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ResearchArticle

CAPITAL STRUCTURE, CEO DUALITY AND THEIR ROLE IN ENHANCING FINANCIAL SUSTAINABILITY: INSIGHTS FROM VIETNAMESE FIRMS

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ABSTRACT

This study investigates the influence of capital structure and CEO duality on firm financial sustainability, using a panel dataset of publicly listed companies in Vietnam from 2018 to 2022. Two dimensions of sustainability are examined: financial sustainability and operational self-sufficiency, capturing both financial and operational performance. Employing the Generalised Least Squares method, the analysis reveals that capital structure metrics namely debt to total assets and debt to equity ratios significantly affect firm sustainability outcomes, with CEO duality serving as a moderating variable. The findings indicate that a higher debt to total assets ratio adversely impacts both financial sustainability and operational self-sufficiency. In contrast, a higher debt to equity ratio is positively associated with financial sustainability and CEO duality moderates the influence between capital structure and financial sustainability. These results highlight the role of optimal capital structuring and strategic leadership in sustaining firm performance. The study contributes to the literature on corporate governance in emerging markets and provides practical implications for policymakers, management teams, and investors, emphasising the importance of leadership configuration and financing strategies in promoting long-term sustainability.

Keywords: Capital structure, CEO duality, Financial sustainability, Vietnamese List companies, Moderator

INTRODUCTION

Financial sustainability (FS) is a fundamental aspect of corporate performance, ensuring that firms maintain long-term viability, meet financial obligations and achieve sustainable growth (Hariyanti et al., 2024; Lamanauw & Lalowang, 2024). FS can be defined as a firm's ability to continue delivering value while managing risks and utilising financial resources effectively (Zabolotnyy & Wasilewski, 2019). According to Jordão and de Almeida (2017), FS includes maintaining liquidity, profitability, and solvency, thereby securing the firm's ongoing operational capacity. Similarly, Delas et al. (2015) emphasise FS as the capacity to meet stakeholder expectations and ensure stability through well-structured financing. Osazefua Imhanzenobe (2020) adds that FS encompasses not only profitability but also the capacity to reinvest in future growth without relying excessively on external financing. Ahmad, Ting, et al. (2022) further conceptualise FS from a sustainable growth-based performance perspective, which aligns with the measurement approach adopted in this study, emphasising capital structure as a key determinant of firms' long-term survival. This perspective highlights the strategic management of internal and external financing to maintain financial health over time in dynamic and often constrained environments, such as emerging markets (Basiru et al., 2023).

Capital structure (CS), the way a firm balances its use of debt and equity financing plays a critical role in shaping FS. It holds a dual influence by directly affecting borrowing costs, financial risk exposure and the firm's operational and strategic flexibility (Alipour et al., 2015; Modigliani & Miller, 1958). A firm's choice of CS not only determines its cost of capital but also influences its resilience to external shocks, ability to seize growth opportunities, and overall risk profile. From a sustainability standpoint, a well-structured and balanced capital mix can support long-term financial health (Cantino et al., 2017) by ensuring sufficient liquidity and minimising the vulnerabilities associated with over-leveraging. In contrast, an overreliance on debt can lead to higher interest obligations, reduced creditworthiness, and constrained investment capacity, ultimately undermining the firm's ability

to sustain operations during periods of economic uncertainty (Frank & Goyal, 2009). Therefore, prudent CS decisions are essential to achieving and maintaining FS, particularly in volatile or capital-constrained environments.

On one hand, using debt financing can positively impact FS by providing tax advantages (interest tax shields), lowering the weighted average cost of capital, and enabling firms to fund expansion without diluting ownership (Modigliani & Miller, 1958). This financial leverage can boost returns on equity and support long-term growth when firms manage debt efficiently and operate in stable environments (Frank & Goyal, 2009). Several empirical studies support this view. For example, Kong et al. (2023) and Climent Serrano et al. (2018) found that a well-managed debt ratio enhances FS by increasing shareholder returns and supporting investment activities. On the other hand, excessive reliance on debt can negatively affect FS, especially when firms face volatile cash flows, rising interest rates or economic shocks. High leverage increases fixed obligations, elevates default risk, and limits a firm's flexibility to invest or adapt (Opler & Titman, 1994). In such cases, the burden of debt outweighs its benefits, undermining financial stability and sustainability. Empirical findings by Nazir et al. (2021) and Ullah et al. (2020) showed that high debt levels are linked to lower profitability and greater financial distress, particularly in developing countries. In some cases, studies find no significant effect of CS on FS, suggesting that other factors, such as governance structures, might influence this relationship (Ahmad, Ting, et al., 2022; Mwangi et al., 2014). These conflicting results indicate the need for further research to understand how different governance factors shape the impact of CS on FS.

