of ROA is estimated to be 6.43. In addition, the average value of ROE is estimated to be 15.04 for MENAT firms.

Table 3. Descriptive statistics.

Variables.	N	Mean	Std. Dev.	Min	Max
ROA (%)	882	6.43	6.30	−3.33	21.21
ROE (%)	882	15.04	16.48	−12.64	55.45
EP	882	33.61	29.11	0	83.85
SP	882	41.41	28.61	2.06	91.13
GP	882	48.80	22.01	9.79	84.53
FSize	882	9.53	0.54	8.51	10.53
CR	882	1.51	0.97	0.43	4.55
QR	882	1.19	0.87	0.32	4.03
MC	882	22.548	23.019	19.180	24.447
DebtA	882	27.63	17.23	0.41	59.16
DebtE	882	96.40	100.70	0.95	391.52

Source: Authors' own creation.

Table 4 confirms that multicollinearity problem does not afflict the empirical models under study here [36]. Furthermore, as shown in Table 5, the correlation coefficients of exogenous variables are less than 0.80, an indication of low correlation between such variables. Above all, the VIF value is less than 10, thus indicating that the multicollinearity is not crippling the variables.

Table 4. Descriptive Statistics.

	ROA	ROE	EP	SP	GP	FS	CR	QR	MC	DebtA	DebtE
ROA	1										
ROE	0.844**	1									
EP	0.185**	0.266**	1								
SP	0.132**	0.256**	0.854**	1							
GP	0.010	0.067*	0.413**	0.508**	1						
FSize	−0.103**	−0.109**	0.220**	0.164**	0.188**	1					
CR	0.259**	0.011	−0.050	−0.131**	−0.178**	−0.114**	1				
QR	0.240**	−0.005	−0.056	−0.137**	−0.167**	−0.069*	0.344**	1			
MC	0.258**	0.203**	0.219**	0.163**	0.168**	0.652**	0.030	0.062	1		
DebtA	−0.385**	−0.137**	0.065	0.107**	0.094**	0.193**	−0.460**	−0.398**	−0.033	1	
DebtE	−0.369**	−0.104**	0.035	0.078*	0.028	0.025	−0.347**	−0.292**	−0.127**	0.266**	1

** Significance levels at the 1% levels, * Significance levels at the 5% levels, respectively.

Table 5. VIF correlation.

Variable	VIF	1/VIF
SP* AQy	20.78	0.048
EP* AQy	16.72	0.060
SP	12.50	0.080
EP	11.88	0.084
CR	10.17	0.098
QR	9.48	0.105
GP* AQy	6.37	0.157
GP	3.13	0.319
DebtA	2.96	0.338
DebtE	2.57	0.390
FSize	1.39	0.721
MC	1.26	0.792
Mean VIF	8.27	

Source: Authors' own creation.

4.2. Baseline Results

4.2.1. Impact of ESG on Financial Performance

The subsection describes the results regarding the influence of ESG pillars. Other results are highlighted in the following Table 6. Two models demonstrate that GMM could be a good estimator for this study. The J-Hansen statistics concerned reject the null of dramatically divergent instruments from each other. Furthermore, the AR (1) and AR (2) results validate the null of first- and second-order correlation.

The most significant results are that all the variables are significant. More precisely, the coefficients of variable FP_{t-1} are statistically significant and negative with divergent levels of significance. This result reflects the negative long-run persistence of financial performance and suggests that high profitability in the past tends to reduce current profitability. In the economic sense, this can be explained by the cyclical behaviour of financial results in the financial sector of MENAT countries. Truly, over-benefit in the past may motivate certain companies to take risk investing, for instance, by growing their credit exposure or investing into less economically resilient projects. Ultimately, these strategic decisions will, in the long run, lead to increasing bad debts or investment losses that will reduce forthcoming performance.

However, the coefficients for the EP variable are positive and significant at 5%. This is because the environmental pillar improves financial performance. This result shows that more commitment to environmental practices seems to improve financial performance. This is perhaps due to better management of climate risks, reduced operating expenses through the utilization of energy efficiency and enhanced reputation that attract investors that are more responsible. Companies with sound environmental strategies can therefore achieve better financial performance. This finding therefore confirms hypothesis H1(a) and the predictions of stakeholder theory. This result is in line with those obtained by [11,12,20,22]. However, it is opposed to the one found by [10].

