

Emirati Journal of Business, Economics and Social Studies
Vol 5 Issue 1 (2026)
Pages 76 - 86
Available at
www.emiratesscholar.com

Capital Structure as a Financial Constraint in the CSR–Performance Nexus: Evidence from Large UK Firms

Zubair Hussain[1], Muhammad Adil[2], Muhammad Arslan[3], Tahir Farooq[4], Saif Iqbal[5], Muhammad Bilal Javed[6]

[1]The Department of Education, Psychology, and Communication Sciences, University of Bari Aldo Moro, Italy, [2]Department of Computer Science Government College University Faisalabad, Pakistan, [3]Lecturer, Riphah School of Leadership, Riphah International University, Faisalabad Campus, Pakistan, [4]Ulster University, Birmingham, United Kingdom, [5]De Montfort University, Leicester, United Kingdom, [6]M. Phil Mathematics, Capital University of Science and Technology Islamabad, Pakistan.

ARTICLE INFO

KEYWORDS

Corporate Social Responsibility; Capital Structure; Financial Constraints; Firm Performance; UK Firms

HOW TO CITE

Hussain, Z., Adil, M., Arslan, M., Farooq, T., Iqbal, S., & Javed, M. B. (2026). Capital Structure as a Financial Constraint in the CSR–Performance Nexus: Evidence from Large UK Firms. Emirati Journal of Business, Economics and Social Studies, 5(1), 76-86.
https://doi.org/10.54878/n2ved458

ABSTRACT

This study re-examines the relationship between Corporate Social Responsibility (CSR) and firm performance by introducing capital structure not merely as a moderator but as a financial constraint that conditions the efficiency of CSR investments. While prior literature largely assumes that higher leverage uniformly amplifies or weakens CSR outcomes, this paper advances a more nuanced argument: CSR generates performance gains only when firms operate within an optimal financing range. Using panel data from FTSE 100 firms over 2019–2023 and fixed-effects estimation, the findings confirm a positive CSR–performance relationship. However, the interaction analysis reveals that capital structure significantly conditions this relationship, suggesting that excessive leverage constrains the strategic and reputational returns of CSR activities. By reframing capital structure as a constraint rather than a neutral moderator, this study contributes to CSR–finance literature and offers implications for sustainable corporate financing strategies in developed markets.

Double-blind peer review by independent reviewers.

Received: 26 Feb 2026, Accepted: 12 May 2026, Published: 09 Jun 2026

*Corresponding author: z.hussain1@phd.uniba.it

Copyright: © 2026 by the author. Licensee Emirates Scholar Center for Research & Studies, UAE.
Open access under the Creative Commons Attribution (CC BY) license
https://creativecommons.org/licenses/by/4.0

1. Introduction

Over the past two decades, Corporate Social Responsibility (CSR) has evolved from a peripheral ethical concern into a central element of corporate strategy. Firms are no longer evaluated solely by their ability to generate profits for shareholders; instead, they are increasingly assessed on how responsibly they interact with a broad range of stakeholders, including employees, customers, local communities, regulators, and the natural environment. This shift reflects growing societal expectations that corporations should contribute to sustainable development while maintaining economic viability (Velte, 2022). As a result, CSR has become embedded in corporate governance frameworks, reporting practices, and long-term strategic planning across both developed and emerging economies.

CSR encompasses a wide spectrum of activities, including environmental protection, employee welfare, community engagement, ethical business conduct, product responsibility, and transparent governance. These practices are often justified on the grounds that they enhance corporate legitimacy, strengthen stakeholder trust, and secure firms' social license to operate (Zhang & Wang, 2022). From a strategic perspective, CSR is increasingly viewed as an intangible investment that can generate competitive advantages through improved reputation, stronger customer loyalty, enhanced employee commitment, and reduced regulatory risk (Fatma et al., 2022). Consequently, the question of whether CSR improves firm performance has attracted sustained scholarly attention.

A substantial body of empirical research reports a positive association between CSR and firm performance, suggesting that socially responsible firms outperform their less responsible counterparts in terms of profitability, efficiency, and long-term value creation (Al-Shammari et al., 2022; Liu & Lu, 2021). However, this relationship is far from uniform. Other studies document weak, insignificant, or context-dependent effects, raising concerns about whether CSR reliably translates into financial gains. These mixed findings have prompted scholars to argue that CSR outcomes are contingent on firm-specific, institutional, and financial conditions rather than being automatic or universal.

One critical yet underexplored condition shaping the CSR–performance relationship is a firm's capital structure. Capital structure refers to the composition of debt and equity used to finance corporate activities and represents a core dimension of financial strategy. Decisions regarding leverage influence firms' cost of capital, risk exposure, managerial discretion, and investment capacity. While debt financing offers potential tax advantages and may discipline managerial behavior, it also imposes fixed obligations that can constrain strategic flexibility and increase financial vulnerability (Abdullah & Tursoy, 2021). Equity financing, by contrast, provides greater operational flexibility but may dilute ownership and weaken managerial incentives (Muhammad et al., 2021).