In emerging economies like Vietnam, CS is even more important. Vietnamese firms often face high borrowing costs and limited access to external finance (Nguyen & Nguyen, 2020b). This makes it harder for them to find the right balance between debt and equity financing. Some firms use more debt to fund growth, while others avoid it to reduce risk.

Building on this, CEO duality, where one person serves as both the CEO and the Chairperson of the Board, plays a unique role in financial decision-making. Unlike broader governance attributes such as board size or ownership concentration, CEO duality represents a unique concentration of decision-making power in one individual (Wijethilake & Ekanayake, 2020) who simultaneously holds the roles of Chief Executive Officer and Chairperson of the Board. This dual role can significantly affect the firm's

financial policy, especially the balance between debt and equity financing, which is central to FS (Mubeen et al., 2020) and this would directly bring impact to FS (Chen et al., 2018; Hussain et al., 2023). Theoretically, it reflects a balance between agency theory and leadership unity (Banerjee et al., 2020). Since CS decisions involve balancing financial risk with long-term growth objectives, CEO duality may either strengthen or weaken the relationship between CS and FS, depending on the firm's governance context (Banerjee et al., 2020; Saygili et al., 2022). From one perspective, CEO duality can enhance FS by enabling faster and more cohesive financial decision-making, particularly in complex or rapidly changing environments. This centralisation of authority may promote strategic consistency and agility in managing CS. From another perspective, if the dual role leads to insufficient oversight, especially in firms with weaker leadership or governance mechanisms, it can increase financial risk and undermine FS (Hussain et al., 2023; Saygili et al., 2022; Hussain et al., 2019). Therefore, the impact of CEO duality on the CS and FS nexus is contingent upon the effectiveness of the broader governance framework. This study seeks to address this gap by examining the moderating effect of CEO duality on the relationship between CS and FS.

This study sets Vietnamese publicly listed firms as the subject for several reasons. First, Vietnam, as an emerging economy with a developing financial market, presents a context where firms face persistent challenges such as limited access to long-term capital, reliance on bank-based financing, and high borrowing costs due to underdeveloped credit infrastructure (Bui & Nguyen, 2025). These constraints make CS decisions particularly strategic and impactful, thereby intensifying their relationship with FS. Second, although Vietnam has implemented corporate governance reforms—such as Decree 71/2017/ND-CP—CEO duality remains prevalent, especially in family-owned or state-affiliated firms (Van Khanh et al., 2020). The dual role of CEO and board chair often results in concentrated leadership and diminished board independence. In such settings, understanding whether CEO duality moderates financial risks becomes crucial. It is in this evolving but inconsistently enforced governance environment that CEO duality may play a moderating role in the CS–FS nexus. Third, insights from Vietnam have broader relevance for other emerging markets that share similar governance and institutional characteristics. Many developing economies in Asia and beyond face comparable challenges, such as weak investor protection, governance inefficiencies and limited capital market

development (Le et al., 2023). Therefore, examining Vietnam not only fills a contextual gap in the literature but also generates findings that are transferable to a wider set of countries experiencing similar institutional voids. With the statements above, this study intends to examine how CS affects the FS of publicly listed firms in Vietnam. Additionally, the study aims to investigate the moderating role of CEO duality in the relationship between CS and FS.

This study contributes to the corporate finance and governance literature by providing evidence from Vietnam, an emerging market with unique financial and governance challenges (Nguyen & Nguyen, 2020b). First, it examines how CS affects FS and explores CEO duality as a moderating factor, offering insights into how leadership authority shapes financial outcomes (Nguyen, Le, et al., 2023). Second, the findings guide corporate managers in optimising CS and governance, especially where CEO duality is present. By using two measures FS and OSS, this study provides a clearer picture of how leadership and financing decisions impact long term financial health, particularly in markets with limited access to low-cost capital like Vietnam (Pham, 2020). The results also support policymakers in promoting sustainable financial practices essential for economic growth.

LITERATURE REVIEW

Theoretical Disagreement

The Trade-Off Theory suggests that firms aim to reach an optimal capital structure by balancing the benefits of debt such as tax shields, with the risks of financial distress (Modigliani & Miller, 1958); Schoenmaker & Schramade, 2023; Brockett & Rezaee, 2012). In the context of FS, this balance is critical because FS reflects a firm's ability to maintain long-term operations, meet obligations, and adapt to economic fluctuations without compromising future viability. According to this theory, a moderate level of debt can enhance FS by lowering the weighted average cost of capital and freeing up resources for investment, thereby supporting operational self-sufficiency and long-term value creation. However, excessive leverage erodes FS by heightening bankruptcy risk, straining cash flows and reducing the firm's capacity to withstand market shocks (Schoenmaker & Schramade, 2023; Brok, 2024; Miller, 1977; Naomi, 2023; Brockett & Rezaee, 2012).

