

“Does engaging in ESG practices improve banks’ performance in Jordan?”

AUTHORS

Marwan Mansour 
Mo'taz Al Zobi
Ibrahim Alnohoud 
Almothanna Abu Allan 
Abedulwale Khassawneh 
Mohamed Saad

ARTICLE INFO

Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh and Mohamed Saad (2025). Does engaging in ESG practices improve banks’ performance in Jordan?. *Banks and Bank Systems*, 20(1), 62-73. doi:[10.21511/bbs.20\(1\).2025.06](https://doi.org/10.21511/bbs.20(1).2025.06)

DOI

[http://dx.doi.org/10.21511/bbs.20\(1\).2025.06](http://dx.doi.org/10.21511/bbs.20(1).2025.06)

RELEASED ON

Tuesday, 04 February 2025

RECEIVED ON

Friday, 25 October 2024

ACCEPTED ON

Tuesday, 03 December 2024

LICENSE



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

JOURNAL

"Banks and Bank Systems"

ISSN PRINT

1816-7403

ISSN ONLINE

1991-7074

PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

47



NUMBER OF FIGURES

0



NUMBER OF TABLES

6

© The author(s) 2025. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 25th of October, 2024
Accepted on: 3rd of December, 2024
Published on: 4th of February, 2025

© Marwan Mansour, Mo'taz Al Zobi,
Ibrahim Alnohoud, Almothanna
Abu Allan, Abedulwale Khassawneh,
Mohamed Saad, 2025

Marwan Mansour, Ph.D., Assistant
Professor, Business Faculty, Department
of Accounting, Amman Arab
University, Jordan. (Corresponding
author)

Mo'taz Al Zobi, Ph.D., Associate
Professor, Business Faculty,
Department of Accounting, Amman
Arab University, Jordan.

Ibrahim Alnohoud, Ph.D., Assistant
Professor, School of Business,
Department of Accounting, Al al-Bayt
University, Jordan.

Almothanna Abu Allan, Ph.D.,
Assistant Professor, Business Faculty,
Department of Accounting, Amman
Arab University, Jordan.

Abedulwale Khassawneh, Ph.D.,
Associate Professor, Applied Science
Research Center, Applied Science
Private University, Jordan; MEU
Research Unit, Middle East University,
Amman, Jordan.

Mohamed Saad, Ph.D., Associate
Professor, College of Business,
Department of Accounting, King Faisal
University, Saudi Arabia.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution 4.0
International license](https://creativecommons.org/licenses/by/4.0/), which permits
unrestricted re-use, distribution, and
reproduction in any medium, provided
the original work is properly cited.

Conflict of interest statement:
Author(s) reported no conflict of interest

Marwan Mansour (Jordan), Mo'taz Al Zobi (Jordan), Ibrahim Alnohoud (Jordan),
Almothanna Abu Allan (Jordan), Abedulwale Khassawneh (Jordan),
Mohamed Saad (Saudi Arabia)

DOES ENGAGING IN ESG PRACTICES IMPROVE BANKS' PERFORMANCE IN JORDAN?

Abstract

Assessing Environmental, Social, and Governance (ESG) practices in the banking sector is becoming increasingly important. This study aims to analyze the correlation between ESG scores and the performance of banks. The ESG data were gathered using a Bloomberg database. Using fixed-effect estimation for a static model, this study examines a balanced panel sample of 15 Jordanian-listed banks from 2009 to 2023. Based on multivariate regression, the study outcomes suggest that Jordanian banks with higher ESG scores perform better in operating and market performance. Stakeholder theory supports this. Accordingly, the R^2 values for the study models were 23.9% for the ROA model and 18.7% for Tobin's Q, respectively, showing the high explanatory power of both models. Therefore, an increase of one point in ESG scores leads to a corresponding rise in ROA and Tobin's Q 0.496 and 0.370, respectively. Regarding control variables, leverage has a negative correlation coefficient of -0.169 and -0.253 , respectively, in both the ROA and Tobin's Q models. According to the ROA model, a one-unit increase in bank size leads to a 0.309-unit increase in bank performance and a 0.115-unit increase, according to Tobin's Q model. Similarly, as the bank ages by one year, its performance improves, with the ROA and Tobin's Q models showing increases of 0.216 and 0.116 units, respectively. Additionally, the financial development showed correlation coefficients of 0.108 and 0.045 for the ROA and Tobin's Q models, respectively. However, the ESG committee does not affect the performance of banks.

Keywords

social responsibility, banking sector, stakeholder theory,
developing country

JEL Classification

G21, M14, L25, C23

INTRODUCTION

Maximizing shareholder value is frequently cited as the primary goal of a corporation (Remo-Diez et al., 2023). Thus, implementing ESG initiatives by businesses ought to enhance shareholder value (Azmi et al., 2021). However, the observable evidence of the link between ESG activity and firm performance is noticeably contradictory (Wu et al., 2024). Researchers have discovered that incorporating ESG practices can boost a firm's performance by reducing costs (Chen et al., 2023) and minimizing non-systematic risk (Tahmid et al., 2022). In opposition, some researchers contend ESG initiatives are an imprudent utilization of resources, viewing them as a means for managers to exploit advantages from shareholders (El Houry et al., 2023). Banks play a crucial role in the global economy (Shubita, 2023a), aiming for customer trust, positive image (Chouaibi et al., 2022), and financial success (Bătae et al., 2021). The banking sector is experiencing a growing focus on evaluating ESG factors (Galletta et al., 2022). Understanding how ESG activity influences bank performance is of utmost importance (Buallay, 2019), given that incidents such as the 2008 Financial Crisis scandal have severely damaged people's confidence in financial institutions (Naeem et al., 2022). Banks adopted ESG practices to restore customer confidence (Menicucci & Paolucci, 2023). Given

the banking industry's strict profitability constraints and regulations, implementing ESG initiatives may stress variations in financial performance among rival banks. Also, banks require more capital than non-financial firms. Ineffective bank management could cause the need for a government bailout (Alodat et al., 2024), attracting the attention and examination of the media, academia, and government (Alareeni & Hamdan, 2020). Hence, shareholders, depositors, bondholders, and taxpayers could find value in ESG activities, potentially replacing these governance structures (Abiad et al., 2025).