Prior research has consistently demonstrated that capital structure plays a significant role in shaping firm performance and risk-taking behavior (Ankamah-Yeboah et al., 2021). More recently, studies have highlighted how financial leverage interacts with emerging risks such as climate exposure and regulatory uncertainty, further underscoring the strategic importance of financing decisions (Ginglinger & Moreau, 2023). Despite this extensive literature, capital structure has rarely been examined as a conditioning factor in the CSR–performance nexus, particularly in developed market contexts where CSR practices are more institutionalized and disclosure standards are relatively high.

This omission is theoretically problematic. CSR initiatives require sustained financial commitments and often involve upfront costs with uncertain or delayed returns. Investments in environmental technologies, employee training, community development, and transparent reporting may not yield immediate financial benefits but can enhance long-term resilience and legitimacy. Firms with high leverage may face tighter financial constraints, limiting their ability to absorb these costs or sustain CSR engagement during economic downturns. Conversely, firms with balanced capital structures may possess the financial slack necessary to translate CSR investments into superior performance outcomes. Ignoring capital structure therefore risks overstating the universality of CSR benefits.

From a theoretical standpoint, this study draws on insights from legitimacy theory and agency theory to explain why capital structure may condition the CSR–performance relationship. Legitimacy theory suggests that firms engage in CSR to align their operations with societal norms and expectations, thereby enhancing reputation and securing stakeholder support (Velte, 2022). However, the effectiveness of such strategies depends on firms' capacity to maintain consistent and credible CSR engagement over time. Agency theory, on the other hand, highlights how debt can reduce agency costs by disciplining managers but may also restrict discretionary investments that do not generate immediate cash flows (Abdullah & Tursoy, 2021; Khan, Saeed, & Hussain, 2024). When applied jointly, these perspectives suggest that capital structure may either amplify or constrain the

ISSN: 2791-3171 - https://doi.org/10.54878/n2ved458

performance benefits of CSR, depending on the level of financial pressure faced by the firm.

Despite the theoretical relevance of this interaction, empirical evidence remains limited. Most existing studies examine CSR and capital structure as independent determinants of firm performance, treating financial leverage as a control variable rather than a strategic moderator. Where moderation effects are tested, they are often assumed to be linear, implicitly suggesting that higher leverage uniformly strengthens or weakens CSR outcomes. Such assumptions overlook the possibility that CSR effectiveness may decline beyond certain leverage thresholds, particularly when debt obligations crowd out long-term strategic investments.

This gap is especially notable in the context of developed economies such as the United Kingdom. UK firms operate in a highly regulated environment with well-established CSR reporting frameworks, active institutional investors, and increasing regulatory pressure to align corporate behavior with sustainability goals. Firms listed on the FTSE 100 index face intense scrutiny from stakeholders and are expected to demonstrate leadership in responsible business practices. At the same time, these firms employ diverse financing strategies, ranging from conservative capital structures to high levels of leverage. This combination makes the UK an ideal setting to examine how capital structure shapes the performance implications of CSR.

Against this background, the present study investigates whether capital structure moderates the relationship between CSR and firm performance in large UK firms. Rather than if CSR uniformly enhances performance, this study adopts a conditional perspective, arguing that the financial context in which CSR is implemented plays a crucial role in determining its effectiveness. By integrating CSR literature with corporate finance theory, the study seeks to explain why similar CSR investments may yield different performance outcomes across firms.

Specifically, the study addresses three interrelated research questions. First, it examines whether CSR engagement improves firm performance among UK firms. Second, it assesses the direct impact of capital structure on firm performance. Third, and most importantly, it explores whether capital structure conditions the CSR–performance relationship, thereby influencing the extent to which CSR investments translate into financial gains.

In doing so, this study makes several contributions to existing literature. First, it extends CSR research by explicitly incorporating financial structure into the analysis, moving beyond models that treat CSR as an isolated strategic choice. Second, it advances corporate finance literature by demonstrating how leverage interacts with non-financial strategies such as CSR, highlighting the importance of aligning financial and sustainability objectives. Third, by focusing on large UK firms, the study provides evidence from a developed market context where CSR practices are mature, but performance outcomes remain contested.

The findings of this study are expected to have important practical implications. For managers, the results highlight the need to align CSR initiatives with financing strategies, recognizing that excessive leverage may undermine the long-term benefits of responsible business practices. For investors, the study provides insights into how financial structure influences the value relevance of CSR, informing more nuanced ESG investment decisions. For policymakers and regulators, the findings offer evidence relevant to the design of CSR-related regulations and incentives, particularly in the context of sustainable finance and corporate governance reforms.

More broadly, this study contributes to ongoing debates about the role of business in society. As governments and international organizations increasingly promote CSR to support sustainable development goals, understanding the financial conditions under which CSR enhances firm performance becomes critical. By linking CSR engagement with capital structure and performance, this research offers a more realistic and integrated view of corporate sustainability, emphasizing that responsible behavior and financial strategy must be jointly considered to achieve sustainable economic growth.

2. Literature Review

2.1 Corporate Social Responsibility and Firm Performance

Corporate Social Responsibility (CSR) has become a central theme in contemporary management and sustainability research, reflecting a broader shift in how firm success is conceptualized. Rather than focusing exclusively on short-term financial outcomes, modern firms are increasingly expected to balance economic objectives with social and environmental responsibilities. As a result, scholars have devoted significant attention to examining whether and how CSR engagement translates into improved firm performance.

