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Linking Profitable Firms With Esg: Evidence From Asian Markets With The Capital Structure As A Moderator

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Abstract

This study provides empirical evidence on how financial performance influences ESG score by integrating the moderating role of capital structure. The study adopts a large panel dataset to determine the fixed firm and year effects for examining the impact of Return on Assets (ROA) and Return on Equity (ROE) on the overall ESG and individual performance of environmental, social, and governance dimensions. Importantly, two interaction terms (CS* ROA and CS* ROE) are included to determine whether CS amplifies or dampens the relationship between FP and ESG. The empirical findings suggest that ROA is a persistent and effective predictor of the effect on overall performance, including social, economic, and governance dimensions, while ROE indicates variations across individual performance. The findings imply that ROA, as an operational profitability, is a consistent predictor compared to stakeholder-based returns. Additionally, CS strengthens the relationship between operational profitability and ESG compared to stakeholders' profit. Therefore, this study contributes to existing literature theoretically and practically by integrating a unified structure within the context of Asian economies. Lastly, this study provides implications and future direction for promoting sustainable corporate outcomes through effective financial performance.

Keywords: Return on Assets, Return on Equity, Capital Structure, ESG practices, Panel Data

1. INTRODUCTION

Over the last few decades, the integration of environmental, social, and governance (ESG) dimensions into corporate strategy has evolved from peripheral ethical concerns to a key pillar for enhancing firm value, particularly in emerging countries (Yu & Xiao, 2022). Contemporary corporate policies have shifted the nature and extent of transparency and responsibilities, indicating a need to grow not only for financial gains but also to improve sustainability (Rau & Yu, 2023). Additionally, corporate value and pre-investment decisions are evaluated through the firm's commitment toward long-term sustainable practices (Wu et al., 2022). As a result, the firm voluntarily invested in ESG mechanisms to improve the legitimacy and relationships among stakeholders for competing with other firms in the competitive market (Deb et al., 2023).

Despite the growing attention on the relationship between financial performance and ESG outcomes, a significant empirical gap consistently persists, particularly within the context of emerging Asian economies. Studies (Abu Afifa et al., 2025; Deb et al., 2023; Hussain et al., 2024) predominantly focused on a single or developed country, failing to capture the emerging economies such as China, Korea, Indonesia, India, Pakistan, Malaysia, Taiwan, and Thailand, and how heterogeneous characteristics are influenced. Study by DasGupta and Roy (2023) explained the role of institutional environment that how it influence on the ESG performance, while Xu and Zhu (2024) investigated the relationship between financial performance and ESG specifically within the context of Chinese firms. Consequently, there is a research gap in relation to cross-country comparison on how market maturity and regulatory enforcement shaped the ESG performance, specifically in the South Asian bloc.

Additionally, there is limited evidence found on the association between financial metrics such as return on Assets (ROA) and return on equity (ROE) and environmental, social, and governance score. Al Jabri (2026) tested the linear relationship between corporate governance and firm performance with the inclusion of capital structure as a moderator. Madyan and Widuri (2023) examined the direct relationship between capital structure and ESG performance. Theoretically, Slack Resource Theory justifies that firms with resources translate the ESG investments; however, when these companies have higher restrictions in the form of debts may hinder the growth in sustainability (Fitriana & Hartoko, 2025). Similarly, Ngatno et al. (2021) examined the moderating role of corporate governance on the relation between capital structure and firm performance, highlighting the role of regulations and leverage impact on firm performance. However, this evidence undermines the ability to capture whether capital structure strengthens or dampens the relationship between profitability and ESG performance.

Emerging South Asian countries have evolved economically and financially, but are unable to report annually in the context of environmental, social, and governance dimensions. Countries like India and China are rapidly growing their industries and integrating into capital markets (Abu Afifa et al., 2025; Deb et al., 2023; Yu & Xiao, 2022). However, countries such as Pakistan, Thailand, Korea, and other emerging nations have different institutional and regulatory structures, which may shape the commitments of firms toward sustainability (Aydoğmuş et al., 2022). Within this specific context, capital structure as a moderator is still underexplored, which changes the dynamics of the nexus between financial performance and ESG performance (Ashraf & Khattak, 2026). Capital structure refers to the firm's ability to allocate resources effectively and make strategic financial decisions for organizational success (Aslam et al., 2026). Research by Anozie et al. (2023) investigates the relationship between capital structure and ESG performance, suggesting firms with a stronger capital base and higher leverage may have a stronger ability to invest in ESG, which significantly improves the ability to finance externally, resulting in higher profitability. On the contrary, financially constrained companies may have limited resources and investment opportunities toward ESG engagement, lowering financial performance and competitive advantage. Therefore, capital structure is a substantially important factor that translates the outcomes of ESG for stronger capital base firms compared to others (Al Jabri, 2026).

