



Corporate governance and Environmental Social Governance Performance of Listed Non-financial Firms in Africa. the Moderating Influence of Leverage

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Abstract. This study examines the moderating effect of leverage on the relationship between corporate governance characteristics and Environmental, Social, and Governance (ESG) performance in African non-financial firms. This study used a dataset of 238 publicly traded non-financial companies in 13 African nations from 2012 to 2022. The analysis employs a dynamic panel model and the Generalized Method of Moments (GMM) to examine the data. The results indicate that having a diverse gender composition on the board, a larger board size, and independent board members positively impacts ESG performance. Additionally, increasing leverage strengthens the connection between these governance traits and ESG outcomes, suggesting that companies with higher leverage can effectively utilize their governance structures to achieve better ESG performance. This research contributes to the existing literature by highlighting African markets' unique economic, social, and regulatory conditions. These findings have practical implications for policymakers, investors, and company managers in Africa, emphasizing the importance of strong corporate governance and strategic financial planning in promoting sustainability.

Keywords: Corporate Governance, ESG Performance, Leverage, Africa, Non-financial firms.

1 Introduction

This study explores the relationship between corporate governance attributes and Environmental, Social, and Governance (ESG) performance in non-financial African firms. Specifically, this study focuses on the moderating influence of leverage on this relationship. Mohammad, (2024) opines that corporate governance characteristics such as board gender diversity, board size, and the presence of independent board members have a significant impact on the ESG scores of these firms. This study provides insights into how corporate governance can drive sustainability in the African markets. By understanding these dynamics, stakeholders can better assess the sustainability and ethical influences of non-financial factors [9].

Despite the growing interest in ESG and corporate governance, there is a lack of comprehensive research on these subjects [6,13]. Given the dominance of studies on

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developed economies that have led to a dearth of research in African settings, this study addresses the gaps in the current body of knowledge by focusing on non-financial firms listed on stock exchanges in African countries, given the dominance of studies that have developed economies that have led to a dearth of research in African settings [4]. Furthermore, few studies have investigated the moderating effect of leverage on the relationship between ESG variables and corporate governance [1,2,17]. Prior research has often failed to recognize the interdependencies between different aspects of corporate governance elements by focusing only on their analysis. To address these deficiencies, this study conducts an analysis that concurrently considers many corporate governance characteristics [16].

This study makes numerous novel contributions to the existing knowledge corpus. Câmara, (2022) conducted a study that investigated the interplay between ESG and corporate governance in developing markets, particularly in Africa. This study illuminates the distinct economic, social, and regulatory environments of these markets, which are notably dissimilar to those of industrialized countries. Furthermore, this study examines the precise influence of leverage on the correlation between corporate governance and environmental, social, and governance variables, thus contributing to the body of knowledge regarding the consequences of the financial structure [14]. This study examines the combined influence of various corporate governance attributes, such as independent board members, board gender diversity, and board size, on ESG performance. By adopting this comprehensive approach, one can gain a deeper understanding of the complex facets of corporate governance and their influence on sustainability [11,12].

This study fills research gaps in the existing literature and provides important insights for business managers, politicians, and investors in Africa. This study also enhances our understanding of the complex connection between corporate governance and ESG performance in non-financial firms by examining how leverage influences this relationship [7]. These findings have the potential to help develop more responsible and sustainable business practices in the area by providing information that can be used to improve corporate governance practices and ESG results [10].

2 Methods

The study employed a quantitative research approach by adopting an explanatory research design to explore the moderating effect of leverage on the relationship between corporate governance and the ESG performance of African non-financial firms. Data were collected from 238 non-financial listed firms in 13 African countries. This study covers the period of considerable regional change and growth from 2012 to 2022. The research used secondary data from Refinitiv LSGE-Eikon, database to assess corporate governance, leverage, and ESG performance. Traditional static panel models are insufficient to examine the complex dynamics of interactions in ESG performance. Instead, this study proposes the use of a dynamic panel model in conjunction with the two-step

Generalized Method of Moments (GMM) technique to overcome these limitations [8]. The empirical GMM model is stated as

$$ESG_{it} = \alpha_0 + \alpha_1 ESG_{it-1} + \alpha_2 CorPG_{it} + \alpha_3 M_{it} + \sum_{i=2}^N \alpha_i X_{it} + \delta_i + \delta_t + \varepsilon_{it}$$

Where the ESG is the dependent variable (environmental, social and governance score), CorPG are the independent variables (board gender diversity, board size and independent board of directors) subscript signifies individual firms in African countries at the time. Moreover, represents control variables (firm size, country and industry dummies), and signifies moderating variable (Leverage). Furthermore, is a firm-fixed effect used to depict the variations between individual firms which remain static over time. denotes the year-fixed effect employed to capture variables that are static with individual firms, but with time. is the error term.

