

Corporate Governance, ESG Performance, and Investment Decision: A Study from a Developing Economy

Fareha Azhar¹ Ammara Mubashar² Rizwana Hayat³ Kanwal Nawaz⁴

ABSTRACT: This study explores how corporate governance influences capital investment decisions in Pakistan's banking sector, with a particular focus on whether Environmental, Social, and Governance (ESG) performance moderates this relationship. Grounded in stakeholder and legitimacy theories, the research compiles a balanced panel of 25 commercial banks from 2015 to 2024. This research integrates corporate governance mechanisms, ESG performance, and control variables such as firm size, debt ratio, and cash holdings to analyze their impact on capital expenditures. This study concludes that while corporate governance alone can restrict unnecessary investments, the inclusion of ESG performance enables firms to make more socially responsible and profitable investment decisions. These findings have significant implications for banks, regulators, and investors, offering a framework for incorporating both governance and sustainability into long-term investment strategies.

KEYWORDS: Corporate Governance, Investment Decision, ESG Performance, Capital Expenditure, Financial Firms

¹ Student, Department of Business Administration, Fatima Jinnah Women University, Rawalpindi, Punjab, Pakistan.
Email: farehaazhar777@gmail.com

² Assistant Professor, Department of Business Administration, Fatima Jinnah Women University, Rawalpindi, Punjab, Pakistan.
Email: ammara.mubashar@fjwu.edu.pk

³ Assistant Chief Manager, State Bank of Pakistan BSC.
Email: rizwana.hayat@gmail.com

⁴ MS (Management Sciences), Department of Management Sciences, Bahria University Islamabad, Pakistan.
Email: Kanwalnawaz07@gmail.com

Corresponding Author: Rizwana Hayat
✉ rizwana.hayat@gmail.com

Introduction

In the recent realm of rapidly evolving business, corporate governance serves as an important factor for enhancing transparency, accountability, and strategic oversight within firms. Strong governance structures tend to play a crucial role in prompting business decisions, including long-term investment strategies such as capital expenditure. These investment decisions are of core importance to a firm's growth journey and risk management, and are often affected by the efficacy of internal governance mechanisms.

Corporate governance is the combination of organizational and market-driven instruments aimed at protecting the interests of the stakeholders, resolving agency problems that arise from the ownership division and control. It is a very crucial element that contributes to the decision-making of the firm, which is directly linked with corporate uplifting (Rahman, 2020). Implementation of corporate governance is associated with better financial performance of banks, as shown by Handajani et al. (2024), which minimizes agency conflict by promoting transparency and strong monitoring systems, particularly in firms with debt-dominated capital structures.

Simultaneously, increased attention on sustainability has brought Environmental, Social, and Governance performance to the forefront of stakeholder and regulatory expectations. In this context, organizations are expected not only to be responsible for creating monetary returns but also for creating operations that flow into goals for a larger social and environmental purpose. ESG performance can serve as a conduit through which governance practices are carried out and assessed, influencing how governance structures are operationalized into real financial actions. Although previous studies have explored the isolated effects of governance and ESG on firm performance, little is known about the relationship between ESG performance and investment decisions, given corporate governance (Eccles et al, 2017). This relationship is particularly relevant in developing economies such as Pakistan, where corporate governance continues to reform and ESG reporting continues to emerge.

The terms 'investment decision' and 'investment decisions' relate to the financial options companies make concerning the allocation of resources for long-term growth. These decisions were frequently capital investment decisions, used to improve a firm's infrastructure, technical capacity, or development efforts (Awan et al, 2024). Investment decisions are fundamental in demonstrating a firm's growth trajectory and allow organizations to increase production capacity, enter new markets, and remain competitive within their industry. Investment decisions in the form of capital investment are often crucial financial decisions for firms, which determine the allocation of resources toward long-term assets. Capital investment decisions would be spent on things like tech infrastructure, branch locations, or regulatory compliance (Awan et al, 2024). To focus on 'determinants of capital investment' means that, despite the uncertainty in the business world, stability tends to emerge. Bank capital investments reflect an intention to innovate and manage risk and ultimately maximize long-term value for an organization. Capital spending decisions, or investment decisions, reflect a company's strategy to increase productivity, expand operations, or enhance its position in the marketplace.