This study seeks to address these gaps by examining the effect of financial performance (ROA and ROE) on the overall performance of corporate sustainability, as measured through environmental, social, and economic dimensions across South Asian developing economies, including India, Korea, China, Pakistan, Indonesia, Malaysia, Thailand, and Taiwan. Additionally, this study investigates the moderating role of capital structure in the relationship between financial performance (ROA and ROE) and firms' ESG performance. Importantly, this study contributes to the theoretical and empirical literature by examining the nexus between FP and ESG in the emerging-market context. Thus, this study offers a comprehensive understanding of the dimensions of sustainability, along with profitability mechanisms that shape how financial decisions are made in relation to corporate performance.

2. Literature Review

The interaction between ESG dimensions and corporate success has become a prominent focus for the finance-related literature. Prior research has extensively investigated this relationship, shaping the investment decisions and expectations of stakeholders to examine whether firms with effective regulatory frameworks and efficient resource allocation are capable of investing in sustainability and environmental activities (Carnini Pulino et al., 2022). Financial performance, such as profitability strategies are generally measured

through ROA and ROE, reflecting the extent to which corporates are committed to engaging in social responsibilities and environmental governance practices (Fatemi et al., 2018; Masud et al., 2018).

Empirical evidence highlights that there is a significant role of FP on sustainable outcomes, supporting the argument that profitable firms have enough financial resources to engage with sustainable practices, the social welfare of their employees, and higher sustainability reporting (Masud et al., 2025). However, developing countries within the South Asian region are far behind the reporting standards due to minimum absorption capacities and higher operational costs of the firms, underlying the evidence that firms with less profitability are unable to enhance the firm and shareholder value (DasGupta & Roy, 2023; Masud et al., 2018). Additionally, previous research by Aydoğmuş et al. (2022) indicated that organizational flexibility and long-term sustainability are correlated with the higher profitability of the firms. Other empirical studies extensively reported the positive association between FP and ESG, as firms have a greater capacity to meet the expectations of stakeholders for continuous investment in sustainable business practices (Micale & Shastry, 2025).

Despite the positive association, some empirical studies examine the indirect relationship between ESG and FP, suggesting excessive investment in ESG implied heavy incremental costs through which corporates need to invest in compliance and reforms. Prior research by Tauseef and Khurshid (2025) highlights that when managers experience pressure to maximize short-term profits, the investment and resource allocation strategies undermine the ESG-based outcomes for financial returns. This argument suggests that maximum allocation of financial resources on ESG may hinder short-term profitability (Gazi et al., 2024).

From a perspective of stakeholder theory, the interplay between these two variables shows a significant contribution that corporates are usually accountable to stakeholder groups, including employees, investors, communities, and regulators. Research by Islam et al. (2021) highlights that organizational success and growth depend on the extent to which corporations effectively address the concerns and interests of the stakeholder group. Stronger corporations with financial performance tend to have better strategies to allocate resources effectively within the context of ESG, as environmental, social responsibility, and governance become a major focus for corporations (Aydoğmuş et al., 2022; Wasiuzzaman et al., 2022). On the other hand, resource slack theory provides a comprehensive understanding of how firms produce higher financial gains through excessive resources, suggesting how corporations invest in environmental and sustainable practices for operational requirements and competitive advantage (Awa et al., 2024). Therefore, the theory implies that financial flexibility translates to a higher profitability margin with strong commitments to ESG (Dmytriyev et al., 2021).

Capital structure is a significant predictor shaping the firm's sustainability mechanisms, as larger corporates are tended to take debts from formal monetary systems for smooth operations of the firm and investing in ESG-related practices (Cantino et al., 2017). As ESG strategies demand higher financial engagement, the financial decisions of the firms are greatly impacted by the available resources or capital of the firm (Masud et al., 2025). However, one argument highlighted by Tauseef and Khurshid (2025) is that debt financing by corporates provides the opportunity to invest in ESG, including sustainable technologies, energy conservation, and environmental compliance policies. Therefore, it is suggested that firms with balanced capital structures may effectively translate the corporate position towards financial performance and sustainability mechanisms (Wu et al., 2022; Yu & Xiao, 2022).

Within the context of emerging countries of South Asia, corporates in these countries are often far behind the reporting standards due to limited resources and capital structure (Lindkvist & Saric, 2020). The attitude of creditors and lenders in these countries are not risk-oriented, however, the role of these actors play an effective role to shape the corporate behavior (Hussain et al., 2024). Research by Bagh et al. (2025) suggests that lenders often take external loans and debt finance from different institutions to ensure higher ESG performance, as lenders have to satisfy and meet the expectations of creditors to reduce the perceived risk. Therefore, it implies that attitude and perceived risk behavior of creditors are significant predictors to shape the strategies of financial sustainability and operational efficiency (Madyan & Widuri, 2023).

Drawing upon the Stakeholder Theory and Slack Resources Theory, this study drives hypothetical scenarios to examine whether the effect of financial performance (ROA and ROE) on the overall performance of corporate sustainability, as measured through environmental, social, and economic dimensions. Studies extensively determine that financially strong firms are experienced in investing in ESG initiatives, as these corporations have enough resources to meet the needs and expectations of stakeholders.