1. LITERATURE REVIEW

A firm's performance has neglected environmental and societal factors, despite their significant potential (Chouaibi et al., 2022). Researchers and industries have seen a surge in the popularity and influence of corporate sustainability in recent years (Agnese et al., 2024). The world is currently facing environmental and social problems because of the growing global population and increasing climate change risk (Jaradat et al., 2022; Lutfi et al., 2023). According to stakeholder theory (Alodat et al., 2025; Ersoy et al., 2022; Khalaf et al., 2023; Menicucci & Paolucci, 2023), stakeholders are crucial for corporate success, stability, growth, and improved financial performance (Gutiérrez-Ponce & Wibowo, 2024). Consequently, the theory suggests that businesses should prioritize meeting the legitimate requirements of all stakeholders (Saleh & Maigoshi, 2024), encompassing the environment (Lutfi et al., 2022), society, and economy, to enhance their performance (Rahman et al., 2023). Most research examines the connection between ESG practices and firm performance in developing-world non-financial organizations (Mansour et al., 2024c). Developing markets have lower levels of governance (Alhebri et al., 2024), transparency, and regulatory requirements than developed markets (Shubita, 2024). Therefore, banks' ESG-related practices in such markets may offer stronger indications of a company's non-financial information and help diminish information asymmetry between the business and stakeholders (Rahman et al., 2023). Greater transparency may lead to improved bank performance (Azmi et al., 2021).

Many issues within the ESG dimensions can have a significant impact on a bank's performance (Ersoy et al., 2022). Environmental factors like labor practices (Wu et al., 2024), carbon footprint (Naeem et al., 2022), and governance issues (Alareeni & Hamdan, 2020) are consid-

ered. Taking these dimensions into account can help banks enhance their reputation and achieve better overall performance. It is crucial to comprehend how ESG dimensions improve a bank's performance (Azmi et al., 2021). However, there is still no clear empirical proof about how ESG directly affects a bank's performance (Menicucci & Paolucci, 2023). The variations in the results can be linked to disparities in ESG measures (Gutiérrez-Ponce & Wibowo, 2024), bank performance measures (Agnese et al., 2024), and methodological techniques (Saleh & Mansour, 2024). The impact of ESG on firm performance has been the subject of three decades of empirical research, but the inconclusive findings can be attributed to timing (Chen et al., 2023), omitted variable bias (Rahman et al., 2023; Saleh et al., 2021), data selection (Buallay, 2019), sampling size (Tahmid et al., 2022), inconsistent measurement of key variables (Wu et al., 2024), study context: developed or developing countries (Gutiérrez-Ponce & Wibowo, 2024; Mansour et al., 2024c).

ESG practices safeguard shareholder interests by maintaining a clear distinction between decision-making and control within an organization (Chouaibi et al., 2022). The financial industry in developing economies plays a vital role in promoting economic growth by efficiently connecting capital suppliers and users. Banks' greater utilization of resources compared to non-financial companies puts them under increased pressure to contribute to society (Sharma et al., 2024). When faced with bankruptcy, banks are more prone to getting bailouts funded by taxpayers. As a result, regulatory bodies, citizens, and the media often subject bank activities to heightened scrutiny. Due to heightened scrutiny, bank managers must exercise caution when allocating resources (Van Nguyen et al., 2022). Certain banks in developing nations provide savings accounts that are pledged to support socially responsible causes (Azmi et al., 2021).

Multiple studies have shown that ESG practices are linked to improved corporate performance (Buallay, 2019; Chen et al., 2023; Naeem et al., 2022; Rahman et al., 2023; Wu et al., 2024). For example, Naeem et al. (2022) discovered a strong positive correlation between the ESG performance of ecologically conscious companies and their return on equity (ROE) besides Tobin's Q. They add the nexus is more pronounced in advanced countries than in developing ones. By sharing ESG data (Chen et al., 2023), companies improve their brand image, which leads to funding, lower financing costs, and higher valuation. Similarly, Wu et al. (2024) revealed a substantial and beneficial correlation between ESG and firm performance among non-financial Chinese firms listed from 2018 to 2022, including its environment, social, and governance sub-dimensions. The study by Kim and Li (2021) reveals a positive association between ESG factors and corporate profitability, especially for larger companies within the S&P index. The positive relationships are often a result of effective ESG practices that prioritize transparency, risk reduction, and innovation. Chouaibi et al. (2022) also back this perspective, showing a positive link between ESG practices and the performance of UK and German-listed companies from 2005 to 2019. In their study, Tahmid et al. (2022) discovered that ESG initiatives positively affected the value and performance of European firms between 2008 and 2020. According to Saha and Khan (2024), there is a partial connection between ESG scores and Nordic companies' financial performance metrics.

Conversely, some studies indicate that implementing ESG strategies and initiatives incurs substantial expenses for the organization (Lamanda & Tamásné Vőneki, 2024; Pawar & Munuswamy, 2024). Nonfinancial expenditures, such as ESG investments, should be assessed by investors and corporations for their impact on corporate financial gains. According to these studies, disclosing ESG concerns may harm investor perceptions and, in turn, firm performance (Agnese et al., 2024). This suggests a negative relationship and that ESG factors do not always result in better firm performance. The discovery also implies that although ESG factors might be essential for ethical or societal purposes, they may not always result in measurable financial benefits. According to the research conducted by Pawar and Munuswamy

(2024), it is argued that the primary goal of a banking institution is to generate profits. Any additional non-financial objectives are believed to negatively impact its business performance.

A handful of studies have investigated the connection between ESG dimensions and bank financial performance globally, and the outcomes are markedly inconsistent (Lamanda & Tamásné Vőneki, 2024). Banks that achieve greater ESG scores may have low risk. According to Buallay (2019), the empirical findings indicate a noteworthy positive influence of ESG on the ROA, ROE, and Tobin's Q of European banks. On the other hand, Gutiérrez-Ponce and Wibowo (2024) show that ESG had a detrimental effect on all measures of firm performance in Southeast Asia banks between 2010 and 2020.