In emerging markets such as Vietnam where capital markets are less mature and financing options are limited, the CS-FS relationship is even more pronounced. High debt levels may offer immediate growth opportunities but also expose firms to amplified risks from interest rate fluctuations, currency instability, and volatile economic conditions (Nguyen & Nguyen, 2020a). This means that in pursuit of FS, firms must manage their capital structure carefully, weighing the marginal benefits of additional debt against the potential erosion of long-term sustainability.

In contrast, the Pecking Order Theory argues that firms prioritise internal financing over external financing and they prefer equity over debt due to lower issuance costs (Myers & Majluf, 1984). This theory posits that CS decisions are often driven by the availability of internal resources rather than the pursuit of an optimal CS. From this perspective, firms that rely too heavily on external financing, especially debt, may face greater financial risks, ultimately jeopardising their long-term sustainability. The Pecking Order Theory implies that firms may not always aim to optimise CS, but rather to minimise the costs associated with financing decisions, potentially leading to FS risks if debt becomes too burdensome.

The divergence between these two theories—the Trade-Off Theory suggesting a positive relationship between CS and FS, and the Pecking Order Theory indicating that excessive debt can negatively impact FS, highlights the complexity of the CS-FS relationship. Empirical studies reflect this theoretical disagreement. Some studies have reported that CS has a positive impact on FS (Kong et al., 2023; Dabi et al., 2023). Other studies have indicated a negative relationship between CS and FS, where excessive debt harms FS or shows no clear effect (Nazir et al., 2021; Ahmad, Hassan, et al., 2022). This disagreement highlights the need for a moderating variable to explain under which conditions CS supports or undermines FS. Some research has found no significant relationship between CS and FS (Mwangi et al., 2014). Moreover, these differing views underscore the importance of moderating factors that can clarify how CS decisions affect FS in different contexts.

Agency Theory Type I highlights the conflict between shareholders and CEOs (agents) in firms with dispersed ownership. While shareholders delegate decision-making to CEOs, the latter may act in their own interests rather than maximising shareholder value. This misalignment leads to

agency problems, including monitoring costs, bonding costs, and residual losses (Jensen & Meckling, 1976). Conflicts often arise over CS, use of free cash flow, and due to information asymmetry. For instance, CEOs may avoid debt to reduce bankruptcy risk or invest in low-return projects to expand the firm, contrary to shareholder preferences. CEO duality where the CEO also chairs the board can worsen these agency problems. It concentrates power, weakens board oversight, and reduces accountability, making it harder for shareholders to align management actions with their interests. Under Agency Theory Type I, CEO duality can alter the debt–FS relationship by influencing how CS decisions are made. Duality may weaken this relationship by reducing board oversight (Duru et al., 2016), enabling CEOs to deviate from optimal debt usage and increasing financial distress risk (Bhabra & Hossain, 2024). However, in some contexts, it may strengthen the relationship by allowing faster, more consistent strategic decisions that optimise debt benefits for long-term FS. Although duality may bring leadership stability in certain contexts, from the perspective of Agency Theory Type I, it generally intensifies agency conflicts and undermines firm governance. By considering CEO duality, this study can offer a deeper explanation of how CS choices impact FS, potentially reconciling the conflicting views within the existing literature.

Hypotheses Development

Capital structure and financial sustainability

Existing empirical evidence shows no specific pattern in the effects of CS on FS. According to the Trade Off Theory, firms seek to balance the benefits of debt, such as tax shields, against the costs of financial distress (Myers, 1984; Miller, 1977). This theory suggests that moderate levels of debt can enhance financial performance and sustainability, hence, CS decisions are central to FS. We found several studies similar to ours, but focused on other countries e.g., Ghana, Nigeria, Iran, Pakistan and Malaysia.

Wu et al. (2023) conducted an in-depth examination of the interplay between liquidity, CS and FS across 28 publicly listed non-financial firms in Ghana, covering the years 2008 to 2019. Their analysis revealed that a well-structured capital base positively influenced the FS of the firms. Similarly, Abdul (2017) carried out an analytical assessment involving nine institutions in Nigeria and found a significant and beneficial linkage

between CS and FS. The findings suggested that enhancements in CS were instrumental in strengthening the financial resilience of these organisations. In the context of Pakistan, Rehman (2013) explored listed sugar companies and affirmed a positive relationship between CS and FS, aligning with the findings from Ghana and Nigeria. Meanwhile, Ayaz et al. (2021) evaluated 528 non-financial firms listed on Bursa Malaysia over a 12-year period (2005–2016) and concluded that CS plays a significant role in enhancing firm performance.