The research objective is to examine the impact of corporate governance on investment decisions in Pakistani banks and to analyze the moderating role of ESG performance in the relationship between corporate governance and investment decisions. This study aims to explore how ESG performance influences firms' investment decisions in a developing economy and provide insights into the importance of sustainability-focused governance for strategic investment decisions.

In developing economies like Pakistan, where corporate governance structures in the financial sector are still evolving, the incorporation of ESG practices into strategic investment choices poses both a challenge and an opportunity. Firms in the financial sector operate under consistent pressure from regulators, investors, and stakeholders to maximize transparency, accountability, and sustainability in their operations, particularly in their capital allocation methods. This study is significant as it investigates the effect of corporate governance (as measured by a composite index including board size, board independence, and gender diversity) on investment decisions, particularly capital expenditure, while also investigating the moderating role of ESG performance.

Literature Review

A company's financial approach hinges on its investment choices, which are often represented as capital expenditure. Kounouwewa et al. (2025) revealed that companies with external funding invest more in

technology, capital assets, and personnel training, which leads to improved financial performance. In banking, investment decisions are an outcome of tactical capital allocation, which is primarily determined by capital expenditures. The banks' investing and financing activities have a great impact on economic growth, as shown by Fatmawati (2022). There exists a favorable relationship between capital expenditure and ESG performance in firms where there is strong corporate governance (Moussa et al., 2023). The investment decisions and choices depend on the environmental, social, and governance performance of the companies; higher ESG performance results in more capital investments (Awan et al., 2024).

Corporate governance is an important component of the modern business environment, a system that controls the operation of the organization. Its effectiveness is critical in influencing strategic decisions and complex financial environments. Efficient governance frameworks by integrating managerial incentives with sustainability objectives can drive responsible investments (Farooq et al., 2022). When governance structures are well established, the management aligns its investment choices with long-term business goals. Corporate governance plays an essential role in firms' strategic decisions, ensures accountability, and promotes sustainable business practices. It has been shown that strong corporate governance can improve the country's economy as well as the company's performance; sound governance mechanisms are vital for the growth of any economy (Saeed et al., 2024). Three board-level attributes, board size, board independence, and board gender diversity, are the main focus for the study's analysis of corporate governance as an influence on banks' investment decisions. The primary responsibility of the board is to supervise the company's operations both in-house and externally (Azeez et al., 2019). A study by Levit et al. (2016) concluded that a larger board enhances the level of transparency in the boardroom, and a larger board encompasses a wide range of capacities, information, and abilities to supervise the firm's operations. On the contrary, a large board is unproductive as the decisions are made slowly (Adnan et al., 2011). Another essential attribute that affects the investment choices of the firms is the board's gender diversity. A study by Brahma et al. (2021) concluded that female directors improve the company's performance, which suggests that adding female board members could improve the governance frameworks. Kiliç et al. (2016) also showed that the financial performance of the firms is positively correlated to the presence of a female board of directors.

Hypothesis 1: Corporate governance has a significant impact on the investment decisions of financial firms.

Environmental, Social, and Governance performance has attracted more attention in the world of business. It has become increasingly important to integrate ESG principles in investment decisions. Yu et al. (2024) revealed that capital investment and ESG performance are significantly positively related. Sultana et al. (2017) showed that investment decisions are affected by ESG factors. It revealed that the governance disputes have the greatest impact, followed by environmental and social concerns. A firm's better ESG performance impacts its investment choices; companies with stronger ESG performance prioritize capital investments. (Yu et al., 2024) The improved ESG performance attracts investors looking for profitable yet sustainable initiatives. Along with financial measurements, ESG criteria are used to assess the firm's performance. It is important to understand how ESG performance influences investment strategies, especially when analyzing how it impacts the allocation of resources. Naeem et al. (2022) revealed that there is a positive correspondence between the financial metrics and ESG performance of the firms. The study by Awan et al. (2024) explored the relationship between ESG performance and the investment patterns of the non-financial firms in the context of the

corporate setting. The outcomes showed that businesses with higher ESG scores spend more on capital investments and less on environmental initiatives. In a world where ESG holds great importance, corporate managers should focus on more profitable investments, some bigger projects that would result in both more money and doing well for the world. This practical approach suggests that firms should invest in projects strategically. In the banking sector as well, it is important to consider the ESG-oriented investment choices that result in both shareholder value creation and long-term profitability.