Likewise, Menicucci and Paolucci (2023) found that ESG policies negatively impact operational and market performance in the Italian banking sector, showing limited adoption of sustainable practices by the banking industry in Italy. The findings of Lamanda and Tamásné Vőneki (2024) reveal no correlation between ESG disclosure and banks' financial and operational performance in four Central European countries. Bătae et al. (2021) state that emissions and waste reductions are the only environmental dimensions that correlate with or impact European banks' financial performance (ROA & ROE). In addition, Azmi et al. (2021) observed a non-linear connection between ESG activity and bank performance in 44 emerging economies. El Khoury et al. (2023) also found evidence of a non-linear relationship between ESG and bank performance in the MENAT region (2007–2019), highlighting the complexity of the relationship. The empirical evidence from Ersoy et al. (2022) suggests that there is an inverted U-shaped connection between bank market value and ESG for U.S. commercial banks. It becomes evident that credit institutions prioritize profitability above all else, neglecting their responsibilities towards ESG practices (Agnese et al., 2024).

The banking sector plays a significant role in fostering the development and growth of the Jordanian economy, as it facilitates various financial transactions. To improve the banks' reputation, guarantee adherence to national and international regulations, and increase stakeholder satisfaction,

ESG practices have gained significant traction among Jordanian banks in recent times, reflecting a broader commitment to sustainability and responsible business practices. Additionally, the Central Bank of Jordan (CBJ) assumes a pivotal role in fostering ESG initiatives among Jordanian banks. By introducing a Green Finance Strategy (CBJ, 2023), the CBJ intends to stimulate sustainable finance and minimize climate-related risks within the banking industry.

Thus, prior studies have suggested that mere knowledge of ESG practices is inadequate (Rahman et al., 2023; Tahmid et al., 2022). However, empirical studies exploring the impact of ESG on bank performance still lack clarity and conclusive evidence. Therefore, there is a need for more thorough research in this field, particularly in developing nations such as Jordan. Also, the existing literature reveals that current research on the correlation between ESG and Jordanian bank performance is lacking.

This study aims to clarify the ambiguity surrounding the impact of ESG practices on the performance of listed banks on the Amman Stock Exchange (ASE) from 2009 to 2023. Therefore, following the prior literature, this study formulated the following hypothesis:

H1: The performance of banks in Jordan is positively correlated with implementing ESG practices.

2. METHOD

2.1. Sample and data description

This study has employed a quantitative research approach to investigate how ESG initiatives impact bank performance in Jordan. The research sample, which comprises 15 banks listed on the ASE, provides a comprehensive overview of the banking industry in Jordan. The sample period, spanning from 2009 to 2023, covers 15 years of worth of data. The ESG data for Jordanian-listed banks are gathered in this study using a Bloomberg Terminal, which was utilized in early studies on banking (Azmi et al., 2021). The variables specific to banks include ROA, Tobin's

Q, leverage, size, age, and ESG committee, all collected from the ASE database (Mansour et al., 2024b). This study also gathers information on financial development using the World Development Indicators (WDI) dataset (Azmi et al., 2021; Mansour et al., 2024d). The analysis period, which comprised yearly observations, began in 2009, after the global financial crisis of 2008. Banking sectors have placed a high priority on implementing sustainable practices to establish legitimacy and fulfill their social responsibility (Pawar & Munuswamy, 2024), considering the current economic downturn. The most recent observations, which are currently accessible, are in 2023. This study applied winsorization to the variables at 1% and 99% to ensure data normality.

2.2. Variables measurement, description & definitions

2.2.1. Predicted variable

In alignment with this research objective, the dependent variables indicate the performance of listed banks in Jordan (Mansour et al., 2023b). Their representations are determined by Return on Assets (ROA) and Tobin's Q (Chen et al., 2023; Hamdan et al., 2024; Lamanda & Tamásné Vőneki, 2024; Pawar & Munuswamy, 2024; Rahman et al., 2023; Remo-Diez et al., 2023; Tabash et al., 2024a).

2.2.2. Explanatory variable

This study collects ESG scores for the Jordanian banking industry from the Bloomberg terminal. This database gathers, cleans, validates, and updates ESG data from 9,500 institutions' public company reports in over 80 countries (Azmi et al., 2021). There are 247 distinct ESG indicators in the dataset (Galletta et al., 2022). The score is adjusted to meet the specific needs of each industry. The banking industry's environmental factors include total greenhouse gas emissions, paper consumption, total waste, and energy consumption, among other factors. Bloomberg provides a complete ESG measurement scale, with the lowest value being 0.1 and the highest at 100 (Agnese et al., 2025). The ESG score was used in this study because of its established trust and widespread usage in previous research (Azmi et al., 2021).

Table 1. Variables description & definitions

Variables	Label	Description
Dependent variables		
Return on Assets	ROA	Net income /total assets
TOBIN's Q	TOBIN's Q	Market value of shares + Book value of debt/Book value of total assets
Independent variables		
ESG Score	ESG	It is an overall bank score based on the self-reported information in the environmental, social, and governance pillars
Control variables		
Financial Leverage	LEV	Total debt /Total equities
Bank Size	SIZE	Measured by the (log) total assets of a bank.
Bank age	AGE	The age of a bank at a time (t) can be determined by counting the number of years since it was listed ASE to study periods.
ESG committee	COMMITTEE	The dummy variable takes a value of 1 for the presence of ESG committees in the bank at time t and 0 otherwise.
Financial development	FD	Domestic credit to private sector/ (% of GDP)

2.2.3. Control variables

This study accounts for specific characteristics related to both a bank and a country (Bătae et al., 2021; Chen et al., 2023; Mansour et al., 2023b; Shubita, 2024b). The approach to choosing control variables aligns with the method proposed by Agnese et al. (2024) and Pawar and Munuswamy (2024). To exercise control over bank-specific factors, variables such as the bank's leverage ratio, size, age, and ESG committee, and financial development are included (Lamanda & Tamásné Vőneki, 2024; Menicucci & Paolucci, 2023; Sharma et al., 2024). Large and older banks face demands from stakeholders to implement sustainable and socially responsible initiatives (Naeem et al., 2022). In addition, the crucial role that economies of scale play in financial performance is advantageous to large banks (El Khoury et al., 2023; Tabash et al., 2024).