H1: ROA positively influences the overall performance of corporate sustainability, as measured through environmental, social, and economic dimensions

H2: ROE positively influences the overall performance of corporate sustainability, as measured through environmental, social, and economic dimensions

Additionally, the moderating role of capital structure is examined because higher profitability margins enable corporations to allocate internal resources effectively and offer higher financial flexibility for financial gains. As a study by Lindkvist and Saric (2020) suggests, when firms have enough resources and the ability to take capital through debt financing, the capacity to invest in sustainability-related practices becomes higher, resulting in a higher competitive advantage,

H3: Capital structure positively moderates the relationship between ROA and ESG performance.

H4: Capital structure positively moderates the relationship between ROE and ESG performance.

3. Methods and Econometric Specification

By incorporating the country-firm ESG dataset, this study includes 8 countries, South Asian emerging economies, i.e., India, Pakistan, Malaysia, Indonesia, China, Korea, Taiwan, Thailand, from the year 2002 to 2023. This study includes emerging economies to capture the differential exposure of how ESG and FP interact. Additionally, country and firm-level constructs, including individual dimensions of the ESG, are treated as dependent variables as obtained from internationally recognized databases, such as the Refinitiv Eikon Data stream (Aydoğmuş et al., 2022). The final panel data for the firm-year observations is 6291 observations for 597 firms, as it solely depended on the model specification. A composite ESG score is constructed as an annual weighted average of all three dimensions for comparability (Wu et al., 2022; Yu & Xiao, 2022).

Variable measurement indicates ESG performance, as the dependent variable is measured through three dimensions: environmental, social, and governance. According to Wu et al. (2022), environmental performance refers to the extent corporates actives are related to conserving energy and using environmentally friendly products for profitability. Social performance is solely related to the welfare of individuals and communities through sustainable practices. Lastly, the governance dimension measures the level of governance that the board of directors prioritizes transparency, protection of employees and shareholders, and accountability for competitive advantage (Deb et al., 2023). Financial performance of the corporates is constituted as an independent variable, aligning with the previous studies, measured by using ROA and ROE, as these financial metrics refer to the marginal efficiency of a firm to produce high profits and how much returns are allocated to shareholders from these gains. Additionally, capital structure is treated as a moderating variable to examine whether it strengthens the relationship between FP and ESG. Lastly, this study includes firm and country-level control variables such as leverage ratio, firm size, sales, RDI, firm age, GDP per capita, and consumer price index.

This study employs a quantitative-based ordinary least squares (OLS) regression analysis as a baseline model. This empirical strategy examines the association between FP and ESG. Therefore, the baseline model is specified as follows:

$$ESG_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

$$ESG_{it} = \beta_0 + \beta_1 ROE_{it} + \beta_2 Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where FP is measured through ROA and ROE. To investigate the capital structure as a moderator, the model is estimated as follows.

$$ESG_{it} = \beta_0 + \beta_1 FP_{it} + \beta_2 CS_{it} + \beta_3 (ROA * CS)_{it} + \beta_4 Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

$$ESG_{it} = \beta_0 + \beta_1 FP_{it} + \beta_2 CS_{it} + \beta_3 (ROE * CS)_{it} + \beta_4 Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

These models are estimated separately by using financial metrics such as ROA and ROE to analyze their impact on ESG performance. For statistical analysis and data management procedures, Python was used. Data cleaning and panel construction were conducted by Pandas Package, while regression models were conducted by using linear and stats model libraries. Stata in a secondary role as a tool to test diagnostics and ensure panel structure.

4. Results and Analysis

Table 1 presents the summary statistics of all the variables, providing an overview of the characteristics of all firms included in the sample across the developing countries of the Asian region. ESG performance shows a mean value of 0.449 with a dispersion of 0.211, suggesting moderate performance of all the included firms, but has significant differences in sustainable practices. Additionally, the mean value for governance shows a high mean score compared to social and environmental dimensions, suggesting that included firms are extensively focused on governance-related issues. In the case of FP, the mean value of ROA is 0.44, and for ROE is 0.41 with dispersion of 0.073 and 0.100, respectively, implying that there is significant variation among firms in terms of profitability. For capital structure, the mean value is 0.432 with a dispersion of 1.023, suggesting heterogeneity in making financial decisions among firms in South Asian countries. The firm and country-level control variables refer to moderate or average variations in ESG performance, which supports the validity of the dataset.

Table 1: Summary Statistics of Variables

	N	Mean	Std. Dev.	p25	Median	p75
ESG P	6291	.449	0.221	.263	.455	.625
ENV P	6291	.41	0.275	.167	.403	.644
SOC P	6291	.44	0.267	.198	.44	.666
GOV P	6291	.491	0.229	.304	.495	.679
w roa	6291	.055	0.073	.017	.044	.09
w roe	6286	.041	0.100	.027	.05	.08
w Cap structure	5278	.432	1.023	.001	.025	.265
w Tobins Q	6176	1.521	1.488	.562	.98	1.857
w Lev Ratio	6181	.147	0.224	.001	.015	.233
w F Size	6291	19.293	2.106	17.707	19.063	21.254
w Capex ta	6290	.049	0.045	.016	.036	.068
w sales ta	6285	.182	0.145	.079	.143	.238
w RDI	6291	.004	0.012	0	0	0
Log age	6237	3.3	0.641	2.944	3.332	3.761
GDP per capita	4872	9.031	1.023	8.251	9.201	9.446
cpi	6291	2.359	2.482	.383	1.974	3.328

Table 2 presents the correlation analysis to examine whether there is a strength between explanatory and dependent variables. The overall ESG performance indicates a higher association with the individual performance dimensions, including environmental (r = 0.873), social (r = 0.919), and governance (r = 0.685) that this performance overall influenced sustainability.