3 Results and Discussion

The descriptive statistics in Table 1 below provide an overview of the key variables in the study, including the number of observations, mean, standard deviation, and minimum and maximum values.

Table 1. Descriptive statistics and Pearson correlation matrix

Variable	Mean	SD	Min	Max	Obs.
ESG	35.169	11.637	7.605	76.616	2,856
BGD	13.259	8.016	0.000	57.143	2,856
BSIZE	9.914	3.719	-1.000	25.667	2,756
INDBD	44.598	12.251	0.000	84.615	2,646
Leverage	4.739	7.058	-9.389	52.180	2,856
FSIZE	12.403	0.906	6.631	15.011	2,856

Variable	ESG	BGD	BSIZE	INDBD	LEV	FSIZE
ESG	1					
BGD	0.037*	1				
BSIZE	0.183**	0.278**	1			
INDBD	0.018	0.072**	0.083**	1		
LEV	0.026	0.017	0.002	0.493**	1	
FSIZE	0.387**	0.013	0.027	0.047	0.042	1

Note:** and * indicate $p < 0.01$ and $p < 0.05$, respectively. ESG, environmental, social, and governance score; BGD, board gender diversity; BSIZE, board size; INDBD, independent board directors; FSIZE, firm size. LEV: Leverage

The Pearson correlation matrix revealed the relationships between these variables. Notably, there are positive correlations between firm size, board gender diversity, firm size, and ESG score. This suggests that companies with higher ESG scores tend to have larger boards, more gender diversity, and a focus on environmental sustainability. The

correlation between independent directors, ESG, and other governance variables was weaker, indicating that independent directors had less influence on ESG performance. A significant positive correlation exists between leverage and independent director-to-board diversity, indicating that companies with higher leverage tend to have more independent board directors. These correlations help us understand the relationship between ESG performance and corporate governance characteristics.

3.1 GMM regression analysis.

Table 2 displays the results of the study's GMM regression analysis.

Table 2. GMM regression results on corporate governance, leverage and ESG performance

	Dependent variable: ESG		
	1	2	3
	BGD	BSIZE	INDBD
ESG((-1))	0.589** (30.38)	0.169** (7.35)	0.246** (7.630)
BGD	0.075*** (3.90)		
BSIZE		0.040*** (4.23)	
INDBD			0.035*** (5.71)
LEV	0.245** (7.61)	0.588*** (29.74)	0.775*** (19.77)
LEV× BGD	0.010*** (10.80)		
LEV× BSIZE		0.003** (2.33)	
LEV× INDBD			0.007*** (6.06)
FSIZE	0.344*** (12.84)	0.375* (1.74)	0.152*** (4.71)
Country Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
AR(1)	(0.612)	(0.622)	(07649)
AR(2)	(0.426)	(0.472)	(0.524)
Sargan Test	(0.888)	(0.783)	(0.640)
Hansen Test	(0.506)	(0.349)	(0.813)
Wald χ^2	139.76***	165.11***	137.31***
Instruments	26	26	26
Firms	238	238	238
Observations	2,673	2,673	2,673

*Note: **,* signify $p < 0.01$, $p < 0.05$, $p < 0.1$ respectively. ESG, environmental, social, and governance score; BGD, board gender diversity; BSIZE, board size; INDBD, independent board directors; FSIZE, firm size. LEV: Leverage*

The findings in Table 2 demonstrate the complex connections between corporate governance characteristics, debt levels, and the ESG performance of non-financial companies in Africa. The GMM regression analysis reveals significant findings consistent with and built upon previous research. The delayed ESG score showed a positive and significant effect in all models, suggesting that previous ESG performance is a robust indicator of the ESG results. This indicates a continued commitment to ESG initiatives to achieve long-term sustainable development.

Research shows that varying gender representation on corporate boards strongly and positively correlates with ESG performance. This supports the findings of Mohammad (2024), who argues that gender diversity on boards improves ESG results by incorporating different viewpoints and encouraging well-rounded decision-making. A study conducted by Arayssi et al., (2019) find a positive relationship between board size and the presence of independent board directors and ESG performance. This finding supports that larger boards and independent supervision lead to improved governance and sustainability.

Leverage substantially influences corporate governance traits on ESG performance. The presence of positive interaction terms between leverage and each corporate governance variable (gender diversity, size, and independent board members) indicates that greater leverage enhances the beneficial impact of these governance traits on ESG performance. This finding is consistent with the observations of Matemane et al., (2024), suggesting that the financial framework significantly impacts governance's ability to improve ESG performance.