2.3. Study model

Panel data of 15 listed Jordanian banks from 2009 to 2023 are analyzed to evaluate the relationship between ESG scores and the performance of

Jordanian banks; this study utilizes a linear model approach as follows:

$$\begin{aligned}
 PERFORMANCE_{i,t} = & \beta_0 + \beta_1 ESG_{i,t} \\
 & + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 AGE_{i,t} \\
 & + \beta_5 COMMITTEE_{i,t} + \beta_6 FD_{i,t} + \varepsilon_{i,t},
 \end{aligned}
 \tag{1}$$

where *PERFORMANCE* is the dependent variable that represents Jordanian banks' performance, evaluated using the ROA and Tobin's Q models. ROA is the ratio of net income divided by the bank's total assets (*i*) in the period (*t*). Tobin's Q for a bank (*i*) in the period (*t*) represents the market value of shares plus the book value of debt divided by a bank's total assets. β_0 represents the constant, while β_{1-6} represents the slopes of the independent and control variables. $\varepsilon_{i,t}$ is the error term.

The explanatory variable is the ESG disclosure index of the bank (*i*) during the period (*t*). A qualitative scoring index was used in this study to assess the bank's ESG practices. The terms *LEV*, *SIZE*, *AGE*, *COMMITTEE*, and *FD* are micro and macro-control variables of a bank. Table 1 contains the definitions of these control variables. To capture the time-fixed effect (Taamneh et al., 2024), this study also has control over the years' effect. Using panel data regression analysis allowed for a more comprehensive examination of the subject. Notably, this method has acquired popularity in contemporary banking studies (Bătae et al., 2021; El Khoury et al., 2023; Gutiérrez-Ponce & Wibowo, 2024). This paper uses panel regression data (using STATA 14 as a "statistical software package") to assess Jordanian bank performance, employing either fixed-effects or random-effects models.

3. RESULTS

3.1. Descriptive statistics

This section employs descriptive statistics to explain the study variables. Initially, the variables' mean, maximum, minimum, and standard deviation are presented. Besides measuring skewness (Mansour et al., 2023a), kurtosis is employed to examine if the data has a normal distribution (Alshdaifat et al., 2024).

Table 2. Descriptive statistics

Variables	Obs.	Mean	Std. Dev.	Minimum	Maximum	Skewness	Kurtosis
ROA	225	0.057	5.79	0.0325	1.654	0.917	2.692
TOBIN's Q	225	0.098	0.249	0.529	1.891	1.092	3.278
ESG	225	0.255	1.745	0.195	0.445	0.785	.046
LEV	225	0.745	1.898	0.7183	0.913	-0.076	1.981
SIZE	225	20.99	0.897	20.412	23.987	-0.049	1.873
AGE	225	45.87	13.071	17	93	0.762	3.711
COMMITTEE	225	0.0715	4.395	0	1	0.648	1.684
FD	225	0.756	1.522	0.666	0.844	1.183	3.789

Table 2 contains the descriptive statistics for this study. The ROA mean value is 0.057, indicating an average return on assets of 5.7% for the sample banks, with returns ranging from 3.25% to 16.54%. The mean value of Tobin's Q is 9.8, suggesting that the bank's assets are worth more in the market than their replacement cost. The ESG score ranges from 19.5% up to a maximum of 44.5%, with an average of 22.5%. The mean values of the bank's leverage (LEV), size (SIZE), age (AGE), ESG committee (COMMITTEE), and financial development (FD) control variables are 74.5%, 20.99, 45.87, 7.15, and 75.6%, respectively. Furthermore, the "Skewness and Kurtosis" statistics in Table 1 show no significant non-normality issue as all values are below the recommended threshold (Mansour et al., 2024a).

3.2. Correlation matrix

In Table 3, you can find Pearson's correlation matrix that investigates the relationship and variability between the two variables (Mansour et al.,

2023a; Rahman et al., 2023). As a preliminary diagnostic tool (Wu et al., 2024), the Pearson correlation matrix was utilized in this study to identify any potential multicollinearity among the variables (Taamneh et al., 2024).

In multiple regression, multicollinearity occurs when two or more predictors display a strong correlation (Buallay, 2019). The conclusions may be misleading due to strong correlations between explanatory variables (Chen et al., 2023). A correlation coefficient higher than 0.8 is commonly acknowledged as significant, adversely influencing the regression outcome (Gutiérrez-Ponce & Wibowo, 2024). The Pearson correlation matrix displayed in Table 3 demonstrates that all coefficients are below 0.8, signifying the absence of any multicollinearity concern (El Khoury et al., 2023). Nevertheless, relying solely on the correlation matrix does not offer a vivid portrayal of multicollinearity (Rahman et al., 2023). Consequently, we examine all the models for VIF, ensuring the

Table 3. Correlation analysis

Variable	ROA	Tobin's Q	ESG	LEV	SIZE	AGE	COMMITTEE	FD
ROA	1.000	–	–	–	–	–	–	–
Tobin's Q	0.486*	1.000	–	–	–	–	–	–
ESG	0.141*	0.121*	1.000	–	–	–	–	–
LEV	-0.179*	-0.0374*	-0.059*	1.000	–	–	–	–
SIZE	0.045*	0.023*	0.0273	-0.053*	1.000	–	–	–
AGE	0.064*	0.059*	0.144*	-0.326*	0.006	1.000	–	–
COMMITTEE	0.006	0.001	0.041*	0.014	0.059*	0.092*	1.000	–
FD	0.068*	0.058*	0.341*	-0.293*	-0.147*	0.08*	0.017	1.000
VIFs	–	–	1.19	1.25	1.43	1.23	1.15	1.11

Note: * $P < 0.05$ (2-tailed).

threshold is below 3 (Wu et al., 2024). The result in Table 3 demonstrates that there is no multicollinearity issue since none of the VIF values exceed the threshold. These findings validated the appropriateness of the variables for regression analysis.