ROA shows a positive association with ESG (r = 0.044), suggesting that when firms have higher profits, their results tend to be higher sustainability practices, while ROA indicates a positive relationship with social (r = 0.078) but a weak relationship with governance performance (r = 0.019). Additionally, ROE indicates a positive but weak association (r = 0.010) with overall ESG performance. ESG shows a positive relationship (r = -0.096) with overall ESG performance, highlighting that when corporates have access to external and debt financing, they have more capacity to invest in sustainable practices. Among all the firm characteristics, overall ESG performance shows a strong association with firm size (r = 0.205) and with firm age (0.255), indicating larger and older corporates tend to engage in ESG practices. Overall, the correlation analysis suggests that initial investigation on ESG by using different financial metrics and firm-level characteristics, as findings indicate that there is a strong correlation between ESG and firm size, age, leverage, capital structure, and profitability metrics. However, the lack of highly correlated relationships is absent, implying that the dataset is appropriate for estimating models.

Table 2: Correlation Matrix Results

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) ESG_P	1.000															
(2) ENV_P	0.873	1.000														
(3) SOC_P	0.919	0.762	1.000													
(4) GOV_P	0.685	0.424	0.447	1.000												
(5) w_roa	0.044	-0.013	0.078	0.019	1.000											
(6) w_roe	0.010	0.010	0.003	0.013	0.515	1.000										
(7) w_Cap_structure	0.096	0.085	0.075	0.069	-0.197	-0.014	1.000									
(8) w_Tobins_Q	0.038	-0.053	0.074	0.031	0.649	-0.025	-0.060	1.000								
(9) w_Lev_Ratio	0.123	0.115	0.100	0.086	-0.228	-0.097	0.851	-0.015	1.000							
(10) w_F_Size	0.205	0.244	0.199	0.049	-0.126	0.054	-0.029	-0.304	-0.103	1.000						
(11) w_Capex_ta	0.073	0.066	0.087	0.021	0.174	0.057	-0.161	0.102	-0.165	0.067	1.000					
(12) w_sales_ta	-0.071	-0.093	-0.083	-0.029	0.249	0.058	-0.035	0.251	-0.015	-0.194	-0.215	1.000				
(13) w_RDI	0.068	0.076	0.038	0.050	0.007	-0.015	0.152	0.111	0.301	-0.072	-0.043	0.090	1.000			
(14) Log_age	0.255	0.276	0.297	0.036	0.037	0.007	0.023	0.019	0.038	0.205	-0.049	-0.047	0.006	1.000		
(15) gdp_capita	-0.094	0.008	-0.171	-0.042	-0.230	-0.009	0.004	-0.279	-0.001	0.248	-0.087	0.037	0.046	-0.037	1.000	
(16) CPI	0.081	0.026	0.121	0.036	0.209	0.066	-0.083	0.171	-0.115	0.039	0.156	-0.059	-0.038	0.096	-0.694	1.000

Table 3 presents the fixed effects regression results to analyze the impact of ROA on ESG, as findings suggest that ROA is the strongest indicator to determine the ESG practices. The findings reveal a strong and significant coefficient ($\beta = 0.2601$, $p < 0.05$), as align with the theoretical argument of slack resource theory, highlighting that when firms have enough and excess resources, their tendency to invest in sustainability becomes higher (DasGupta & Roy, 2023). Moreover, the ROA shows significant influence on each dimension of the ESG, with the strongest effect for the social dimension, implying that higher profitable firms are more prone to invest in the well-being of their employees and resolve the concerns of stakeholders.

Moreover, leverage ratio ($\beta = 0.0815$, $p < 0.05$), firm size ($\beta = 0.0204$, $p < 0.05$), and firm age ($\beta = 0.0551$, $p < 0.05$) show statistical significance with overall ESG performance alongside individual dimensions. Overall, adjusted R^2 show 21.4% model fit for ESG performance, with higher values for social performance, indicating firm and year fixed effects improve the validity of results by controlling the unobserved variations.