In contrast, a study by Moghaddam et al. (2015), which analysed 50 listed firms in Iran, identified a negative correlation between CS and FS, implying that increased reliance on debt financing might undermine long-term financial stability. Similarly, Fonchamnyo et al., (2023) examined the impact of CS on the FS of Microfinance Institutions (MFIs) in Bamenda, Cameroon from 2014 to 2020. The results reveal a statistically significant negative relationship between CS and the FS of MFIs. The result was consistent with Sekabira (2013) who highlighted that both debt and grants have a notably adverse impact on the FS of MFIs in Uganda.

In Vietnam, where firms often rely heavily on debt due to limited access to equity and underdeveloped capital markets, CS decisions play a critical role in shaping FS (Nguyen & Nguyen, 2020a; Pham, 2020). This makes Vietnam a relevant case for testing this relationship in emerging economies. Hence, based on the statements above, the first hypothesis is developed as follows:

H1: Capital structure has a significant impact on financial sustainability.

CEO duality is a key determinant of a firm's success and financial sustainability (FS). CEOs fulfill multiple vital roles within an organisation, including serving as primary decision-makers (Pearce & Zahra, 1991), managing risk (Glowka et al., 2021), and setting strategic direction (Andrus et al., 2025). These responsibilities highlight the influence of CEO authority in shaping long-term financial health. From an Agency Theory Type I perspective, CEOs and shareholders may differ in their preferences for financing: while shareholders often favour debt to discipline management and enhance returns, CEOs may prefer equity financing to reduce bankruptcy risk and preserve control (Eckbo et al., 2016).

When CEO duality is present, the same individual holds both the CEO and board chair roles, concentrating decision-making power and potentially weakening independent oversight. On one hand, when the CEO also serves as board chair can exacerbate these agency problems by concentrating decision-making power in one individual, reducing independent board oversight, and weakening the checks and balances that align management's actions with shareholders' long-term interests (Wijethilake & Ekanayake, 2020). In this scenario, duality may weaken the positive impact of debt on FS, as the lack of oversight allows CEOs to deviate from optimal debt usage, either by underleveraging (foregoing the tax benefits and discipline of debt) or overleveraging (pursuing risky expansion), thereby increasing financial distress risk. One the other hand, in certain contexts such as in smaller firms or volatile markets, CEO duality may strengthen the debt–FS relationship by enabling faster strategic decisions and consistent leadership, allowing firms to adjust CS swiftly in response to external shocks (Tran, 2025). This can exacerbate agency problems, which allowing CEOs to avoid debt discipline or channel resources toward low-return projects for personal benefit (Burkart & Panunzi, 2006; Karim, 2021) and this may dampen the positive influence of optimal CS on FS.

In Vietnam, where governance mechanisms are still developing, this effect may be more pronounced, as boards may lack the independence and authority to counterbalance CEO power (Nguyen & Nguyen, 2020b). Therefore, CEO duality is expected to weaken the CS–FS link by reducing the likelihood that debt is used in a way that supports long-term sustainability. With the statements above, the hypothesis is developed as follows:

H2: CEO duality significantly moderates the relationship between capital structure and firm financial sustainability.

RESEARCH DESIGN

Data Sources

The data for this study was collected from companies listed on both the Ho Chi Minh City and Hanoi Stock Exchanges for the period from 2018 to 2022. Secondary data sources included company annual reports, audited

financial statements, and relevant market information. The final sample consisted of 671 firms, yielding a total of 3,355 firm-year observations. To ensure consistency and reliability, the sample was refined to include only companies with a January to December fiscal year, continuous operations, actively traded shares, and adequate information disclosure throughout the study period. Companies under special monitoring, those facing potential delisting, and financial institutions such as banks and insurance companies were excluded due to their distinct operational characteristics. The final sample, classified into 15 sectors according to the NAICS classification system, is detailed in Table 1.

TABLE 1
The sample of research

No	Industry	Total
1	Accommodation and Food Services	6
2	Agriculture Production	13
3	Arts, entertainment and recreation	1
4	Construction and Real Estate	160
5	Finance and Insurance	4
6	Information and technology	29
7	Manufacturing	231
8	Mining, quarrying, and oil and gas extraction	29
9	Professional, Scientific and Technical Services	12
10	Retail trade	21
11	Support services and waste treatment	3
12	The Health Care and Social Assistance	1
13	Transportation and Warehousing	58
14	Utilities	46
15	Wholesale Trade	57
	Grand Total	671

Source: By author

Variables Measurement

Independent variables – CS. Following Kong et al., (2023) and Ahmad, Ting, et al., (2022), this study used total debt to total asset ratio (DTA) and total debt over total equity (DTE) to measure CS.