3.3. Econometric results

Panel regression analysis is used to study how ESG scores impact the performance of banks in Jordan. Panel regression involves three distinct estimation models, namely pooled OLS, random effect model (GLS), and fixed effect model. The Breusch-Pagan test and the Hausman test are utilized to identify the optimal model (Mansour et al., 2023b). The Breusch & Pagan and Hausman Test results confirm that the fixed-effect model is preferred over the alternative models (Gutiérrez-Ponce & Wibowo, 2024). The results of multivariate regression analysis reveal that both the ROA and Tobin's Q models are statistically significant, as shown by the p-value of the F-test being less than 5% (0.000), indicating strong explanatory power for both models. With an R-squared value of 23.9% for the ROA model and 18.7% for Tobin's Q, these models are considered reliable, as all predictors show significance. The fixed-effect model shows that the ESG score coefficient has a positive and significant impact on ROA and Tobin's Q, with coefficients of 0.496 and 0.370 respectively, at a significance level of 0.01%. This suggests that a one-unit increase in the ESG score corresponds to a 0.496-unit increase in ROA and a 0.370-unit increase in Tobin's Q, both in

the same direction. Therefore, this result supported the *H1* hypothesis. This finding indicates that ESG scores enhance the reputation of Jordanian banks and create more investment prospects. The findings support stakeholder theory (Menicucci & Paolucci, 2023), which posits that ESG activities should be viewed as potential opportunities, competitive advantages, and catalysts for corporate innovation, rather than as expenses, acts of charity, or restrictions (Azmi et al., 2021). In essence, the activities related to ESG in Jordanian banks seem to have a positive impact on shareholders and investors. This leads to improved performance in Jordanian listed banks.

When considering control variables, it is observed that changes in bank size and age are positively linked to changes in ROA and Tobin's Q. Based on the correlation coefficients presented in Table 4, an increase of one unit in bank size (*SIZE*) corresponds to a 0.309-unit increase in bank performance for the ROA model and a 0.115-unit increase for the Tobin's Q model. Likewise, as the bank ages (*AGE*) by one year, its performance increases in the same direction, with the ROA and Tobin's Q models experiencing respective increases of 0.216 and 0.116 units. The relationship between financial leverage (*LEV*) and bank performance metrics is negative and significant, as shown by the correlation coefficients for the ROA model, which are -0.169 and -0.253, and for Tobin's Q model. This study describes financial leverage as the banks' approach to using borrowed capital to generate shareholder value. Surprisingly,

Table 4. Estimation results for ROA & Tobin's Q models

Variables	ROA		Tobin's Q	
	Coef.	t	Coef.	t
Constant (β_0)	0.766	7.71*	0.254	1.8***
ESG	0.496	4.53*	0.370	3.33*
LEV	-0.169	-3.26*	-0.253	-1.73***
SIZE	0.309	2.69*	0.115	2.05***
AGE	0.216	2.15**	0.116	1.97***
COMMITTEE	0.081	1.34†	0.069	1.4†
FD	0.108	3.231*	0.045	2.09**
Year Dummies	Included		Included	
F-Test	121.280		107.41	
Prob > F	0.0000		0.0000	
R ² (overall)	23.9%		18.7%	
Breusch & Pagan	109.03*		121.09*	
Hausman Test	48.29*		73.28*	
Number of obs.	225		225	
NO. of groups	15		15	

Note: * P < 0.01, ** P < 0.05, and *** P < 0.1, † P-value insignificant.

the presence of the ESG committee does not affect the performance of Jordanian banks. Finally, after testing the effect of the macroeconomic control variable, this study found that the performance of Jordanian banks is greatly influenced by the positive impact of financial development (FD). The correlation coefficients for the ROA and Tobin's Q models were 0.108 and 0.045, respectively.

3.4. Robustness checks

To ensure the strength of the primary outcomes, this study conducts robustness check focusing solely on the relationship between ESG score and Jordanian bank performance without incorporating the control variables in the econometric models as in prior studies (Chen et al., 2023).

Table 5. Estimation results for ROA & Tobin's Q models without control variables

Variables	ROA		TOBIN's Q	
	Coef.	t	Coef.	t
Constant (β_0)	0.0758	2.42**	0.0684	2.73*
ESG	0.055	3.86*	0.0376	2.91**
F-Test	112.05		141.66	
Prob > F	0.0000		0.0000	
R ² (overall)	6.84%		7.28%	
Breusch & Pagan	168.51		183.99*	
Hausman Test	83.95*		38.80*	
Number of obs.	225		225	
NO. of groups	15		15	

Note: * $P < 0.01$, ** $P < 0.05$, and *** $P < 0.1$, † P-value insignificant.

3.5. Additional analysis

This study conducted an extra regression analysis to support the accuracy of the findings, with the Return on Equity (ROE) as the dependent variable. As a result, this study conducts a re-estimation of regressions using the ROE as an alternative indicator for assessing the performance of Jordanian banks (Agnese et al., 2025).

Table 6. Estimation results for ROE model

Variables	ROE	
	Coef.	t
Constant (β_0)	0.096	2.56**
ESG	0.406	3.18*
LEV	0.034	1.81***
SIZE	0.652	5.55*

Variables	ROE	
	Coef.	t
AGE	0.397	3.49*
COMMITTEE	0.0137	1.56†
FD	0.047	2.22**
Year Dummies	Included	
F-Test	93.63	
Prob > F	0.0000	
R ² (overall)	36.87%	
Breusch & Pagan	302.31*	
Hausman Test	42.76*	
Number of obs.	225	
NO. of groups	15	

Table 6 displays the results of an additional analysis of the regression models. These findings are consistent with those presented in Table 4, reinforcing the *H1* hypothesis. This result affirms that ESG scores bolster the reputation of Jordanian banks and generate more investment opportunities, underscoring the study's robustness.