Table 3: Fixed Effects Regression Results: Impact of ROA on ESG performance

	(1)	(2)	(3)	(4)
VARIABLES	**ESG_P**	**ENV_P**	**SOC_P**	**GOV_P**
w_roa	0.2601**	0.1587***	0.3520***	0.2198**
	(2.4700)	(2.8262)	(2.7907)	(2.3543)
w_Lev_Ratio	0.0815**	0.0761**	0.0714	0.0903*
	(2.0051)	(2.4596)	(1.5166)	(1.9476)
w_F_Size	0.0204***	0.0238***	0.0259***	0.0073*
	(4.6561)	(12.5977)	(4.9066)	(1.6802)
w_Capex_ta	0.3014*	0.4503***	0.4289**	-0.0349
	(1.9350)	(5.0656)	(2.3024)	(-0.2164)
w_sales_ta	-0.0260	-0.0620**	-0.0456	-0.0307
	(-0.5037)	(-2.2256)	(-0.7357)	(-0.5848)
w_RDI	0.2038	0.6145	-0.1922	0.1302
	(0.4171)	(1.6322)	(-0.3235)	(0.2359)
Log_age	0.0551***	0.0777***	0.0803***	0.0047
	(3.7312)	(13.0333)	(4.5952)	(0.3148)
gdp_capita	-0.0266**	-0.0105*	-0.0511***	-0.0114
	(-2.2809)	(-1.8335)	(-3.8111)	(-0.9405)
cpi	-0.0049	-0.0072***	-0.0058	-0.0037
	(-1.4111)	(-2.9817)	(-1.4867)	(-0.9688)
Constant	0.0122	-0.2278	-0.0319	0.4516***
	(0.0877)	(-1.3670)	(-0.2042)	(3.4893)
Year FE				
Firm FE				
Observations	4,718	4,718	4,718	4,718
Adj R2	0.214	0.221	0.232	0.0701

Table 4 presents the findings of the fixed effects regression results for the ROE model, examining the impact on ESG performance. Findings reveal that ROE has a significant impact on ($\beta = 0.0580$, $p < 0.05$) overall ESG performance; meanwhile, findings indicate insignificant influence on social and environmental performance except for governance. This suggests that firms are able to generate higher returns for stakeholders, which has an impact on sustainable initiatives; moreover, a stronger governance structure ensures effective transparency and accountability mechanisms for the stakeholders. In the case of firm's characteristics, the variables such as Leverage Ratio show ($\beta = 0.0536$, $p < 0.05$) with ESG, firm size indicates the strongest influence on all the dimensions and overall ESG performance, indicating larger firms with higher debt financing tend to improve sustainable practices (Yu & Xiao, 2022). Overall, the model exhibit 20% for overall ESG performance, followed by 21% of environmental, 22% for social, and 6% for governance performance. Therefore, ROE strongly influences overall performance but is insignificant in individuals' dimensions. Comparatively, ROA shows more robust results due to its strong influence on all the dimensions and overall ESG performance.

Table 4: Fixed Effects Regression Results: Impact of ROE on ESG performance

VARIABLES	(1) ESG_P	(2) ENV_P	(3) SOC_P	(4) GOV_P
w_roe	0.0580**	0.0437	0.0269	0.1062***
	(2.0239)	(1.2795)	(0.7955)	(3.2874)
w_Lev_Ratio	0.0536**	0.0596**	0.0297	0.0710***
	(2.3567)	(1.9946)	(1.0924)	(2.5905)
w_F_Size	0.0197***	0.0233***	0.0251***	0.0065***
	(12.4727)	(12.2636)	(13.2711)	(3.8272)
w_Capex_ta	0.3672***	0.4902***	0.5248***	0.0125
	(5.1607)	(5.5734)	(6.0607)	(0.1632)
w_sales_ta	0.0046	-0.0435*	-0.0018	-0.0076
	(0.2199)	(-1.6467)	(-0.0741)	(-0.3128)
w_RDI	0.1492	0.5802	-0.2725	0.0928
	(0.5056)	(1.5405)	(-0.7702)	(0.2623)
Log_age	0.0565***	0.0784***	0.0823***	0.0057
	(11.1079)	(13.1215)	(13.3271)	(1.0453)
gdp_capita	-0.0303***	-0.0128**	-0.0561***	-0.0145***
	(-6.5457)	(-2.2487)	(-10.4250)	(-2.7929)
cpi	-0.0047**	-0.0071***	-0.0055**	-0.0036
	(-2.2938)	(-2.9344)	(-2.3562)	(-1.5436)
Constant	0.0636	-0.1965	0.0390	0.4934***
	(0.8730)	(-1.1658)	(0.6160)	(9.7831)
Observations	4,714	4,714	4,714	4,714
R-squared	0.2157	0.2260	0.2317	0.0766
Adj R2	0.209	0.219	0.225	0.0687

Table 5 shows the results of the moderating effects of CS on the relationship between ROA and ESG performance. The findings suggest that ROA has a strong coefficient with overall ESG performance $\beta = 0.1523$, $p < 0.01$), and with individual dimensions of ESG. The interaction term for this model shows positive ($\beta = 0.0797$, $p < 0.05$) outcomes, indicating that it moderates the relationship between ROA and ESG. Among all the variables, the findings show a significant relationship with social and governance but an insignificant relationship with environmental. This implies that firms invest socially and governance to maintain the internal structure of the firm alongside the welfare of their employees and stakeholders (Wasiuzzaman et al., 2022). Overall, the model shows model fit through adjusted R^2, highlighting that interaction terms strongly determine the variations across developing countries in the Asian region.