Further, the coefficient of the SP variable is positive but insignificant in its impact on ROA but is positive and significant in its impact on ROE at the 10% level. From an economic viewpoint, this shows that social initiatives, such as improving working conditions, social responsibility and financial inclusion, have no direct impact on asset efficiency (ROA), but they appear to enhance shareholder profitability (ROE). This relationship can be explained by the fact that investors place more trust in socially responsible companies, as they are more reputable and attractive on the capital markets, with better access to capital and stock market quotations. *This finding supports the H1(b) hypothesis.*

Contrary to our expectations, the impact of the governance score on the financial performance of MENAT region financial firms is negative but insignificant for both ROA and ROE. From an economic point of view, this indicates that sound governance does not seem to contribute directly to the profitability of the corporation. Such an inability to reflect a significant effect could be explained by a series of factors. On the other hand, overly strict governance could lead to excessive bureaucracy, thus limiting the flexibility and creative potential of enterprises. Second, the taken-up regional governance norms may still be lacking in terms of enforceability and transparency, mitigating their possible effect on investor confidence and thus overall financial performance.

We then provide the interpretation of the results for the control variables. Firm size (FSize) is revealed to have a negative and significant effect at the 1% level on financial performance, both in terms of ROA and ROE. The implication of this result is that, in the MENAT region, big financial firms are performing below smaller firms. These conditions can be traced to several factors, including increased cost bases, more complex decision-making processes and more rigidity, that is organizational. Additionally, these companies

are normally regulated more tightly, limiting their flexibility in operations and in earning high returns. This result is like that found by [3].

In addition, the coefficient of the Quick Ratio (QR) has a positive and significant effect at 5% on ROA but an insignificant negative effect on ROE. This indicates that financial companies can satisfy their short-term debts better, maximize the utilization of their assets with improved liquidity and thus increase their operating profitability (ROA). Yet this improvement does not always apply to increased returns to shareholders (ROE). Surplus liquidity can be a sign of financial resource under-use, limiting leverage and diluting returns to shareholders.

Similarly, the coefficients on the Market Capitalization (MC) variable are positive and significant in both specifications, at the 1% level, suggesting that more valuable firms on the market are more profitable, both in the use of their assets and the return to shareholders. This is because firms that are more valuable are likely to enjoy more investor confidence, which enables them to raise more favourable funding and solicit more money to fund their expansion. High market capitalisation can also reflect good management and an attractive long-term vision, underpinning their financial success.

For column (1), the coefficient of variable DebtE is negative and statistically significant at the 1% level. This signifies that being in debt is deleterious for the economic profitability of financial firms in the MENAT region. This is because high debt level helps to increase the cost of capital and the firms' burden on the exchequer, thus limiting their scope to gain return on their assets. Meanwhile, highly leveraged firms must invest more of their resources to pay interest and principal, thus keeping profit margins down as well as hurting their economic performance. Additionally, excessive debt could increase financial risks and make companies more vulnerable to economic downturns or external shocks, thereby lowering their long-run profitability. The results align with those found by [3].

Table 6. ESG and financial performance. Main results.

Variable	ROA	ROE	ROA	ROE
	(1)	(2)	(3)	(4)
FP_{t-1}	−0.814 *** (0.1780)	−0.550 ** (0.1430)	−0.831 *** (0.174)	−0.675 *** (0.153)
ESG			0.066 *** (0.021)	0.294 *** (0.061)
EP	0.066 ** (0.0307)	0.160 ** (0.0829)		
SP	0.008 (0.0342)	0.137 * (0.0829)		
GP	−0.012 (0.0233)	−0.036 (0.0541)		
FSize	−4.309 *** (1.1650)	−10.640 *** (2.8850)	−8.685 *** (1.601)	−22.859 *** (4.207)
QR	1.142 ** (0.668)	−0.977 (1.332)	1.257 *** (0.667)	−1.909 (1.519)
MC	0.003 *** (0.001)	0.004 *** (0.001)	3.840 *** (0.572)	8.299 *** (1.303)
DebtA	−0.065 (0.0467)	−0.058 (0.1140)	−0.069 (0.046)	−0.060 (0.121)
DebtE	−0.025 *** (0.006)	−0.027 (0.016)	−0.022 *** (0.006)	−0.025 (0.016)
Constant	0.509 *** (0.115)	1.164 *** (0.276)	1.072 (1.053)	5.712 ** (2.792)
Observations	630	630	630	630
Number of firms	126	126	126	126
Number of instruments	16	20	14	14
AR (1) (<i>p</i> -value)	0.000	0.000	0.000	0.000
AR (2) (<i>p</i> -value)	0.054	0.087	0.093	0.069
Hansen test (<i>p</i> -value)	0.307	0.458	0.565	0.594