4. DISCUSSION

This study's discoveries indicate a noteworthy and positive effect of ESG scores on bank performance in both models, offering empirical support for the notion that banks that embrace ESG practices can enhance their operating and market performance. The adoption of ESG initiatives, including innovation, resource reuse, and emission reduction, not only improves a bank's public image but also boosts its performance in terms of ROA and Tobin's Q. This is consistent with the stakeholder theory (Menicucci & Paolucci, 2023), which advocates for including moral and ethical values in the decision-making process for all stakeholders (Wu et al., 2024). Consequently, Jordanian banks that effectively navigate their ESG risks and leverage ESG opportunities have the potential for enhanced financial performance (Tahmid et al., 2022). The results of this study support the conclusions of earlier research, including the works of Bătae et al. (2021), Buallay (2019), Sharma et al. (2024), and Tahmid et al. (2022). The findings are consistent with the descriptive and stakeholder theories; an instrumental approach involves creating and executing a comprehensive sustainability strategy, enabling firms to integrate ESG factors seamlessly and ultimately enhancing their financial performance. Concurrently, there is a sub-

stantial disparity between these findings and the results that were previously stated in the literature (e.g., Azmi et al., 2021; El Khoury et al., 2023; Pawar & Munuswamy, 2024). Therefore, corporations might ignore ESG considerations because of concerns about higher expenses and the potential negative impact on their financial performance, which is their top priority. Another explanation is that, per the managerial opportunism hypothesis, managers are motivated to decrease ESG investments to increase immediate profitability and enhance their compensation. Theoretically, larger and older banks may achieve better performance by leveraging their abundant resources (attract cheaper capital) and higher efficiency (Buallay, 2019). Larger and older banks are more likely to

embrace ESG practices, which can enhance performance by promoting transparency (Sharma et al., 2024)), minimizing risk, and driving innovation. Financial leverage has a significant negative impact on bank performance metrics, as Agnese et al. (2024) have shown. One potential reason is that risk-taking can benefit shareholders in the Jordanian banking sector, as excessive leverage is perceived as a commitment to higher future performance. Disappointingly, the existence of the ESG committee in Jordanian banks does not touch their performance. This is because few Jordanian banks have such a committee. As anticipated, the positive impact of financial development on the performance of banks in Jordan is evident, as concluded by Azmi et al. (2021).

CONCLUSION

This study aims to explore the relationship between ESG scores and the performance of the Jordanian banking sector as an emerging economy. The study results reveal a strong and positive correlation between the ESG scores of Jordanian banks and their ROA and Tobin's Q. Accordingly, enhanced ESG practices benefit these banks' operational performance and contribute to their growth in market value. Thus, the performance of Jordanian banks is most influenced by ecologically friendly activities. Consequently, Jordanian banks can enhance their reputation by sharing ESG data, leading to increased funding, reduced financing costs, and higher valuation. Theoretically, the correlation between ESG scores and Jordanian banks' operating and market performance supports stakeholder theory and challenges shareholder theory. This indicates that prioritizing and expanding ESG activities can lead to financial gains while also promoting ecological and social sustainability. Specifically, these findings offer professionals and scholars concrete predictors in the ESG field for enhancing Jordanian bank performance. This paper is limited in scope, focusing only on banks listed in Jordan. Hence, it is recommended that future research explore the impact of ESG on the financial performance of banks in additional Arab and emerging economies. It is possible to explore whether the effect of ESG on a company's performance varies depending on the industry.

AUTHOR CONTRIBUTIONS

Conceptualization: Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan.

Data curation: Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

Formal analysis: Marwan Mansour, Ibrahim Alnohoud.

Funding acquisition: Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

Investigation: Marwan Mansour, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

Methodology: Marwan Mansour, Mohamed Saad.

Project administration: Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

Resources: Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

Software: Mo'taz Al Zobi, Ibrahim Alnohoud, Abedulwale Khassawneh, Mohamed Saad.

Supervision: Mo'taz Al Zobi, Almothanna Abu Allan, Mohamed Saad.

Validation: Marwan Mansour, Ibrahim Alnohoud, Abedulwale Khassawneh, Mohamed Saad.

Visualization: Marwan Mansour, Mo'taz Al Zobi, Abedulwale Khassawneh, Mohamed Saad.

Writing – original draft: Marwan Mansour.

Writing – reviewing & editing: Marwan Mansour, Mo'taz Al Zobi, Ibrahim Alnohoud, Almothanna Abu Allan, Abedulwale Khassawneh, Mohamed Saad.

ACKNOWLEDGMENT

This research was funded through the annual funding track by the Deanship of Scientific Research, from the Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [Grant NO. KFU242703].