Table 5: Moderating Effect of CS on the Relationship between ROA and ESG Performance

	(1)	(2)	(3)	(4)

VARIABLES	ESG_P	ENV_P	SOC_P	GOV_P
w_roa	0.1523***	0.0043	0.2541***	0.1260**
	(2.9011)	(0.0702)	(4.0041)	(2.2932)
CS_ROA	0.0797**	0.1404***	0.0827**	0.0326
	(2.4765)	(3.4710)	(2.1563)	(0.9145)
w_Cap_structure	0.0054	0.0043	0.0023	0.0060
	(1.5296)	(0.8738)	(0.5271)	(1.4217)
w_F_Size	0.0197***	0.0228***	0.0254***	0.0064***
	(11.8628)	(11.3646)	(12.7256)	(3.5090)
w_Capex_ta	0.3067***	0.4316***	0.4534***	-0.0443
	(4.0726)	(4.6397)	(4.9814)	(-0.5463)
w_sales_ta	-0.0213	-0.0665**	-0.0413	-0.0264
	(-0.8539)	(-2.1432)	(-1.3826)	(-0.9435)
w_RDI	0.4317	0.9902**	-0.0497	0.3975
	(1.1653)	(2.0337)	(-0.1122)	(0.8812)
Log_age	0.0573***	0.0814***	0.0824***	0.0054
	(10.9184)	(13.1461)	(13.0218)	(0.9603)
gdp_capita	-0.0310***	-0.0144**	-0.0598***	-0.0112*
	(-6.1678)	(-2.3355)	(-10.3223)	(-1.9531)
cpi	-0.0074***	-0.0078***	-0.0117***	-0.0034
	(-3.4069)	(-3.0692)	(-4.7653)	(-1.3391)
Constant	-0.0542	-0.3044*	-0.0630	0.3742***
	(-0.7495)	(-1.8763)	(-0.9163)	(6.6814)
Year FE				
Industry FE				
Observations	4,046	4,046	4,046	4,046
R-squared	0.2241	0.2269	0.2518	0.0792
Adj R2	0.216	0.219	0.244	0.0698

Table 6 presents the results of the moderating effect of CS, suggesting the insignificant outcomes with all the dimensions along the overall performance of ESG. It implies that shareholder profitability is not a major predictor for corporates compared to operational efficiency. Additionally, the interaction term (CS * ROE) shows significance with ESG performance alongside environmental and social dimensions, except for the governance dimension. Therefore, ROA is determined to be significant after the interaction term, and both direct and conditional effects are significant with ESG, but the ROE model shows insignificance across the ESG dimensions; the interaction term remains significant. Therefore, CS occurs as it enables shaping the operational and shareholder profitability strategies into the sustainability performance of the firms (Wasiuzzaman et al., 2022).

Table 6: Moderating Effect of CS on the relationship between ROE and ESG performance

VARIABLES	(1) ESG_P	(2) ENV_P	(3) SOC_P	(4) GOV_P
w_roe	-0.0035	-0.0305	-0.0252	0.0471
	(-0.1009)	(-0.7691)	(-0.6303)	(1.2439)
CS_ROE	0.1198***	0.1522***	0.1563***	0.0485
	(3.4648)	(3.7595)	(3.6223)	(1.3869)
w_Cap_structure	0.0043	0.0045	0.0005	0.0048
	(1.2135)	(0.9106)	(0.1231)	(1.1300)
w_F_Size	0.0195***	0.0228***	0.0252***	0.0060***
	(11.6826)	(11.3449)	(12.5773)	(3.2950)
w_Capex_ta	0.3481***	0.4390***	0.5233***	-0.0161
	(4.6867)	(4.7796)	(5.8125)	(-0.2014)
w_sales_ta	0.0026	-0.0632**	-0.0011	-0.0094
	(0.1091)	(-2.1936)	(-0.0409)	(-0.3461)
w_RDI	0.4287	0.9883**	-0.0464	0.3848
	(1.1607)	(2.0301)	(-0.1053)	(0.8526)
Log_age	0.0578***	0.0811***	0.0836***	0.0057
	(10.9582)	(13.0865)	(13.0837)	(1.0171)
gdp_capita	-0.0334***	-0.0145**	-0.0638***	-0.0132**
	(-6.7460)	(-2.3898)	(-11.1593)	(-2.3350)
cpi	-0.0073***	-0.0077***	-0.0115***	-0.0034
	(-3.3547)	(-3.0229)	(-4.6915)	(-1.3457)
Constant	-0.0239	-0.3006*	-0.0130	0.3976***
	(-0.3260)	(-1.8544)	(-0.1872)	(7.2950)
Observations	4,042	4,042	4,042	4,042
R-squared	0.2224	0.2268	0.2486	0.0787
Adj R2	0.214	0.219	0.241	0.0693

Based on the fixed effects and moderation models, hypotheses are summarized as follows: ROA has a positive influence on ESG performance, supporting H1. Meanwhile, ROE has a positive effect on overall ESG but is insignificant with environmental and social dimensions, partially supporting H2. Similarly, CS strengthens the relationship between ROA, ROE, and ESG, supporting H3 and H4.