A large stream of empirical research supports the view that CSR positively influences firm performance. Studies grounded in strategic management argue that CSR enhances competitive advantage by strengthening firm reputation, improving stakeholder relationships, and fostering long-term value creation. For instance, Maury (2022) demonstrated that firms pursuing growth-oriented

ISSN: 2791-3171 - https://doi.org/10.54878/n2ved458

and prospector strategies derive stronger performance benefits from CSR, suggesting that CSR is particularly effective when aligned with proactive strategic postures. Similarly, Al-Shammari et al. (2022), using stochastic frontier analysis, found that CSR improves firm efficiency and performance, especially in firms with strong innovation and operational capabilities.

Other studies emphasize the role of internal governance structures in shaping CSR outcomes. Family involvement has been shown to amplify the positive effects of CSR on performance, as family-controlled firms often exhibit longer investment horizons and stronger reputational concerns. Yeon et al. (2021), analyzing a large sample of U.S. firms, reported that family participation in ownership and management strengthens the CSR–performance relationship. This finding aligns with earlier evidence from Ansong (2017), who highlighted the moderating role of green human resource management in reinforcing CSR-driven performance gains.

Beyond governance, scholars have explored how CSR interacts with environmental and economic uncertainty. Hu et al. (2021), applying transaction cost theory in the Chinese manufacturing sector, revealed that CSR can produce both positive and negative performance effects depending on the dimension of CSR examined. Their findings suggest that CSR is not a homogeneous construct and that its effectiveness depends on how resources are allocated and managed. In a related vein, Ozkan et al. (2023) showed that CSR mitigates the adverse effects of climate risk on firm performance, highlighting CSR's role as a risk-management mechanism under conditions of environmental uncertainty.

A growing body of research links CSR to intangible assets such as corporate reputation, brand equity, and customer loyalty. Lee (2023) found that CSR enhances the performance of small and medium-sized enterprises by strengthening corporate image and customer trust. Similarly, Hakimi et al. (2023) demonstrated that board diversity and governance quality intensify the positive association between CSR and firm performance in European ESG-oriented firms. Evidence from technology-intensive industries further supports this view, with studies showing that CSR investments contribute to improved financial outcomes by signaling innovation capability and ethical commitment (Miller et al., 2021; Okafor et al., 2021; Riaz et al., 2024).

External stakeholder engagement has also been identified as a key channel through which CSR affects performance. Effective communication of CSR initiatives enhances transparency and credibility, thereby strengthening stakeholder trust and market valuation. Yang and Basile (2021) and Rossi et al. (2021) found that firms that actively involve external stakeholders in CSR communication experience superior business outcomes. Mitra (2021) further emphasized that strategic CSR integration, rather than symbolic compliance, is essential for sustaining performance gains. More recently, Alawi (2024) highlighted the role of ownership structure and gender diversity, suggesting that inclusive governance enhances both CSR effectiveness and firm profitability.

Despite this extensive evidence, the CSR–performance relationship remains contested. Cross-country studies reveal that institutional quality, corruption, and regulatory enforcement significantly shape CSR outcomes. Lian (2022), examining Asian economies, found that CSR disclosure is associated with lower effective tax rates, but that corruption weakens the performance benefits of CSR. A comprehensive review by Saha et al. (2020) concluded that while CSR is generally associated with positive performance, its effects are highly context-dependent and influenced by leadership, governance, and institutional environments.

Collectively, this literature suggests that CSR has the potential to enhance firm performance, but its effectiveness is contingent upon firm-specific and contextual factors. This insight raises an important question: which internal mechanisms enable firms to convert CSR engagement into tangible performance outcomes? One such mechanism that has received limited attention is capital structure.

2.2 Capital Structure, Firm Performance, and Risk

Capital structure represents a fundamental financial decision that shapes firms' cost of capital, risk exposure, and strategic flexibility. The mix of debt and equity financing influences managerial incentives, investment capacity, and resilience to economic shocks. Traditional finance theory emphasizes the trade-off between the benefits of debt, such as tax shields and managerial discipline, and its costs, including financial distress and reduced flexibility (Rascher, 2021).

Empirical evidence on the relationship between capital structure and firm performance is mixed. Some studies support the view that higher leverage improves performance by reducing agency costs and enhancing managerial efficiency. Ayaz et al. (2021), using panel data and generalized method of moments estimation on Malaysian firms, reported a positive association between leverage and performance. Similar results were observed by Ayange et al. (2021) in Nigeria, where the equity–debt mix was found to significantly influence profitability in line with trade-off theory.

Conversely, other studies highlight the risks associated with excessive leverage. Nenu et al. (2018), examining firms listed on the Bucharest Stock Exchange, found that higher debt levels increase firm risk and negatively affect performance beyond an optimal threshold. Their results underscore the non-linear nature of the leverage–performance relationship and emphasize the importance of maintaining a balanced capital structure. These findings suggest that while moderate leverage may enhance performance, excessive debt can undermine long-term stability and strategic investment.