Dependent variable – FS. The FS is measured using the formula: FS = Profit Margin × Retention Ratio × Asset Turnover × Leverage Ratio (Islam & Diba, 2024; Tao et al., 2024; Ahmad, Ting, et al., 2022). As another proxy of FS measure, this study used operational self-sufficiency (OSS) is calculated as the ratio of total revenue to total expenses (Islam & Diba, 2024; Ahmad, Ting, et al., 2022).

Moderating variable – CEO Duality. CEO duality (CDUA) serves as a moderating variable, with a value of 1 indicating that the CEO also holds the position of chairperson of the board (Bhaskar et al., 2024; Le et al., 2023).

Control variables. Operational efficiency, assets tangibility, firm size, assets growth and return on assets are included as control variables to account for key financial factors, allowing for a clearer assessment of CS's impact on FS. Operational efficiency (EFF) is measured as gross revenue divided by total assets (Ahmad, Ting, et al., 2022); Assets tangibility (TAN) is measured as tangible assets over total assets (Kong et al., 2023); Firm size (SIZE) is measured as the natural logarithm of total assets (Islam & Diba, 2024); Assets growth (GRO), calculated as the percentage change in asset size from the previous year (Kong et al., 2023); and return on equity (ROE) is calculated as net income divided by shareholder equity (Kong et al., 2023).

Estimation strategy

To examine the relationship between CS and FS, a series of regression models were estimated. The Ordinary Least Squares (OLS) regression was first conducted with FS as the dependent variable. The Breusch-Pagan Lagrangian Multiplier test (p-value = 0.4849) indicated that the Pooled OLS model was appropriate. The results revealed that the model explained 40.58% of the variation in FS and was statistically significant. Diagnostic tests confirmed the absence of multicollinearity and autocorrelation. However, the Breusch-Pagan test detected heteroskedasticity, prompting the use of Generalised Least Squares (GLS) to obtain efficient and unbiased parameter estimates (Hayes & Cai, 2007). In the second phase of the analysis, OSS, an alternative proxy for FS was examined using a Fixed Effects Model (FEM). The F-test confirmed significant firm-level heterogeneity, justifying the use of FEM over Pooled OLS. In addition, the Breusch-Pagan Lagrangian Multiplier

test indicated that the Random Effects Model (REM) was not suitable. This was further supported by the Hausman test, which yielded a *p*-value below 0.05 (Baltagi, 1998) validating FEM as the more appropriate estimator. Diagnostic checks for the FEM model indicated no signs of multicollinearity or autocorrelation. However, evidence of heteroskedasticity necessitated the application of robust standard errors to ensure reliable inference.

To further explore the dynamics between CS and FS, CEO duality was used as a moderating variable. For the FS model, both OLS and GLS estimations were extended to include interaction terms between CS and CEO duality. While the initial OLS model showed significance, the presence of heteroskedasticity necessitated the use of GLS for more robust inference. Similarly, the OSS model was re-estimated using FEM and GLS with the inclusion of the interaction between CS and CEO duality. The FEM continued to be the preferred specification based on the F-test and Hausman test outcomes.

To address potential endogeneity concerns in the relationship between CS and FS, a Two-Stage Least Squares (2SLS) regression (Zahid et al., 2020) was employed as a robustness check. In this study, ROE and GRO were used as instrumental variables. Both instruments are theoretically and empirically relevant: ROE reflects firm profitability, which may influence financing decisions (Muiruri & Wepukhulu, 2018), while asset growth captures firm expansion that may necessitate external funding (Setiadharma & Machali, 2017).

Regression Models

This study has the following regression models. Equations (1) and (2) are developed to test the impact of CS on the FS.

$$FS_{it} = \alpha_0 + \alpha_1 DTA_{it} + \alpha_2 DTE_{it} + \alpha_3 EFF_{it} + \alpha_4 TAN_{it} + \alpha_5 SIZE_{it} + \alpha_6 GRO_{it} + \alpha_7 ROE_{it} + \varepsilon_{it} \quad (1)$$

$$OSS_{it} = \alpha_0 + \alpha_1 DTA_{it} + \alpha_2 DTE_{it} + \alpha_3 EFF_{it} + \alpha_4 TAN_{it} + \alpha_5 SIZE_{it} + \alpha_6 GRO_{it} + \alpha_7 ROE_{it} + \varepsilon_{it} \quad (2)$$