5. Implications

The findings of this research offer significant implications. Theoretically, this study contributes to slack resource and stakeholder theory on how corporates can use resources and provide better returns to shareholders for higher sustainability practices. The results are aligned with the theoretical argument and imply that firms with higher ROA and ROE tend to have higher ESG scores within competitive advantage. This highlights that slack resources play an effective role in protecting the company from competition. Moreover, the significant role of CS suggests that debt financing, capital availability, and financial resources are those predictors that shape the overall performance of corporates across

emerging economies. Therefore, these findings strengthen the existing studies and theories by providing evidence that not only are slack resources important, but effective financial structures are important in emerging economies.

Practically, this study offers guidance to the corporate stakeholders, managers, and policymakers that profitability is not only a major goal of the firm, but other goals such as environmental concerns, social responsibility, and governance frameworks are also important factors that should be included in the vision of corporates. For investors and stakeholders, this study suggests that when firms engage with absorption capacity and operational performance, they tend to experience higher sustainable value for the firm as well as for the firm itself. Therefore, findings suggest that Asian economies need to focus on an effective financial system for promoting investment behavior in ESG reporting and disclosure frameworks.

6. Limitations and Future Directions

Despite the greater contribution of this study, it acknowledges the following limitations. One of the most important limitations highlights the reporting quality and annual disclosure of the ESG across Asian countries. During the collection of data, the ESG disclosure across selected countries remains unbalanced due to extreme variations in the reporting policies and transparency of the firms (Wasiuzzaman et al., 2022). Therefore, these emerging economies are still lagging in terms of reporting ESG disclosures annually. The issue is highly relevant in countries like Pakistan, indicating the low coverage of listed firms. Therefore, this may introduce the issue of selection bias or limit the generalizability of the findings across the South Asian region. Another limitation lies within the context of only the inclusion of CS, ROA, and ROE in the study, ignoring the other important factors in the study, which may influence the accuracy of the model specification. Other variables such as regulatory framework, internal culture of the corporation, and institutional quality may impact the outcomes of the study (DasGupta & Roy, 2023).

Therefore, future studies should include these variables to enhance the accuracy of the specification and estimation standards. Additionally, the ESG reporting gap across Asian economies should also be acknowledged so that emerging markets receive more academic attention in terms of transparent reporting standards. Future research should also include the role of mandatory ESG disclosure as a variable to examine whether reporting requirements are influential on the ESG practices/. These limitations further extend the ESG literature 5for richer and more comprehensive inference.

7. Conclusion

This study is conducted to analyze the relationship between FP and ESG performance across Asian countries, measuring it through financial metrics such as ROA and ROE. The findings suggest that ROA is a consistent predictor of ESG, but ROE shows conditional effects, implying that operational profitability is the key determinant that improves the engagement of firms with ESG-related initiatives, but stakeholder returns are based on the limited influence. Moreover, the study includes the CS as a moderator, highlighting whether it moderates the relationship between ROA, ROE, and ESG performance. The findings imply that CS strengthens the relationship, particularly for environmental and social performance in both models (ROA and ROE). Additionally, the findings strongly support the argument of slack resource theory, suggesting that firms with strong financial performance are translated into the ESG scores; however, only FP determines ESG, but a strong financial structure significantly translates the ESG engagement.

References

Abu Afifa, M., Nguyen, N. M., Vo, D. T. T., Van Bui, D., & Van, H. V. (2025). Environmental, social and governance practices: a new perspective from Asian developing countries. *Corporate Social Responsibility and Environmental Management*, *32*(1), 1079-1095. https://doi.org/10.3390/su16083329

Al Jabri, Q. (2026). Corporate governance and firm performance: The role of capital structure. *Journal of Risk and Financial Management*, *19*(5), 324. https://doi.org/10.3390/jrfm19050324

Anozie, O. R., Muritala, T. A., Ininm, V. E., & Yisau, N. S. (2023). Impact of capital structure on financial performance of oil and gas firms in Nigeria. *Future Business Journal*, *9*(1), 11. https://doi.org/10.1186/s43093-023-00186-4

Ashraf, M., & Khattak, A. (2026). Impact of Corporate Social Responsibility on Internal Control Effectiveness: Evidence from Pakistan. *Advance Journal of Econometrics and Finance*, *4*(2), 94-102.

Aslam, S., Anjum, T., Hanif, M., & Shahzadi, S. (2026). Corporate Governance as a Constraint on Earnings Management: Evidence from Emerging Economies. *Advance Journal of Econometrics and Finance*, *4*(2), 103-108.

Awa, H. O., Etim, W., & Ogbonda, E. (2024). Stakeholders, stakeholder theory and corporate social responsibility (CSR). *International Journal of Corporate Social Responsibility*, *9*(1), 11. https://doi.org/10.1186/s40991-024-00094-y

Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, *22*, S119-S127. https://doi.org/10.1016/j.bir.2022.11.006

Bagh, T., Hunjra, A. I., Guo, Y., & Bouri, E. (2025). Corporate capital structure in BRICS economies: an integrated analysis of ESG, firm, industry, and macroeconomic determinants. *International Journal of Finance & Economics*, *30*(3), 2682-2704. https://doi.org/10.1002/ijfe.3036

Cantino, V., Devalle, A., & Fiandrino, S. (2017). ESG sustainability and financial capital structure: Where they stand nowadays. *International Journal of Business and Social Science*, *8*(5), 116-126. https://doi.org/2318/1650869

Carnini Pulino, S., Ciaburri, M., Magnanelli, B. S., & Nasta, L. (2022). Does ESG disclosure influence firm performance? *Sustainability*, *14*(13), 7595. https://doi.org/10.3390/su14137595

DasGupta, R., & Roy, A. (2023). Firm environmental, social, governance and financial performance relationship contradictions: Insights from institutional environment mediation. *Technological Forecasting and Social Change*, *189*, 122341. https://doi.org/10.1016/j.techfore.2023.122341

Deb, S., Sajit, S., & Digar, B. (2023). Does esg improve firm performance? Evidence from Indian companies. *International Journal of Scientific Research in Engineering and Management*, *7*(8), 1-7.