More recent research extends this discussion by linking capital structure to emerging risks and sustainability challenges. For example, studies show that highly leveraged firms are more vulnerable to macroeconomic shocks, regulatory changes, and climate-related risks. This vulnerability may constrain their ability to invest in long-term initiatives such as innovation, environmental protection, and social responsibility. As such, capital structure not only affects financial performance directly but also shapes firms' strategic choices and capacity to engage in non-financial investments.

Despite these insights, capital structure is rarely examined in conjunction with CSR. Most CSR studies include leverage as a control variable, implicitly assuming that its role is secondary or neutral. This approach overlooks the possibility that financial leverage fundamentally conditions how CSR investments are implemented and perceived by stakeholders.

2.3 Theoretical Framework: Legitimacy and Agency Perspectives

This study integrates legitimacy theory and agency theory to explain why capital structure may condition the CSR–performance relationship. Legitimacy theory posits that firms seek alignment with societal norms and expectations to secure ongoing support from stakeholders (Guthrie & Parker, 2018). CSR serves as a key mechanism through which firms demonstrate accountability, responsiveness, and ethical commitment, thereby enhancing reputation and performance.

However, legitimacy-driven strategies require consistency and credibility. Firms facing severe financial constraints may struggle to sustain meaningful CSR engagement, leading stakeholders to perceive such efforts as symbolic rather than substantive. This limitation suggests that the performance benefits of CSR depend on firms' financial capacity to support long-term legitimacy-building activities.

Agency theory complements this perspective by focusing on how capital structure influences managerial behavior. Debt can reduce agency conflicts by disciplining managers and limiting free cash flow, potentially improving efficiency and performance (Berger & Di Patti, 2006). At the same time, high leverage may discourage discretionary investments, including CSR initiatives, that do not generate immediate cash flows. When applied together, legitimacy and agency theories suggest that capital structure may either facilitate or constrain the effectiveness of CSR.

2.4 Hypotheses Development

Based on the preceding discussion, CSR is expected to enhance firm performance by strengthening legitimacy, stakeholder trust, and reputational capital.

H1: Corporate Social Responsibility positively and significantly influences firm performance.

Capital structure, as a core financial decision, directly affects profitability and risk through its impact on cost of capital and managerial incentives.

H2: Capital structure significantly influences firm performance.

Finally, given that CSR requires sustained financial commitment and strategic flexibility, capital structure is expected to condition the CSR–performance relationship.

H3: Capital structure moderates the relationship between Corporate Social Responsibility and firm performance.

3. Research Methodology

This study adopts a quantitative research design to examine the relationship between Corporate Social Responsibility (CSR) and firm performance, with particular emphasis on the moderating role of capital structure. Given the longitudinal nature of the data and the objective of capturing both cross-sectional and time-series variation, a panel data approach is employed. This section outlines the variable definitions, measurement procedures, empirical model, and data collection strategy.

3.1 Research Design and Variables

The empirical framework is structured to assess the direct effect of CSR on firm performance, the independent effect of capital structure, and the interaction between CSR and capital structure. To enhance the robustness of the findings, several firm-level control variables commonly used in corporate finance and sustainability research are incorporated.

Dependent Variable: Firm Performance

Firm performance serves as the dependent variable in this study and is measured using Return on Assets (ROA). ROA is calculated as net income divided by total assets

and reflects a firm's efficiency in utilizing its asset base to generate profits. This accounting-based measure is widely used in CSR and capital structure research due to its ability to capture operational performance while remaining comparable across firms and industries (Balon et al., 2022; Fahad & Busru, 2021).

Independent Variable: Corporate Social Responsibility

CSR is the primary explanatory variable and is operationalized through a CSR disclosure index constructed from firms' annual reports and sustainability disclosures. Following established methodologies, each CSR disclosure item is assigned to the value of one if disclosed and zero otherwise. The aggregate score represents the overall level of CSR engagement, with higher scores indicating more extensive CSR activities. Disclosure-based CSR indices are commonly used in empirical research, particularly in contexts where standardized ESG ratings may not fully capture firm-specific initiatives (Giannarakis, 2014; Said et al., 2018; Sarkar et al., 2021).

Moderating Variable: Capital Structure

Capital structure is introduced as a moderating variable and is measured using the debt-to-equity ratio. This ratio reflects the proportion of debt financing relative to equity and is a standard proxy for financial leverage. Prior research highlights the relevance of this measure in assessing firms' financial risk, cost of capital, and strategic flexibility (Abdullah & Tursoy, 2021; Ankamah-Yeboah et al., 2021). By interacting capital structure with CSR, the study captures whether leverage conditions the effectiveness of CSR investments in improving firm performance.

Control Variables

Several control variables are included to account for firm-specific characteristics that may influence performance. Firm size is measured as the natural logarithm of total assets, reflecting economies of scale and market power (Shahzad et al., 2021). Firm age is measured as the number of years since incorporation, capturing organizational maturity and learning effects. Liquidity is proxied by the current ratio, calculated as current assets divided by current liabilities, which reflects short-term financial flexibility (Vieira et al., 2019). Finally, the expense ratio, measured as operating expenses divided by total assets, controls cost efficiency and operational intensity (Vieira et al., 2019).