REFERENCES

1. Abiad, Z., Abraham, R., El-Chaarani, H., & Binsaddig, R. O. (2025). The Impact of Board of Directors' Characteristics on the Financial Performance of the Banking Sector in Gulf Cooperation Council (GCC) Countries: The Moderating Role of Bank Size. *Journal of Risk and Financial Management*, 18(1), 40. <https://doi.org/10.3390/jrfm18010040>
2. Agnese, P., Carè, R., Cerciello, M., & Taddeo, S. (2025). Reconsidering the impact of environmental, social and governance practices on firm profitability. *Management Decision*, 63(1), 25-48. <https://doi.org/10.1108/MD-10-2023-1943>
3. Agnese, P., Cerciello, M., Oriani, R., & Taddeo, S. (2024). ESG controversies and profitability in the European banking sector. *Finance Research Letters*, 61, 105042. <https://doi.org/10.1016/j.frl.2024.105042>
4. Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance*, 20(7), 1409-1428. <https://doi.org/10.1108/CG-06-2020-0258>
5. Alhebri, A., Alkebsee, R. H., Al-Matari, E. M., Al-bukhrani, M. A., & Omer, A. M. (2024). The effect of internal audit planning on risk factors: evidence from Yemen's banks. *Banks and Bank Systems*, 19(3), 45. [http://dx.doi.org/10.21511/bbs.19\(3\).2024.05](http://dx.doi.org/10.21511/bbs.19(3).2024.05)
6. Alodat, A. Y., Hao, Y., Nobanee, H., Ali, H., Mansour, M., & Al Amosh, H. (2024). Board characteristics and cybersecurity disclosure: evidence from the UK. *Electronic Commerce Research*, 15(1), 1-19. <https://doi.org/10.1007/s10660-024-09867-w>
7. Alodat, A. Y., Hao, Y. and Nobanee, H. (2025). How sustainability committees moderate the link between ESG performance and environmental innovation in European firms? *Business Process Management Journal*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/BPMJ-05-2024-0360>
8. Alshdaifat, S. M., Saleh, M. W., Mansour, M., Khassawneh, A., Shubita, M. F., Hanaysha, J. R., Al-Matari, E. M., Qamhan, M. A., & Alrawad, M. (2024). Audit committee effectiveness in times of crisis: Empirical insights on key audit matters disclosure. *Heritage and Sustainable Development*, 6(2), 845-860. <https://doi.org/10.37868/hsd.v6i2.860>
9. Azmi, W., Hassan, M. K., Houston, R., & Karim, M. S. (2021). ESG activities and banking performance: International evidence from emerging economies. *Journal of International Financial Markets, Institutions and Money*, 70, 101277. <https://doi.org/10.1016/j.intfin.2020.101277>
10. Bătae, O. M., Dragomir, V. D., & Feleagă, L. (2021). The relationship between environmental, social, and financial performance in the banking sector: A European study. *Journal of Cleaner Production*, 290, 125791. <https://doi.org/10.1016/j.jclepro.2021.125791>
11. Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, 30(1), 98-115. <https://doi.org/10.1108/MEQ-12-2017-0149>
12. Central Bank of Jordan (CBJ). (2023). *Green Finance Strategy*. Retrieved from https://www.cbj.gov.jo/EBV4.0/Root_Storage/EN/FINAL_-_Green_Finance_Strategy_-_English_Version_-_10_Nov_2023.pdf
13. Chen, S., Song, Y., & Gao, P. (2023). Environmental, social, and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance. *Journal of Environmental Management*, 345, 118829. <https://doi.org/10.1016/j.jenvman.2023.118829>
14. Chouaibi, S., Chouaibi, J., & Rossi, M. (2022). ESG and corporate financial performance: the mediating role of green innovation: UK common law versus Germany civil law. *EuroMed Journal of Business*, 17(1), 46-71. <https://doi.org/10.1108/EMJB-09-2020-0101>
15. El Khoury, R., Nasrallah, N., & Alareeni, B. (2023). ESG and financial performance of banks

- in the MENAT region: concavity–convexity patterns. *Journal of Sustainable Finance & Investment*, 13(1), 406-430. <https://doi.org/10.1080/20430795.2021.1929807>
16. Ersoy, E., Swiecka, B., Grima, S., Özen, E., & Romanova, I. (2022). The impact of ESG scores on bank market value? Evidence from the US banking industry. *Sustainability*, 14(15), 9527. <https://doi.org/10.3390/su14159527>
 17. Galletta, S., Mazzù, S., & Naciti, V. (2022). A bibliometric analysis of ESG performance in the banking industry: From the current status to future directions. *Research in International Business and Finance*, 62, 101684. <https://doi.org/10.1016/j.ribaf.2022.101684>
 18. Gutiérrez-Ponce, H., & Wibowo, S. A. (2024). Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia. *Corporate Social Responsibility and Environmental Management*, 31(2), 1418-1432. <https://doi.org/10.1002/csr.2641>
 19. Hamdan, M. N., Alsmadi, S., & Jaradat, Z. (2024). Does XBRL mediate the relationship between corporate governance quality and earnings management? Evidence from Jordan. *International Journal of Productivity and Quality Management*, 42(2), 234-252. <https://doi.org/10.1504/IJPQM.2024.139157>
 20. Jaradat, Z., Shbail, M. A., & Baker, M. B. (2022). Environmental and organisational factors affecting the adoption of enterprise resource planning systems in the Jordanian banking sector. *International Journal of Business Information Systems*, 41(1), 82-107. <https://doi.org/10.1504/IJBIS.2022.126028>
 21. Khalaf, A.M., Ismail, W. N. B. W., Marei, A., Saleh, M. W. A., & Mansour, M. (2023). The Framework for System Trust's Effect on the Organizational Commitment in the Jordanian Public Sector. Taking into Consideration the Role of the Timeliness Factor. *Scientific Papers of the University of Pardubice. Series D, Faculty of Economics & Administration*, 31(2). <https://doi.org/10.46585/sp31021696>
 22. Kim, S., & Li, Z. (2021). Understanding the impact of ESG practices in corporate finance. *Sustainability*, 13(7), 3746. <https://doi.org/10.3390/su13073746>
 23. Lamanda, G., & Tamásné Vőneki, Z. (2024). Is ESG disclosure associated with bank performance? Evidence from the Visegrad Four countries. *Management of Environmental Quality: An International Journal*, 35(1), 201-219. <https://doi.org/10.1108/MEQ-02-2023-0064>
 24. Lutfi, A. (2020). Investigating the moderating role of environmental uncertainty between institutional pressures and ERP adoption in Jordanian SMEs. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(3), 91. <https://doi.org/10.3390/joitmc6030091>
 25. Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alsyouf, A., & Alrawad, M. (2022). Business sustainability of small and medium enterprises during the COVID-19 pandemic: The role of AIS implementation. *Sustainability*, 14(9), 5362. <https://doi.org/10.3390/su14095362>
 26. Lutfi, A., Alqudah, H., Alrawad, M., Alshirah, A. F., Alshirah, M. H., Almaiah, M. A., Alsyouf, A., & Hassan, M. F. (2023). Green environmental management system to support environmental performance: what factors influence SMEs to adopt green innovations? *Sustainability*, 15(13), 10645. <https://doi.org/10.3390/su151310645>
 27. Mansour, M., Al Zobi, M., Altawalbeh, M., E'leimat, D., Alnohoud, I., & Marei, A. (2024a). Relationship between Jordan's corruption level and company capital structure. *Investment Management and Financial Innovations*, 21(2), 400-412. [http://dx.doi.org/10.21511/imfi.21\(2\).2024.33](http://dx.doi.org/10.21511/imfi.21(2).2024.33)
 28. Mansour, M., Al Zobi, M., D E'leimat, Abu alim, S., & Marei, A. (2024b). Board gender diversity and bank performance in Jordan. *Banks and Bank Systems*, 19(1), 183-194. [http://dx.doi.org/10.21511/bbs.19\(1\).2024.16](http://dx.doi.org/10.21511/bbs.19(1).2024.16)
 29. Mansour, M., Al Zobi, Saram, M., Daoud, L., & Marei, A. (2023b). Does executive compensation matter to bank performance? Experimental evidence from Jordan. *Banks and Bank Systems*, 18(3), 164-176. [https://dx.doi.org/10.21511/bbs.18\(3\).2023.14](https://dx.doi.org/10.21511/bbs.18(3).2023.14)
 30. Menicucci, E., & Paolucci, G. (2023). ESG dimensions and bank performance: an empirical investigation in Italy. *Corporate Governance*, 23(3), 563-586. <https://doi.org/10.1108/CG-03-2022-0094>
 31. Naeem, N., Cankaya, S., & Bildik, R. (2022). Does ESG performance affect the financial performance of environmentally sensitive industries? A comparison between emerging and developed markets. *Borsa Istanbul Review*, 22, S128-S140. <https://doi.org/10.1016/j.bir.2022.11.014>
 32. Pawar, D. S., & Munuswamy, J. (2024). Does environmental reporting of banks affect their financial performance? Evidence from India. *International Journal of Bank Marketing*, 42(4), 745-767. <https://doi.org/10.1108/IJBM-12-2022-0545>
 33. Rahman, H. U., Zahid, M., & Al-Faryan, M. A. S. (2023). ESG and firm performance: The rarely explored moderation of sustainability strategy and top management commitment. *Journal of Cleaner Production*, 404, 136859. <https://doi.org/10.1016/j.jclepro.2023.136859>
 34. Remo-Diez, N., Mendaña-Cuervo, C., & Arenas-Parra, M. (2023). Exploring the asymmetric impact of sustainability reporting on financial performance in the utilities sector: A longitudinal comparative analysis. *Utilities Policy*, 84, 101650. <https://doi.org/10.1016/j.jup.2023.101650>
 35. Saha, A. K., & Khan, I. (2024). Sustainable prosperity: unravelling the Nordic nexus of ESG, financial performance, and corporate governance. *European Business Review*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/EBR-09-2023-0276>
 36. Saleh, M. W. A., Zaid, M. A. A., Shurafa, R., Maigoshi, Z. S., Man-