Hypothesis 2: ESG performance moderates the relationship between corporate governance and investment decisions.

Methodology

This study employs a quantitative research design using secondary data to examine the relationship between Corporate Governance, ESG Performance, and Investment Decision in the financial firms in Pakistan. The research design incorporates panel data analysis covering a period of ten years, from 2015 to 2024. The selected sample includes the banking sector of Pakistan, and the data is primarily collected from the official website of the State Bank of Pakistan and the Annual reports of the banks. The data set consists of 25 commercial banks in Pakistan. E views 10 was employed for the analysis of the dataset.

Within the scope of ESG analysis, the environmental aspect refers to resource consumption, emission levels, and innovation, the social aspect refers to workforce management, respect for human rights, community interactions, and responsibility for their products, and the governance aspect refers to corporate management structures, relationships with shareholders, and the corporate social responsibility framework developed through firms' experiences (LSEG).

Table 1

Operationalization of variables

Variable	Dimension	Acronym	Operationalization	Source
Corporate governance	Board size, Board independence, Gender diversity	CGI	Principal Component Analysis of Corporate Governance Indicators	Annual reports
Environmental, Social, and Governance performance	ESG categories	ESG	ESG score	Annual reports
Investment decision	Capital expenditure	CAPEX	Cash flows from investment activities/Avg total assets	Annual reports
Firm size	Total assets	FS	In Total Assets	Financial statement analysis SBP
Debt ratio	Debt to assets ratio	DR	Total debt/Avg total assets	Financial statement analysis SBP
Cash holdings	Cash and cash equivalents	CH	Cash and cash equivalents/Avg total assets	Financial statement analysis SBP

Baseline equation

The baseline equation for this study is specified as follows:

$$Capex_{it} = \beta_0 + \beta_1 CGI_{it} + \beta_2 ESG_{it} + \beta_3 CGI * ESG_{it} + \beta_4 FS_{it} + \beta_5 DR_{it} + \beta_6 CH_{it} + \epsilon_{it}$$

Where,

Capexit: Capital expenditure of firm i in period t.

CGlit: Corporate Governance Index of firm i in period t.

ESGit: Environmental, Social, and Governance performance of firm i in period t.

FRSit: Firm Size of firm i in period t.

DERit: Debt Ratio of firm i in period t.

COHit: Cash Holdings of firm i in period t.

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5,$ and β_6 are the regression coefficients to be estimated for the respective variables.

ϵ_{it} represents the error term capturing unobserved factors influencing capital expenditure.

In this study, panel data is used to assess the connection between investment decision, ESG performance, and corporate governance. Both time-series and cross-sectional data are included in panel data analysis. Panel data allows for more effective handling of econometric data, integrating multiple cross-sections such as countries, corporations, or individuals. Due to the large number of cross-sections, it reduces collinearity among variables. Panel data is categorized into two types: balanced panel data, where observations are consistent over the same period, and unbalanced panel data, where observations vary over time. The fixed effect and random effect methods are applied to determine the most suitable approach for the data analysis.

Data Analysis

This section provides a critical analysis of the information provided in the previous chapters. It expands upon the research methodology laid out in the previous section to examine the effects of corporate governance and ESG performance on investment decisions and other control variables. A sample of financial firms in Pakistan is analyzed. The chapter entails descriptive statistics, correlation analysis, and panel data regression, examines the estimating models in use, and describes their measurement and implementation. Lastly, it displays the investigation's outcomes.