3.2 Empirical Model Specification

To test the proposed hypotheses, a fixed-effects panel regression model is employed. Fixed effects are appropriate given the presence of unobserved, time-invariant firm characteristics such as managerial culture or industry positioning—that may influence CSR engagement and performance. This approach helps mitigate omitted variable bias and improves the internal validity of the estimates.

The econometric model is specified as follows:

where denotes firm and denotes year. The interaction term captures the moderating effect of capital structure on the CSR–performance relationship.

3.3 Sampling and Data Collection

The study relies exclusively on secondary data. The empirical setting is the United Kingdom, focusing on firms listed on the London Stock Exchange. From a population of more than 2,000 listed firms, a purposive sample of 100 companies from the FTSE 100 index is selected. This sampling strategy ensures that the analysis focuses on large, well-established firms with consistent CSR disclosure practices and reliable financial reporting.

The data span a five-year period from 2019 to 2023, providing sufficient temporal variation for panel analysis while capturing recent developments in CSR and sustainable finance. CSR data are manually collected from annual reports and sustainability reports, while financial data including ROA, capital structure, firm size, firm age, liquidity, and expense ratios are extracted from audited financial statements.

This methodological design enables a rigorous examination of how financial structure conditions the performance implications of CSR, offering robust empirical evidence from a developed market context.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2. presents the descriptive statistics for all variables included in the empirical analysis. The results provide an initial overview of firm performance, CSR engagement, capital structure, and firm-specific characteristics among FTSE 100 firms over the 2019–2023 period.

Firm performance, measured by Return on Assets (ROA), exhibits a mean value of 2.475, indicating that, on average, the sampled firms generate approximately 2.5% net income relative to their total assets. This level of profitability is consistent with expectations for large, mature firms operating in developed capital markets and reflects stable operational efficiency rather than aggressive growth strategies. The minimum ROA of 0.254 suggests that even the least profitable firms in the sample maintain positive returns, while the maximum value of 6.369 highlights substantial heterogeneity in performance

outcomes. The relatively high standard deviation (1.683) further confirms notable variation across firms, justifying the use of panel regression techniques to account for firm-specific effects.

CSR engagement, operationalized through a disclosure-based CSR index, shows a mean score of 25.64 out of a maximum of 30 items. This indicates a generally high level of CSR disclosure among FTSE 100 firms, which is expected given regulatory pressure, stakeholder scrutiny, and reputational concerns in the UK context. The narrow range between the minimum (22) and maximum (29) scores suggests that while most firms engage substantially in CSR, meaningful variation still exists in the intensity and breadth of disclosure. This variation is essential for identifying differential performance effects associated with CSR engagement.

Capital structure, measured by the debt-to-equity ratio, has a mean value of 0.40, indicating that, on average, debt accounts for approximately 40% of firms' financing. This level of leverage reflects a balanced financing strategy consistent with trade-off theory, where firms seek to benefit from debt tax shields while avoiding excessive financial distress. The wide range—from 0.10 to 0.923—reveals substantial heterogeneity in leverage policies across firms, reinforcing the relevance of examining capital structure as a conditioning factor rather than a mere control variable.

Firm size, proxied by the natural logarithm of total assets, displays considerable dispersion, highlighting differences in scale even among FTSE 100 firms. Firm age averages nearly 34 years, reflecting the maturity and institutional embeddedness of the firms sampled. Liquidity and expense ratios also show variation, suggesting differences in short-term financial flexibility and cost structures.

Overall, the descriptive statistics indicate sufficient cross-sectional and temporal variation across all key variables, supporting the suitability of panel data analysis.

4.2 Correlation Analysis

Table 3. reports the Pearson correlation coefficients among the study variables. As expected, firm performance exhibits a strong positive correlation with CSR (0.758), providing preliminary evidence that socially responsible firms tend to perform better financially. This finding is consistent with stakeholder and legitimacy-based explanations, which argue that CSR enhances reputation, trust, and operational efficiency (Liu & Lu, 2021; Velte, 2022).

Capital structure is also positively correlated with firm performance (0.641), suggesting that leverage plays an important role in shaping profitability. However, this association should be interpreted cautiously, as correlation does not account for firm-specific heterogeneity or potential endogeneity. Importantly, CSR and capital structure are positively correlated (0.624), indicating that firms with higher CSR engagement tend to maintain particular financing structures. This association reinforces the need to test interaction effects rather than treating CSR and leverage as independent strategic choices.

Among control variables, expense ratio exhibits a moderate negative correlation with firm performance (−0.421), implying that higher operating costs are associated with weaker profitability. Firm size, firm age, and liquidity show weak correlations with performance, suggesting that their effects may be indirect or context dependent.

Crucially, none of the correlation coefficients exceed conventional multicollinearity thresholds, indicating that the variables can be jointly included in regression models without inflating standard errors.