- sour, M., & Zaid, A. (2021), Does board gender enhance Palestinian firm performance? The moderating role of corporate social responsibility. *Corporate Governance*, 21(4), 685-701. <https://doi.org/10.1108/CG-08-2020-0325>
37. Saleh, M. W., & Maigoshi, Z. S. (2024). The nexus of ESG and environmental sustainability: Does gender diversity make a difference in Asian companies? *Environment, Development and Sustainability*, 1-21. <https://doi.org/10.1007/s10668-024-04498-5>
38. Saleh, M. W., & Mansour, M. (2024). Is audit committee busy-ness associated with earnings management? The moderating role of foreign ownership. *Accounting Research Journal*, 37(1), 80-97. <https://doi.org/10.1108/ARJ-04-2023-0106>
39. Sharma, P., Panday, P., & Dangwal, R. C. (2024). Is ESG disclosure related to corporate performance? Empirical evidence from Indian companies. *International Journal of Business and Globalisation*, 36(2-3), 186-200. <https://doi.org/10.1504/IJBG.2024.137397>
40. Shubita, M. F. (2023a). The relationship between return on investment and Jordanian banks value. *Banks and Bank Systems*, 18(1), 139-149. [http://dx.doi.org/10.21511/bbs.18\(1\).2023.12](http://dx.doi.org/10.21511/bbs.18(1).2023.12)
41. Shubita, M. F. (2024). Relationship between bank value, tax avoidance, and profitability. *Banks and Bank Systems*, 19(2), 161-171. [http://dx.doi.org/10.21511/bbs.19\(2\).2024.13](http://dx.doi.org/10.21511/bbs.19(2).2024.13)
42. Shubita, M. F., Mansour, M., Saleh, M. W., Lutfi, A., Saad, M., & Shubita, D. (2024b). Impact of advertising and sales promotion expenses on the sales performance of Jordanian companies: The moderating role of firm size. *Innovative Marketing*, 20(4), 146-157. [https://doi.org/10.21511/im.20\(4\).2024.13](https://doi.org/10.21511/im.20(4).2024.13)
43. Tabash, M. I., Ahmed, A., Issa, S. S., Mansour, M., Varma, M., & Al-Absy, M. S. M. (2024). Multiple Behavioral Conditions of the Forward Exchange Rates and Stock Market Return in the South Asian Stock Markets During COVID-19: A Novel MT-QARDL Approach. *Computation*, 12(12), 233. <https://doi.org/10.3390/computation12120233>
44. Tabash, M. I., AsadUllah, M., Siddiq, Q., Mansour, M., Daniel, L. N., & Al-Absy, M. S. M. (2024a). Symmetries or Asymmetries: How MSCI Index Advanced European Markets' Exchange Rates Respond to Macro-Economic Fundamentals. *Economies*, 12(12), 326. <https://doi.org/10.3390/economies12120326>
45. Tahmid, T., Hoque, M. N., Said, J., Saona, P., & Azad, M. A. K. (2022). Does ESG initiatives yield greater firm value and performance? New evidence from European firms. *Cogent Business & Management*, 9(1), 2144098. <https://doi.org/10.1080/23311975.2022.2144098>
46. Van Nguyen, T., Bui, H. T., & Le, C. H. (2022). The impacts of corporate social responsibility to corporate financial performance: A case study of Vietnamese commercial banks. *Cogent Economics & Finance*, 10(1), 2132642. <https://doi.org/10.1080/23322039.2022.2132642>
47. Wu, Z., Gao, J., Luo, C., Xu, H., & Shi, G. (2024). How does boardroom diversity influence the relationship between ESG and firm financial performance? *International Review of Economics & Finance*, 89, 713-730. <https://doi.org/10.1016/j.iref.2023.10.045>