Table 2

Descriptive Analysis

Variable	Mean	Standard Deviation	Maximum	Minimum	LLC	Count
CGI	1.788	1.203	2.920	1.344	1.764*	250
ESG	0.371	0.225	1.000	0.000	4.818**	250
CAPEX	0.101	0.096	0.660	0.000	6.922**	250
FS	8.758	0.524	9.910	7.270	5.764**	250
DR	0.161	0.124	0.770	0.000	3.186**	250
CH	0.076	0.023	0.181	0.024	-1.748*	250

Descriptive statistics present the summary of the key characteristics of the data sets along with the general trends in the sample. In Table 3, the Corporate Governance Index (CGI) has a mean value of 0.79, suggesting that the sample firms retain a moderate level of governance quality on average. The maximum value of 2.92 shows that some firms have strong governance structures, while the minimum value of 1.34 reflects the weak

governance mechanisms, such as smaller board size, low BI, and little to no female representation. Capex averages at 0.100, with the values ranging from 0.00 to 0.66, suggesting that firms have a considerable variation in investment approaches. Cash holdings have a mean value of 0.0759, indicating consistency in liquidity levels. The debt ratio averages at 0.161, ranging from 0.00 to 0.77, which suggests that some firms were significantly leveraged while others were completely debt-free. The ESG score has a mean of 0.37, suggesting that, on average, the firms implement a moderate level of ESG practices. The max value of 1 and the min of 0 suggest that some firms fully comply with the ESG standards, while others do not. The firm size, with a mean of 8.75, indicates that, on average, the sample includes medium to large-sized firms in terms of total assets. The standard deviation of 0.52 suggests moderate variability in the firm sizes. And the data shows that the sample consists of a diverse mix of firms with respect to asset size, which improves the robustness of the analysis. Additionally, a unit root test is employed to check the stationarity of the panel variables, whether the mean and variance change over time, or not. The Levin, Lin & Chu test is applied, and the results show that all of the variables are stationary in their level form, meaning that the null hypothesis of a unit root is rejected at 5%.

Table 3

Correlation Analysis

	CGI	ESG	FS	DR	CH	CAPEX
CGI	1					
ESG	.302 **	1				
FS	-.245 **	.525 **	1			
DR	.336 **	.307	.218	1		
CH	-.158 *	-.128 *	.010	-.444 **	1	
CAPEX	.409 **	-.020	-.115	.598 **	-.188 **	1

Significance levels are denoted as follows: * for p-values below 0.05 and ** for p-values below 0.01.

Table 3 examines the direction and strength of the linear associations among the variables in the dataset. The results show low to moderate correlation among all variables. This suggests the non-existence of multicollinearity in the data.

Table 4

Regression Analysis

Variable /Statistic	Coefficient	Statistic	Value
CGI	-0.015** (0.005)	Adjusted R-squared	0.411091
FS	0.086** (0.031)	Durbin-Watson	2.1576
DR	0.315** (0.131)	Hausman Test	p = 0.02
CH	0.089 (0.399)		
ESG	0.134* (0.298)		
CAPEX(-1)	-0.218** (0.078)		
C	-0.689** (0.287)		
ESG*CGI	0.023** (0.009)		

Standard errors are presented in brackets. Statistical significance is indicated by * for p-values under 0.05 and ** for p-values below 0.01.

Table 4 shows the results of the fixed panel model. It shows that capital expenditure (CAPEX) is regressed on a few variables, including corporate governance index (CGI), firm size (FS), leverage (DR), cash holdings (CH), environmental, social, and governance performance (ESG), lagged CAPEX, and the interaction term ESG*CGI.

The significant negative CGI coefficient indicates that firms with relatively stronger governance frameworks tend to carry out fewer physical investment programs. This is explained by the fact that well-governed boards may favor more disciplined capital budgeting. Hence, governance quality matters. The correlation matrix exhibits a moderate but positive correlation between CGI and ESG ($\rho = 0.302$), suggesting that banks with stronger boards also tend to pay closer attention to sustainability disclosure. Nuraeni et al. (2024) showed that corporate governance has a significant and negative impact on capital structure. Hence, H1 is supported.

The interaction term CGI*ESG coefficient, shows a significant and positive relation. The findings indicate that stronger ESG performance enhances the influence of corporate governance on investment choices, suggesting a moderating effect of ESG in this relationship. Banks with higher ESG scores tend to make higher capital investments. The results align with the study by Awan et al. (2024), which also concluded that firms with better ESG performance tend to invest more in capital projects. Hence, H2 is supported.