Notes: This table presents the results from the system GMM estimations for dynamic panel-data models, Equation (1). The dependent variable is FP (ROA and ROE). Sample period: 2017–2023. Two-step results and Hansen J tests never reject the validity of the over-identifying restrictions. the AR (1) and AR (2) results validate the null of first- (AR (1)) and second-order (AR (2)) correlation. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.1$ denote statistical significance at the 1%, 5% and 10% levels, respectively.

4.2.2. Moderating Role of Audit Quality

In this subsection, we will assess the moderating effect of audit quality on the link between ESG and financial performance. The results are also presented in Table 7. In fact, the results obtained show that audit quality positively moderates the relationship between ESG dimensions and financial performance. The coefficients of the variable $EP*AQy$ are statistically significant at the 1% level. This means that when companies benefit from quality audits, environmental commitments become credible to investors and stakeholders. Credibility increases access to green finance and attracts socially responsible investors, which further improves financial performance. In addition, tight supervision by quality auditors may trigger the stronger enforcement of environmental practices, thereby reducing the dangers brought about by non-compliance with standards and loss of reputation. In addition, this result suggests that when companies are positively impacted by a quality audit, their environmental commitments are more credible to investors and stakeholders. Such higher credibility can lead to accessing green finance and attaining socially responsible investors, which can improve financial performance. In addition, strict monitoring by quality auditors can induce better implementation of environmental policies and therefore reduce risks of regulatory failure and reputational harm. This result is like that found in [2], where the author has shown that the audit positively moderates the relationship between ESG and firm performance.

In addition, the coefficients of the variables $SP*AQy$ are positive and significant at the 1% level. This outcome indicates that the effectiveness of social responsibility initiatives in enhancing firm performance is contingent upon the quality of audit audits. Specifically, firms that demonstrate strong social engagement—such as employee welfare, community development and stakeholder inclusiveness—tend to experience improved financial performance when these efforts are accompanied by high audit quality. This interaction suggests that robust audit practices enhance the credibility and transparency of ESG disclosures, thereby reinforcing stakeholder trust and investor confidence. Consequently, audit quality acts as a complementary governance mechanism that amplifies the value-creating potential of social ESG activities. These results underscore the importance of integrating high-quality assurance mechanisms into ESG strategies to maximize their impact on corporate financial performance.

Interaction coefficient $GP*AQy$ is also positive and significant at 1%. This indicates that firm performance is increased through the combination of good corporate governance and high-quality audit. Good governance, coupled with high audit quality, helps to reduce opportunistic actions and fraud risk while deepening financial transparency. Additionally, a quality audit ensures that internal controls and strategic decisions align with best practices, which is particularly appealing to investors. As a result, companies with better governance and good auditing have a greater probability of securing capital, reducing their cost of capital and becoming more competitive in the market.

Finally, as for overall ESG, the outcomes demonstrates a significant and positive correlation between the combined ESG score and audit quality on firm performance (both ROA and ROE). This shows that the financial gains from good ESG practices are more pronounced when high audit quality is present as well. Companies with good environmental, social and governance performance tend to have better financial performance when their ESG reports and practices are thoroughly and truthfully examined. Better audit quality renders information related to ESG more reliable and transparent, which enhances stakeholder trust and reduces information gaps. This contributes to better investment decisions, improved risk management and a better reputation for the company. This all equates to higher profits and asset efficiency. The results illustrate the importance of audit quality

in realizing the highest financial payoff in ESG initiatives. This highlights its strategic importance to firms that aim to connect sustainability and long-term value creation.

Table 7. Moderating effect on ESG and financial performance nexus.