4.3 Diagnostic Tests and Model Selection

Before estimating the panel regression models, several diagnostic tests were conducted to ensure the validity of the results. Variance Inflation Factor (VIF) statistics reported in Table 4 show that all VIF values are well below the critical threshold of 10, with a mean VIF of 1.316. These results confirm the absence of multicollinearity among explanatory variables, allowing for reliable estimation of interaction effects.

The Wooldridge test for autocorrelation indicates no first-order serial correlation in the panel data ($p > 0.05$). This result supports the assumption of independently distributed error terms across time, strengthening the robustness of the regression estimates.

To determine the appropriate panel estimation technique, the Hausman test was applied. The statistically significant test statistic ($p < 0.01$) rejects the null hypothesis in favor of the fixed-effects model. This finding implies that unobserved firm-specific characteristics are correlated with the explanatory variables, making fixed effects the appropriate specification. The fixed-effects approach controls time-invariant heterogeneity, such as managerial culture or industry positioning, which may influence both CSR engagement and firm performance.

4.4 Panel Regression Results

Table 7. presents the results of the fixed-effects regression analysis, with firm performance (ROA) as the dependent variable. The findings provide strong empirical support for all three hypotheses.

CSR and Firm Performance

ISSN: 2791-3171 - https://doi.org/10.54878/n2ved458

The coefficient in CSR is positive and statistically significant at the 1% level ($\beta = 0.631$, $p < 0.01$), supporting H1. This result indicates that higher levels of CSR engagement are associated with superior firm performance among UK firms. Substantively, the finding suggests that CSR functions as a value-enhancing strategic investment rather than a discretionary cost. By improving legitimacy, strengthening stakeholder relationships, and enhancing organizational reputation, CSR contributes to improved operational outcomes.

This evidence aligns with prior studies documenting positive CSR–performance relationships in developed markets (Al-Shammari et al., 2022; Nureen et al., 2023). Importantly, the fixed-effects specification confirms that this relationship persists even after controlling for unobserved firm-specific characteristics, reinforcing the robustness of the result.

Capital Structure and Firm Performance

The coefficient on capital structure is also positive and highly significant ($\beta = 15.62$, $p < 0.01$), supporting H2. This finding indicates that leverage plays a meaningful role in shaping firm performance. Consistent with agency theory, moderate debt levels may discipline managerial behavior and improve efficiency by limiting free cash flow and reducing agency costs (Berger & Di Patti, 2006).

However, this result should not be interpreted as evidence that higher leverage is universally beneficial. Rather, it highlights that within the observed range of capital structures among FTSE 100 firms, leverage contributes positively to performance when managed effectively. This interpretation is consistent with trade-off theory, which emphasizes the existence of an optimal capital structure rather than a monotonic relationship.

Moderating Role of Capital Structure

The interaction term between CSR and capital structure is positive and statistically significant at the 1% level ($\beta = 0.529$, $p < 0.01$), providing strong support for H3. This result confirms that capital structure moderates the relationship between CSR and firm performance.

Specifically, the findings indicate that the positive effect of CSR on performance is amplified when firms maintain certain leverage levels. Capital structure thus acts as a conditioning mechanism that influences the extent to which CSR investments translate into financial returns. Firms with appropriate financing structures are better positioned to sustain CSR initiatives, signal credibility to stakeholders, and absorb the short-term costs associated with responsible practices.

This result advances literature by demonstrating that CSR effectiveness depends not only on governance or institutional factors but also on internal financial policies. Prior studies have largely overlooked this interaction, treating leverage as a control variable rather than a strategic moderator.

Control Variables

Among the control variables, only the expense ratio is statistically significant, with a negative coefficient ($\beta = -14.98$, $p < 0.01$). This result indicates that higher operating costs reduce firm performance, underscoring the importance of cost efficiency even in large firms. Firm size, firm age, and liquidity do not exhibit statistically significant effects, suggesting that their influence on performance is either indirect or already captured by firm fixed effects.

The overall model fit is strong, with an R-squared value of approximately 0.71 and a highly significant F-statistic, indicating that the model explains a substantial proportion of the variation in firm performance.

4.5 Discussion of Findings

The findings of this study offer several important insights. First, they reaffirm the strategic value of CSR in enhancing firm performance, particularly in developed markets where stakeholder expectations and regulatory scrutiny are high. Second, they demonstrate that capital structure is not merely a financial backdrop but an active determinant of CSR effectiveness.

By integrating CSR and capital structure into a unified empirical framework, this study helps explain why prior research has produced mixed results regarding CSR outcomes. Firms operating under severe financial constraints may struggle to convert CSR engagement into performance gains, while those with balanced capital structures are better positioned to reap the benefits of responsible practices.

These findings support a conditional view of CSR, emphasizing that responsible behavior and financial strategy must be aligned to achieve sustainable performance. From a theoretical perspective, the results bridge legitimacy theory and agency theory, showing how financial discipline and stakeholder legitimacy interact to shape firm outcomes.