The study also examines the moderating effect of CDUA on the relationship between CS and FS. Equations (3) and (4) test the moderating effect of CDUA.

$$FS_{it} = \alpha_0 + \alpha_1 DTA_{it} + \alpha_2 DTE_{it} + \alpha_3 CDUA_{it} + \alpha_4 DTA \times CDUA_{it} + \alpha_5 DTE \times CDUA_{it} + \alpha_6 EFF_{it} + \alpha_7 TAN_{it} + \alpha_8 SIZE_{it} + \alpha_9 GRO_{it} + \alpha_{10} ROE_{it} + \varepsilon_{it} \quad (3)$$

$$OSS_{it} = \alpha_0 + \alpha_1 DTA_{it} + \alpha_2 DTE_{it} + \alpha_3 CDUA_{it} + \alpha_4 DTA \times CDUA_{it} + \alpha_5 DTE \times CDUA_{it} + \alpha_6 EFF_{it} + \alpha_7 TAN_{it} + \alpha_8 SIZE_{it} + \alpha_9 GRO_{it} + \alpha_{10} ROE_{it} + \varepsilon_{it} \quad (4)$$

where α is a constant term; i = firm; t = year; FS is financial sustainability; OSS is operational self-efficiency; DTA is total debt to total asset ratio; DTE is total debt to equity ratio; CDUA is CEO duality; EFF is operational efficiency; TAN is assets tangibility; SIZE is firm size; GRO is assets growth; ROE is return on equity and ε is an error term.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 presents the descriptive statistics of regression variables. The dependent variables FS with a wide range from –10.4251 to 79.1325, indicating significant variation in FS across firms. FS mean is lower than the average of 0.062 reported by Nguyen, Nguyen, et al. (2023) for Vietnamese firms during 2017–2020, suggesting slightly lower FS in our sample period. OSS, the second dependent variable, shows an average of 0.1271, with values ranging from –16.8768 to 8.1591, highlighting substantial differences in firms' operational sustainability. This OSS mean is close to 0.13 as reported by Nguyen, Le, et al. (2023), indicating consistency in OSS across periods.

For the independent variables, DTA averages 0.470, indicating firms typically have about 47% of their assets financed by debt. This is slightly lower than the 48% debt ratio reported by Nguyen and Nguyen (2020b) from 2020 to 2023. DTE has an average of 1.611, suggesting that total debt to total equity is 1.611, suggesting variation in CS, and this value is comparable to the 1.65 average reported by Do and Vo (2023) for firms in the manufacturing sector.

CDUA has a mean of 0.105, showing that 10.5% of firms have a CEO who also serves as board chair. This is consistent with the 11% CEO duality reported by (Hai et al., 2022), confirming the prevalence of dual leadership in Vietnamese firms. The mean of EFF is 1.150, with a wide range in how efficiently firms use their assets. This mean is slightly higher than the 1.10 efficiency reported by Bui and Nguyen (2025), suggesting improved asset utilisation. TAN averages 0.1918, meaning firms hold around 19.1% of their assets in tangible form, which aligns closely with the 0.20 reported by Nguyen and Nguyen (2020a). SIZE has an average of 27.647, implying that the firm's total assets are VND1,016 billion, on average. This is slightly smaller than the average of 28.2 observed by Do and Vo (2023), possibly due to the inclusion of more small- and medium-sized firms in our sample. GRO has mean of 0.241, implying the changes in asset size is 24.1%. This is lower than the 0.31 average reported by Nguyen, Nguyen, et al. (2023), suggesting slower asset growth during our study period. The mean value of ROE is 0.079, explaining that the net income generated from total equity is 7.9%. ROE mean is similar to the 0.08 reported by Do and Vo (2023), reflecting stable profitability trends.

TABLE 2
Descriptive statistics of the variables

Variable	Mean	S. D.	Min	Max
FS	0.046	1.475	–10.425	79.132
OSS	0.127	0.458	–16.876	8.159
DTA	0.470	0.225	0.000	1.375
DTE	1.611	4.696	–6.939	140.258
CDUA	0.105	0.307	0	1.000
EFF	1.150	1.291	0	13.998
TAN	0.191	0.202	0	0.962
SIZE	27.647	1.652	23.321	33.989
GRO	0.241	5.308	–0.841	261.335
ROE	0.079	0.845	–40.886	1.586

Notes: FS = Financial sustainability; OSS = Operational self-sufficiency; CDUA = CEO duality; DTA = Debt to total asset ratio; DTE = Debt to equity ratio; EFF = Operational efficiency; TAN = Assets tangibility; SIZE = Firm size; GRO = Assets growth; ROE = Return on equity