The size of a business regularly and significantly influences its ESG performance, suggesting that more prominent organizations possess more resources and capacities to allocate toward sustainable practices. This finding aligns with the existing body of research that often emphasizes larger companies' benefits when adopting extensive environmental, social, and governance policies [5]. This study highlights the significance of considering unique aspects of countries and industries, as shown by notable country and industry dummies. These results indicate that the performance of environmental, social, and governance variables is affected by the unique governance features of individual firms and larger contextual factors that differ across various countries and sectors.

4 Conclusions

This study examines the moderating effect of leverage on the relationship between corporate governance and the ESG performance of listed non-financial firms in Africa. The study concludes that corporate governance traits significantly influence improving the ESG performance of non-financial enterprises in Africa. Specifically, the inclusion

of women on corporate boards, the size of the board, and the participation of independent board members have beneficial effects on ESG performance. This study also highlights the moderating role of leverage, suggesting that companies with higher debt levels may use their governance structures more efficiently to achieve superior ESG results. This study fills a gap in the existing literature by examining African markets. It provides practical implications for policymakers, investors, and company managers in promoting sustainable development through strong governance frameworks and effective financial management. This emphasizes the importance of customized governance and finance strategies to enhance ESG performance and promote accountable and sustainable business practices in Africa.

References

1. Abdullah, Zhu, N., Hashmi, M. A., & Shah, M. H. (2024). CEO power, board features, and ESG performance: An extensive novel moderation analysis. *Corporate Social Responsibility and Environmental Management*, 31(6), 5627–5655.
2. Albitar, K., Hussainey, K., Kolade, N., & Gerged, A. M. (2020). ESG disclosure and firm performance before and after IR: The moderating role of governance mechanisms. *International Journal of Accounting & Information Management*, 28(3), 429–444.
3. Arayssi, M., Jizi, M., & Tabaja, H. H. (2019). The impact of board composition on ESG disclosures in GCC countries. *Sustainability Accounting, Management and Policy Journal*, 11(1), 137–161.
4. Bruner, C. M. (2021). Corporate governance reform and the sustainability imperative. *Yale LJ*, 131, 1217.
5. Câmara, P. (2022). The systemic interaction between corporate governance and ESG. In *The Palgrave handbook of ESG and corporate governance* (pp. 3–40). Springer.
6. Elamer, A. A., & Boulhaga, M. (2024). ESG controversies and corporate performance: The moderating effect of governance mechanisms and ESG practices. *Corporate Social Responsibility and Environmental Management*.
7. Erben Yavuz, A., Kocaman, B. E., Doğan, M., Hazar, A., Babuşcu, Ş., & Sutbayeva, R. (2024). The Impact of Corporate Governance on Sustainability Disclosures: A Comparison from the Perspective of Financial and Non-Financial Firms. *Sustainability*, 16(19), 8400.
8. Gujarati, D. N. (2021). *Essentials of econometrics*. Sage Publications.
9. Hossain, M. Z., Hasan, L., & Hasan, M. H. (2024). Corporate Governance as a Global Phenomenon: Evolution, Theoretical Foundations, and Practical Implications. *Journal of Financial Risk Management*, 13(2), 342–375.
10. Huarng, K.-H., & Yu, T. H.-K. (2024). Systematic FsQCA Forecasting and its Performance. *IEEE Transactions on Engineering Management*.
11. Kubalek, J., Erben, M., & Kudej, M. (2024). Impact of the environmental ESG pillar on firm sustainability: Empirical research in the V4 countries. *Journal of International Studies* (2071-8330), 17(3).
12. Kumar, S. (2023). ESG derivatives and factoring sustainability in investment management. *Academy of Marketing Studies Journal*, 27(3), 1–13.
13. Li, T.-T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). ESG: Research progress and future prospects. *Sustainability*, 13(21), 11663.

14. Matemane, R., Msomi, T., & Ngundu, M. (2024). Environmental, social and governance and financial performance nexus in South African listed firms. *South African Journal of Economic and Management Sciences*, 27(1), 5387.
15. Mohammad, N. (2024). Environmental, Social, and Governance (ESG) Integration: Evidence From an Emerging Economy. In *Cases on Uncovering Corporate Governance Challenges in Asian Markets* (pp. 133–152). IGI Global.
16. Rabbani, M. R., Kiran, M., Bhuiyan, A. B., & Al-Hiyari, A. (2024). Does diversity in top management and boards affect ESG performance? Evidence from Islamic and conventional banks in the MENA region. *International Journal of Islamic and Middle Eastern Finance and Management*, 17(6), 1244–1266.
17. Rezaee, Z., Alipour, M., Faraji, O., Ghanbari, M., & Jamshidinavid, B. (2021). Environmental disclosure quality and risk: the moderating effect of corporate governance. *Sustainability Accounting, Management and Policy Journal*, 12(4), 733–766.

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