5. Conclusion

This study examined the relationship between Corporate Social Responsibility and firm performance, with a particular focus on the moderating role of capital structure, using panel data from FTSE 100 firms in the United Kingdom. By adopting a fixed-effects estimation approach, the study provides robust evidence on how financial structure conditions the performance implications of CSR engagement. The empirical findings

demonstrate that CSR has a positive and statistically significant impact on firm performance, supporting the view that socially responsible practices contribute to value creation rather than merely fulfilling ethical obligations. Firms that actively engage in CSR benefit from enhanced legitimacy, stronger stakeholder relationships, and improved operational outcomes. These results reinforce the growing consensus that CSR should be treated as a strategic investment rather than a discretionary cost. In addition, the study finds that capital structure directly influences firm performance. Moderate leverage appears to enhance efficiency and profitability, consistent with agency and trade-off theories of capital structure. More importantly, the interaction analysis reveals that capital structure moderates the CSR–performance relationship. This finding highlights that CSR effectiveness depends on firms' financing strategies, as leverage influences their ability to sustain and credibly implement responsible practices.

The study makes several contributions to literature. First, it extends CSR research by integrating financial structure into the analysis, addressing a key gap in prior studies that treated CSR outcomes as independent of financing decisions. Second, it contributes to corporate finance literature by demonstrating how leverage interacts with non-financial strategies, emphasizing the importance of aligning sustainability objectives with capital structure policies. Third, by focusing on large UK firms, the study provides evidence from a developed market context where CSR practices are institutionalized but performance effects remain debated. From a managerial perspective, the findings suggest that firms should align CSR initiatives with their financing strategies. Excessive leverage may constrain the long-term benefits of CSR by limiting financial flexibility, while balanced capital structures enable firms to maximize the performance returns of responsible practices. For investors, the results underscore the importance of considering financial structure when evaluating the value relevance of CSR and ESG initiatives.

Despite its contributions, the study has limitations. It focuses on a single country and a five-year period, which may limit generalizability. Future research could extend the analysis to other institutional contexts, incorporate alternative performance measures, or explore non-linear moderation effects. Overall, this study demonstrates that CSR and capital structure are jointly determined drivers of firm performance. Sustainable corporate success requires not only responsible behavior but also financial strategies that support long-term value creation.

Acknowledgements

The authors acknowledge the use of ChatGPT, an AI language model developed by OpenAI, for assistance with English language editing, grammar correction, and improving clarity of expression. The use of this tool was limited to linguistic refinement only. All ideas, analyses, interpretations, and conclusions presented in this paper are solely those of the authors, who take full responsibility for the content.

References

Abdullah, H., & Tursoy, T. (2021). Capital structure and firm performance: Evidence of Germany under IFRS adoption. Review of Managerial Science, 15(2), 379–398.

Al-Shammari, M. A., Banerjee, S. N., & Rasheed, A. A. (2022). Corporate social responsibility and firm performance: A theory of dual responsibility. Management Decision, 60(6), 1513–1540.

Alawi, S. (2024). The role of corporate social responsibility, ownership structure, and gender diversity in firm performance. International Journal of Economics and Financial Issues, 14(2), 97–110.

Ankamah-Yeboah, I., Nielsen, R., & Llorente, I. (2021). Capital structure and firm performance: Agency theory application to Mediterranean aquaculture firms. Aquaculture Economics & Management, 25(4), 367–387.

Ansong, A. (2017). Corporate social responsibility and firm performance of Ghanaian SMEs: The role of stakeholder engagement. Cogent Business & Management, 4(1), 1333704.

Ayange, A., Emmanuel, N. C., Rosemary, I. H., Ndudi, U. C., & Samuel, U. E. (2021). Effect of capital structure on firms performance in Nigeria. Universal Journal of Accounting and Finance, 9(1), 15–23.

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.

Balon, V., Kottala, S. Y., & Reddy, K. S. (2022). Mandatory corporate social responsibility and firm performance in emerging economies: An institution-based view. Sustainable Technology and Entrepreneurship, 1(3), 100023.

Berger, A. N., & Di Patti, E. B. (2006). Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. Journal of Banking & Finance, 30(4), 1065–1102.

Fahad, P., & Busru, S. A. (2021). CSR disclosure and firm performance: Evidence from an emerging market. Corporate Governance: The International Journal of Business in Society, 21(4), 553–568.

Fatma, M., Khan, I., Kumar, V., & Shrivastava, A. K. (2022). Corporate social responsibility and customer-citizenship behaviors: The role of customer–company identification. European Business Review, 34(6), 858–875.

Giannarakis, G. (2014). The determinants influencing the extent of CSR disclosure. International Journal of Law and Management, 56(5), 393–416.

Ginglinger, E., & Moreau, Q. (2023). Climate risk and capital structure. Management Science, 69(12), 7492–7516.

Guthrie, J., & Parker, L. D. (2018). Corporate social reporting: A rebuttal of legitimacy theory. Accounting and Business Research, 19(76), 343–352.

Hakimi, A., Boussaada, R., & Karmani, M. (2023). Corporate social responsibility and firm performance: A threshold analysis of European firms. European Journal of Management and Business Economics. Advance online publication.

Hu, Q., Zhu, T., Lin, C. L., Chen, T., & Chin, T. (2021). Corporate social responsibility and firm performance in China's manufacturing: A global perspective of business models. Sustainability, 13(4), 2388.