The significant and positive effect of FS and DR shows that larger firms tend to make more capital investments, and leveraged firms allocate more towards capital investments. Dang et al. (2018) also show the significant and positive relationship between firm size and capital expenditure. Additionally, Amalia et al. (2018) suggest that firms may enable external funding for investment purposes. The positive and insignificant coefficient of CH shows that cash reserves do not affect the capital investments. A study by Khan et al. (2023) concluded that CH has an insignificant impact on CAPEX of the financial firms.

Moreover, the negative coefficient of capex suggests that the capital investments made in one period have an inverse relation with investments made in the current period. This aligns with the study by Ayaz et al. (2021), which also suggests that increased investments in one period reduce the capital expenditure in subsequent periods. This shows that banks' capital investments in the current period are influenced by the previous period; if a firm spends more in the previous year, it is likely to spend less in the current year. Together, these variables explain that 41% of the variation in Capital expenditure is explained by the model. Moreover, the value of Durbin-Watson (2.16) indicates that there is no sign of residual autocorrelation in the dataset.

Conclusion

While reforms in Pakistan's banking sector are ongoing, regulators still observe substantial divergence between how banks assess, approve, and monitor capital investments, where the divergence cannot be attributed to macroeconomic factors. Using 25 commercial banks and a 10-year time period, this article covers that gap by answering the question: Does governance quality, together with ESG performance, drive banks' higher investments in the real economy? The data set tracks each bank against a Corporate Governance Index and against an ESG score. Based on the analysis of the data set, there are two obvious observations. First, a side-by-side comparison illustrated that banks with stronger boards and higher ESG possibilities allocated their funds to real-economy projects that were different from those banks that had weak boards. Second, for example, a year-to-year comparison illustrated that as an individual bank increased its governance quality or ESG score, its investment utilization shifted in a similar direction. Thus, we show that

internal reforms matter and can actually alter investment decisions. Finally, the significant impact of stronger governance might also be understood by observing the decision-making processes a bank uses. A bank also checks social and environmental risks if it is focused on ESG. Therefore, the two checks of stronger governance lead the bank towards projects that would not pass their social-screening process and projects that would provide profit. This makes good governance acts like a filter, the effect of which is enhanced upon adding ESG. In banks with weak governance, these filters let more marginal projects slip through.

Overall, the study demonstrates that, within Pakistani financial firms, strong governance on its own tends to restrain capital spending, but when credible ESG engagement accompanies solid governance, it can cause the boards to become more willing to invest in projects that are both profitable and socially responsible. Size and leverage further enhance this investment impulse, whereas excess liquidity does not. By highlighting the complementary roles of board oversight and sustainability commitment, the research offers a practical framework for managers, regulators and investors striving to balance growth responsibly in an era of intensified stakeholder scrutiny. Future research may investigate the same concept in insurance companies or fintechs to test whether the patterns hold beyond traditional banks.