Dmytriyev, S. D., Freeman, R. E., & Hörisch, J. (2021). The relationship between stakeholder theory and corporate social responsibility: Differences, similarities, and implications for social issues in management. *Journal of Management studies*, *58*(6), 1441-1470. https://doi.org/10.1111/joms.12684

Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global finance journal*, *38*, 45-64. https://doi.org/10.1016/j.gfj.2017.03.001

Fitriana, E., & Hartoko, S. (2025). The Influence of Environment, Social & Governance (ESG) Values on Financial Performance: The Role of Leverage as Moderation. *Journal of Economics, Finance And Management Studies*, *08*. https://doi.org/10.47191/jefms/v8-i6-15

Gazi, M. A. I., Islam, H., Islam, M. A., Karim, R., Momo, S. M., & Senathirajah, A. R. B. S. (2024). Unlocking sustainable development in East Asia Pacific and South Asia: An econometric exploration of ESG initiatives. *Sustainable Environment*, *10*(1), 2366558. https://doi.org/10.1080/27658511.2024.2366558

Hussain, M. A., Alsayegh, M. F., & Boshnak, H. A. (2024). The impact of environmental, social, and governance disclosure on the performance of Saudi Arabian companies: Evidence from the top 100 non-financial companies listed on Tadawul. *Sustainability*, *16*(17), 7660. https://doi.org//10.3390/su16177660

Islam, S. M. T., Ghosh, R., & Khatun, A. (2021). Slack resources, free cash flow and corporate social responsibility expenditure: evidence from an emerging economy. *Journal of Accounting in Emerging Economies*, *11*(4), 533-551. https://doi.org/10.1108/JAEE-09-2020-0248

Lindkvist, L., & Saric, O. (2020). Sustainability performance and capital structure: An analysis of the relationship between ESG rating and debt ratio. In.

Madyan, M., & Widuri, S. K. (2023). Environmental, Social, Governance (ESG) Performance and Capital Structure: The Role of Good Corporate Governance. *Jurnal Manajemen Teori Dan Terapan*, *16*(3). https://doi.org//01bb/8f9038aacfc01c8e887fcfb1b9090df50070.pdf

Masud, M. A. K., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting: empirical evidence from South Asian countries. *Asian Journal of Sustainability and Social Responsibility*, *3*(1), 1-26. https://doi.org/10.1186/s41180-018-0019-x

Masud, M. A. K., Sahara, J., & Maola, M. (2025). Enhancing ESG performance through corporate governance: insights from emerging markets. *International Journal of Energy Economics and Policy*, *15*(1), 47-58.

Micale, J., & Shastry, V. (2025). Guest editorial: Gaining insights into dynamics of responsible business practices in the South Asian context. In (Vol. 14, pp. 259-267): Emerald Publishing Limited.

Ngatno, Apriatni, E. P., & Youlianto, A. (2021). Moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. *Cogent Business & Management*, *8*(1), 1866822. https://doi.org/10.1080/23311975.2020.1866822

Rau, P. R., & Yu, T. (2023). A survey on ESG: investors, institutions and firms. *China Finance Review International*. https://doi.org/10.1108/CFRI-12-2022-0260

Tauseef, S., & Khurshid, A. A. (2025). ESG disclosure, ranking and firm's characteristics: evidence from Pakistan. *South Asian Journal of Business Studies*, *14*(3), 268-290. https://doi.org/10.1108/SAJBS-03-2024-0110

Wasiuzzaman, S., Uyar, A., Kuzey, C., & Karaman, A. S. (2022). Corporate social responsibility: is it a matter of slack financial resources or strategy or both? *Managerial and Decision Economics*, *43*(6), 2444-2466. https://doi.org/10.1002/mde.3537

Wu, S., Li, X., Du, X., & Li, Z. (2022). The impact of ESG performance on firm value: The moderating role of ownership structure. *Sustainability*, *14*(21), 14507. https://doi.org/10.3390/su142114507

Xu, Y., & Zhu, N. (2024). The effect of environmental, social, and governance (ESG) performance on corporate financial performance in China: Based on the perspective of innovation and financial constraints. *Sustainability*, *16*(8), 3329. https://doi.org/10.3390/su16083329

Yu, X., & Xiao, K. (2022). Does ESG performance affect firm value? Evidence from a new ESG-scoring approach for Chinese enterprises. *Sustainability*, *14*(24), 16940. https://doi.org/10.3390/su142416940