Khan, M. I. M., Saeed, A. A., & Hussain, Z. (2024). Analyzing the Role of Stakeholder Analysis in Strategic Decision-Making. Contemporary Journal of Social Science Review, 2(04), 1099-1108.

Lee, T. T. (2023). Corporate social responsibility and SMEs' performance: Mediating role of corporate image, corporate reputation and customer loyalty. International Journal of Emerging Markets, 18(10), 4565–4590.

Lian, Z. (2022). The nexus between CSR disclosure, effective tax rate, corruption, and sustainable business performance: Evidence from ASEAN countries. Economic Research-Ekonomska Istraživanja, 35(1), 5357–5378.

Liu, M., & Lu, W. (2021). Corporate social responsibility, firm performance, and firm risk: The role of firm reputation. Asia-Pacific Journal of Accounting & Economics, 28(5), 525–545.

Maury, B. (2022). Strategic CSR and firm performance: The role of prospector and growth strategies. Journal of Economics and Business, 118, 106031.

Miller, S. R., Eden, L., & Li, D. (2021). CSR reputation and firm performance: A dynamic approach. Journal of Business Ethics, 163, 619–636.

Mitra, N. (2021). Impact of strategic management, corporate social responsibility on firm performance in the post mandate period: Evidence from India. International Journal of Corporate Social Responsibility, 6(1), 3–13.

Muhammad, H., Migliori, S., & Mohsni, S. (2021). Capital structure and firm performance: The role of corporate governance. International Journal of Business Governance and Ethics, 15(4), 436–458.

Nenu, E. A., Vintilă, G., & Gherghina, Ş. C. (2018). The impact of capital structure on risk and firm performance: Empirical evidence for the Bucharest Stock Exchange listed companies. International Journal of Financial Studies, 6(2), 41.

Ngo, Q. H., & Le, T. T. (2023). Role of corporate social responsibility on firm performance in emerging economy: The mediating role of access to finance and business model innovation. Cogent Business & Management, 10(2), 2232585.

Novitasari, M., Wijaya, A. L., Agustin, N. M., Gunardi, A., & Dana, L. P. (2023). Corporate social responsibility and firm performance: Green supply chain management as a mediating variable. Corporate Social Responsibility and Environmental Management, 30(1), 267–276.

Nureen, N., Liu, D., Irfan, M., & Işik, C. (2023). Nexus between corporate social responsibility and firm performance: A green innovation and environmental sustainability paradigm. Environmental Science and Pollution Research, 30(21), 59349–59365.

Okafor, A., Adeleye, B. N., & Adusei, M. (2021). Corporate social responsibility and financial performance: Evidence from US tech firms. Journal of Cleaner Production, 292, 126078.

Ozkan, A., Temiz, H., & Yildiz, Y. (2023). Climate risk, corporate social responsibility, and firm performance. British Journal of Management, 34(4), 1791–1810.

Riaz, N., Hussain, Z., Ahmed, J., & Lodhi, K. (2024). THE ROLE OF EMOTIONAL INTELLIGENCE IN EFFECTIVE MANAGEMENT DECISION-MAKING. Contemporary Journal of Social Science Review, 2(04), 13-22.

Rossi, M., Chouaibi, J., Chouaibi, S., Jilani, W., & Chouaibi, Y. (2021). Does a board characteristic moderate the relationship between CSR practices and financial performance? Evidence from European ESG firms. Journal of Risk and Financial Management, 14(8), 354.

Saha, R., Shashi, Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. Corporate Social Responsibility and Environmental Management, 27(2), 409–429.

Said, R., Abd Samad, K., Mohd Sidek, N. Z., Ilias, N. F., & Omar, N. (2018). Corporate social responsibility disclosure index of Malaysian Shariah–compliant companies. International Journal of Ethics and Systems, 34(1), 55–69.

Sarkar, S., Chatterjee, M., & Bhattacharjee, T. (2021). Does CSR disclosure enhance corporate brand performance in emerging economy? Evidence from India. Journal of Indian Business Research, 13(2), 253–269.

Shahzad, A., Azeem, M., Nazir, M. S., Vo, X. V., & Linh, N. T. (2021). The determinants of capital structure: Evidence from SAARC countries. International Journal of Finance & Economics, 26(4), 6471–6487.

Velte, P. (2022). Meta-analyses on corporate social responsibility (CSR): A literature review. Management Review Quarterly, 72(3), 627–675.

Vieira, E. S., Neves, M. E., & Dias, A. G. (2019). Determinants of Portuguese firms' financial performance: Panel data evidence. International Journal of Productivity and Performance Management, 68(7), 1323–1342.

Yang, J., & Basile, K. (2021). Communicating corporate social responsibility: External stakeholder involvement, productivity and firm performance. Journal of Business Ethics, 1–17.

Yeon, J., Lin, M. S., Lee, S., & Sharma, A. (2021). Does family matter? The moderating role of family involvement on the relationship between CSR and firm performance. International Journal of Contemporary Hospitality Management, 33(10), 3729–3751.

Zhang, J., & Wang, Y. (2022). Effectiveness of corporate social responsibility activities in the COVID-19 pandemic. Journal of Product & Brand Management, 31(7), 1063–1076.