	(1)	(2)	(3)	(4)
Variable	ROA	ROE	ROA	ROE
FP_{i-1}	−0.642 *** (0.170)	−0.543 *** (0.144)	−0.580 *** (0.088)	−0.587 *** (0.010)
ESG			0.026 (0.032)	0.158 * (0.095)
EP	0.107 * (0.058)	0.186 ** (0.058)		
SP	−0.030 (0.063)	0.085 (0.176)		
GP	−0.042 (0.043)	−0.081 (0.094)		
FSize	−4.026 *** (1.177)	−10.546 *** (2.824)	−8.152 *** (1.327)	−24.639 *** (3.814)
QR	1.180 (0.741)	−1.038 (1.310)	0.985 * (0.596)	−2.272 (1.429)
MC	0.003 *** (0.001)	0.005 *** (0.001)	3.249 *** (0.480)	8.860 *** (1.205)
DebtA	−0.053 (0.051)	−0.048 (0.113)	−0.069 (0.043)	−0.036 (0.117)
DebtE	−0.025 *** (0.006)	−0.026 *** (0.016)	−0.017 *** (0.005)	−0.023 (0.016)
AQy	−1.959 *** (0.365)	−4.973 *** (1.250)	−3.882 * (2.008)	−9.701 * (5.450)
EP*AQy	0.054 *** (0.0180)	0.047 *** (0.014)		
SP*AQy	0.040 *** (0.010)	0.086 *** (0.011)		
GP*AQy	0.033 *** (0.001)	0.057 *** (0.015)		
ESG*AQy			0.080 ** (0.038)	0.225 ** (0.109)
Constant	0.492 *** (0.001)	1.186 *** (0.002)	1.871 (0.965)	0.660 ** (0.267)
Observations	630	630	630	630
Number of firms	126	126	126	126
Number of instruments	20	20	16	16
AR (1) (<i>p</i> -value)	0.000	0.000	0.000	0.000
AR (2) (<i>p</i> -value)	0.179	0.087	0.191	0.087
Hansen test (<i>p</i> -value)	0.432	0.458	0.383	0.458

Notes: This table presents the results from the system GMM estimations for dynamic panel-data models, Equation (2). The dependent variable is FP (ROA and ROE). Sample period: 2017–2023. Two-step results and Hansen J tests never reject the validity of the over-identifying restrictions. the AR (1) and AR (2) results validate the null of first- (AR (1)) and second-order (AR (2)) correlation. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.1$ denote statistical significance at the 1%, 5% and 10% levels, respectively.

5. Conclusions and Policy Implications

The aim of this study is to quantify the impact of three ESG dimensions on the financial performance of MENAT-based non-financial firms, as well as the moderating role of the audit quality on this relationship. The results of this study highlight the significance of the social and environmental dimensions of ESG in improving the financial performance of MENAT region financial sector companies. The empirical findings indicate that these two pillars positively and significantly affect firm performance, highlighting their strategic importance in value creation. In contrast, the pillar of governance is not directly evident to have a strong influence on financial performance, suggesting that the mechanisms of governance utilized in this area are perhaps not strong or sensitive enough to have an impact on companies' bottom lines. However, the correlation between audit quality and the three pillars of ESG (environmental, social and governance) is positive and significant

to performance, indicating that quality audit practices can amplify the impact of ESG strategies on the financial performance of firms.

The findings of this study have important implications for policymakers, firm managers and investors from the MENAT region. At the policy level, the results underscore the imperative of strengthening regulatory and incentive frameworks that support the implementation of responsible environmental and social practices. These could include the introduction of tighter ESG-related legislation, tax rebates and public reporting requirements to advance corporate accountability and sustainability. For corporate managers, particularly in MENAT non-financial corporations, integrating ESG considerations into strategic decision-making—risk management and capital allocation most notably—must be a priority. Audit quality must also be a priority given its high leverage impact on the financial contribution of ESG practices.

In addition, it is essential to engage more investors through focused awareness programs, training sessions and the release of concise and lucid reports on ESG performance. Promoting investment in sustainable companies can also further align capital markets with long-term value creation.

However, there exist some limitations to this study that demonstrate there is room for further research. On the one hand, the period of analysis and the sample analysis are limited to the non-financial firms of the MENAT region, and as such, the findings may not be generalized to other sectors or regions. On the other hand, audit quality was tested as a unique moderator without considering other institutional or regulatory drivers potentially influencing the relationship between ESG and performance. Additionally, the measurement methods for governance could be enhanced to identify why this pillar does not directly influence financial performance. Moreover, incorporating the concept of sustainability audits offers a valuable avenue for future research. In addition, future research could examine the mediating or moderating effects of institutional forces such as corporate culture, legal systems or government policies on the ESG–performance relationship. Extending the investigation to other industries and geographical regions would also provide a more generalizable image of ESG dynamics in different settings. Finally, the sample is largely composed of Turkish companies (almost 50%), which represents a significant source of bias.

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