Correlation Analysis

The correlation matrix in Table 3 shows the relationships between the variables in the model as follows: DTA has a positive correlation with FS (0.034) is at 5% significant, indicating found that higher financial leverage can enhance FS. Similarly, DTE has a positive relationship with FS (0.572) is at 1% significant, indicating that a higher DTE ratio contributes positively to FS. In contrast, OSS has a negative correlation with both DTA (–0.148) and DTE (–0.060) are 1% significant, suggesting that higher leverage decreases a firm's ability to cover operational costs. CDUA shows no significant relationship with FS or OSS, but it has a slight negative correlation with SIZE (–0.033) is at 1% significant. EFF negatively correlates with OSS (–0.124) is at 1% significant, showing that less efficient firms struggle with OSS. At the 1% significant level, ROE has a negative relationship with FS (–0.604), indicating that higher the returns on equity, poorer the FS. Whereas ROE is strong positive relationship with OSS (0.071). The results show that there is no serious multicollinearity issue among the variables.

TABLE 3
Pearson correlation matrix

	FS	OSS	DTA	DTE	CDUA	EFF	TAN	SIZE	GRO	ROE
FS	1									
OSS	–0.02	1								
DTA	0.034**	–0.148***	1							
DTE	0.572***	–0.060***	0.361***	1						
CDUA	–0.007	–0.017	0.007	–0.002	1					
EFF	–0.019	–0.124***	0.025	–0.003	–0.046***	1				
TAN	–0.006	0.024	–0.029	–0.051***	–0.049***	0.054***	1			
SIZE	0.015	0.049***	0.358***	0.118***	–0.033*	–0.225***	0.054**	1		
GRO	–0.024	0.073***	0.025	0.008	–0.006	0.037	–0.017	0.037	1	
ROE	–0.604***	0.071***	–0.065***	–0.661***	0.013	-0.017	0.000	0.038**	0.011	1

Notes: *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively. FS = Financial sustainability; OSS = Operational self-sufficiency; CDUA = CEO duality; DTA = Debt to total asset ratio; DTE = Debt to equity ratio; EFF = Operational efficiency; TAN = Assets tangibility; SIZE = Firm size; GRO = Assets growth; ROE = Return on equity

Regression Analysis

The impact of capital structure on financial sustainability

Table 4 presents the results of the regression analysis, which shows a negative relationship between DTA and FS at the 1% significance level. This means that, as the proportion of a firm's assets financed through debt increases, its FS tends to decrease. The negative coefficient for DTA suggests that relying heavily on debt rather than equity or retained earnings to finance assets may place a financial strain on the firm, increasing repayment obligations and financial risk. Consequently, this weakens the firm's ability to sustain its operations over the long term. The result is supported by pecking order theory and in line with those Fonchamnyo et al. (2023) and Sekabira (2013) who confirmed that CS decreases FS. Consistently, the results of the regression analysis, also indicating a statistically significant negative relationship between DTA and OSS at the 1% level. This finding indicates that as firms increase their reliance on debt to finance their total assets, their ability to generate sufficient revenue to cover operational costs without external financial support decreases (Osazefua Imhanzenobe, 2020). High debt levels may lead to increased interest and repayment burdens, which, in turn, constrain the firm's operational flexibility and efficiency (Iancu et al., 2017).

In contrast, the regression results show a positive and statistically significant relationship between the DTE ratio and both FS and OSS. This suggests that firms with a higher proportion of debt relative to equity tend to perform better in terms of sustaining both their financial health and operational independence. A higher DTE ratio reflects a more aggressive CS, where firms leverage borrowed funds to support business expansion, improve cash flow or take advantage of growth opportunities (Wu et al., 2023). The positive association indicates that these firms may be using debt strategically to drive performance, possibly benefiting from lower financing costs compared to equity.

TABLE 4
Regression results

Variable	FS (OLS)	FS (GLS)	OSS (FEM)	OSS (GLS)
DTA	−0.166***	−0.062***	−0.552***	−0.233***
DTE	0.001	0.0025***	0.006***	0.005***
EFF	0.006	0.005***	−0.011	−0.014***
TAN	0.021	0.014**	−0.368***	−0.035***
SIZE	0.009	0.005***	0.083***	0.015***
GRO	−0.002	−0.002***	0.004***	0.004***
ROE	−0.764***	−0.261***	0.076***	0.174***
_cons	−0.104	−0.099***	−1.867***	−0.249***
R^2	0.406***		0.062***	

Notes: **, and *** indicate significance levels of 5% and 1%, respectively. FS = Financial sustainability; OSS = Operational self-sufficiency; DTA = Debt to total asset ratio; DTE = Debt to equity ratio; EFF = Operational efficiency; TAN = Assets tangibility; SIZE = Firm size; GRO = Assets growth; ROE = Return on equity