References

- Adnan, M. A., Htay, S. N. N., Rashid, H. M. A., & Meera, A. K. M. (2011). A panel data analysis on the relationship between corporate governance and bank efficiency. *Journal of Accounting*, 1(1), 1-15.
- Al Azeez, H. A. R., Sukoharsono, E. G., & Andayani, W. (2019). The impact of board characteristics on earnings management in the international oil and gas corporations. *Academy of Accounting and Financial Studies Journal*, 23(1), 1-26.
- Amalia, C. I., Arfan, M., & Saputra, M. (2018). The effect of financial leverage and capital expenditure on cash holding of a manufacturing company listed in the Indonesia Stock Exchange. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 311-318.
- Awan, T., & Gul, A. (2024). Impact of environmental, social, and governance (ESG) performance on investment mix. New empirical evidence from non-financial firms in Pakistan. *International Research Journal of Management and Social Sciences*, 5(1), 880-900. <https://irjmss.com/index.php/irjmss/article/view/353>
- Ayaz, M., Mohamed Zabri, S., & Ahmad, K. (2021). An empirical investigation on the impact of capital structure on firm performance: Evidence from Malaysia. *Managerial Finance*, 47(8), 1107-1127. <https://doi.org/10.1108/mf-11-2019-0586>
- Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704-5719. <https://doi.org/10.1002/ijfe.2089>
- Dang, C., Frank, Li, Z., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking & Finance*, 86, 159-176. <https://doi.org/10.1016/j.jbankfin.2017.09.006>
- Eccles, R. G., Kastropeli, M. D., & Potter, S. J. (2017). How to integrate ESG into investment decision-making: Results of a global survey of institutional investors. *Journal of Applied Corporate Finance*, 29(4), 125-133. <https://doi.org/10.1111/jacf.12267>
- Farooq, M., Noor, A., & Ali, S. (2022). Corporate governance and firm performance: Empirical evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, 22(1), 42-66. <https://doi.org/10.1108/cg-07-2020-0286>
- Fatmawati, K. (2022). Gross domestic product: Financing & Investment activities and state expenditures. *KINERJA: Jurnal Manajemen Organisasi dan Industri*, 1(1), 11-18. <https://doi.org/10.37481/jmoi.v1i1.3>
- Handajani, L., Akram, A., & Sokarina, A. (2024). Do corporate governance and bank-specific factors matter on banking financial performance? *Jurnal Reviu Akuntansi dan Keuangan*, 14(1), 220-242. <https://doi.org/10.22219/jrak.v14i1.28367>
- Khan, S., Bashir, U., Attuwaijri, H. A., & Khalid, U. (2023). The capital structure decisions of banks: An evidence from MENA region. *Sage Open*, 13(4). <https://doi.org/10.1177/21582440231204600>
- Kılıç, M., & Kuzey, C. (2016). The effect of board gender diversity on firm performance: Evidence from Turkey. *Gender in Management: An International Journal*, 31(7), 434-455. <https://doi.org/10.1108/gm-10-2015-0088>
- Kounouwewa, J., & Deng, C. H. A. O. (2025). Investment Decisions and Performance of Firms Receiving Finance in African Markets. *International Journal of Strategic Management and Economic Studies (IJSMES)*, 4(1), 19-32. <https://www.ijsmes.com/index.php/ijsmes/article/view/465>

- LEVIT, D., & MALENKO, N. (2016). The labor market for directors and externalities in corporate governance. *The Journal of Finance*, 71(2), 775-808. <https://doi.org/10.1111/jofi.12287>
- Moussa, A. S., & Elmarzouky, M. (2023). Does capital expenditure matter for ESG disclosure? A UK perspective. *Journal of Risk and Financial Management*, 16(10), 429. <https://doi.org/10.3390/jrfm16100429>
- 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>
- Nuraeni, N., Saifi, M., Nuzula, N. F., & Damayanti, C. R. (2024). The Impact of Corporate Governance on Capital Structure, Investment Opportunity Set, and Bank Performance: The Role of Credit Risk as a Moderating Variable. *Asian Journal of Management, Entrepreneurship and Social Science*, 4(03), 1172-1196. <https://ajmesc.com/index.php/ajmesc/article/view/983>
- Rehman, A., & Hashim, F. (2020). Is corporate governance maturity measurable? *Corporate Governance: The International Journal of Business in Society*, 20(4), 601-619. <https://doi.org/10.1108/cg-07-2019-0220>
- Saeed, K., Iqbal, M. S., & Tijjani, A. A. (2024). Impact of Corporate Governance on Capital Structure; Evidence from Pakistan. *Journal of Banking and Social Equity (JBSE)*, 3(1), 57-69.
- Sultana, S., Zainal, D., & Zulkifli, N. (2017). The influence of environmental, social and governance (ESG) on investment decisions: The Bangladesh perspective. *Pertanika Journal of Social Sciences and Humanities*, 25(10), 155-173.
- Yu, Z., Farooq, U., Alam, M. M., & Dai, J. (2024). How does environmental, social, and governance (ESG) performance determine investment mix? New empirical evidence from BRICS. *Borsa Istanbul Review*, 24(3), 520-529. <https://doi.org/10.1016/j.bir.2024.02.007>