Moderating effect of CEO duality

Table 5 presents the moderating effect of CDUA on the relationship between CS and FS. The results, based on the GLS estimation method, reveal that CDUA weakens the positive relationship between the DTE and FS. This negative moderating effect indicates that when the roles of CEO and board chairperson are held by the same individual, the beneficial impact of a higher DTE ratio on FS and operational autonomy becomes less apparent. This finding is in line with agency theory Type 1 suggesting that CEO duality may compromise the effective oversight of managerial decisions related to debt financing. In such scenarios, CEOs with concentrated power may act more cautiously by limiting the use of debt to avoid the perceived risk of financial distress or bankruptcy (Ahmad, Hassan, et al., 2022).

Furthermore, the moderating effect of CDUA is found to be statistically insignificant when using the OLS method and when DTA is employed as the proxy for CS. This highlights the importance of selecting appropriate measures of leverage in governance-performance research. Since CEO duality relates to the concentration of decision-making power, its influence is more likely to emerge in contexts where managers make trade-offs between debt and equity decisions (Andrus et al., 2025) that are captured

more precisely by the DTE ratio than by DTA. On the other hand, DTA aggregates total liabilities without distinguishing how much is supported by owner investment, thus potentially masking governance-related effects.

TABLE 5
Regression results of the moderating effect

Variable	FS (OLS)	FS (GLS)	OSS (FEM)	OSS (GLS)
DTA	–0.179***	–0.070***	–0.564***	–0.248***
DTE	0.001	0.003***	0.007***	0.006***
CDUA	–0.089	–0.017	–0.020	0.015
DTA × CDUA	0.201	0.038	0.125	0.011
DTE × CDUA	–0.002	–0.003*	–0.007	–0.005***
EFF	0.006	0.005***	–0.011	–0.015***
TAN	0.021	0.015**	–0.366***	–0.036***
SIZE	0.009	0.005***	0.088***	0.016***
GRO	–0.002	–0.002***	0.004***	0.004***
ROE	–0.764***	–0.273***	0.079***	0.179***
_cons	–0.103	–0.097***	–1.99***	–0.268***
R^2	0.406***		0.063***	

Notes: **, and *** indicate significance levels of 5% and 1%, respectively. FS = Financial sustainability; OSS = Operational self-sufficiency; CDUA = CEO duality; DTA = Debt to total asset ratio; DTE = Debt to equity ratio; EFF = Operational efficiency; TAN = Assets tangibility; SIZE = Firm size; GRO = Assets growth; ROE = Return on equity

Robustness Test – Endogeneity test

Using panel-data regressions introduces a key methodological concern related to the potential endogeneity among explanatory variables, specifically on the possibility that CS and FS influence each other simultaneously. This violates the assumption of exogeneity and may lead to biased and inconsistent parameter estimates (Semykina & Wooldridge, 2010). To address this issue, the current study applies a 2SLS approach as a robustness test, as recommended by Zaefarian et al. (2017). In addition, the Durbin–Wu–Hausman (DWH) test is used to detect the presence of endogeneity. The endogeneity test procedure involves two main steps. First, the instrumental variable regression is estimated by including both the independent variables and appropriate instruments. The Sargan test is then conducted to assess the validity of the instruments and check for the issue of over-identification. A statistically significant DWH test result confirms the presence of endogeneity, while an insignificant result suggests its absence.

Specifically, the 2SLS approach in this study proceeds as follows:

1. In the first stage, the CS proxies, DTA and DTE are regressed on the instrumental variables, namRO and ROE. This ensures that the predicted values of DTA and DTE are purged of endogeneity.
2. In the second stage, FS and OSS are regressed on the estimated (instrumented) values of DTA and DTE obtained from the first stage.

Table 6 presents the 2SLS regression results. The findings are consistent with those obtained in the main analysis, reconfirming the robustness of the conclusions. In particular, the results confirm that CDUA weakens the positive relationship between DTE and FS, indicating that CEO duality plays a critical moderating role in determining the effectiveness of CS decisions. However, when DTA is used as the proxy for CS, the moderating effect of CDUA remains statistically insignificant, further underscoring that DTE is a more sensitive and appropriate measure in capturing governance-related interactions.

TABLE 6
2SLS regression results

Variable	First Stage		Second Stage	
	DTA	DTE	FS	OSS
DTA			–0.361***	–0.328***
DTE			0.029***	0.037***
CDUA			–0.120	–0.038
DTA_CDUA			–0.076	0.671
DTE_CDUA			–0.042***	–0.035***
EFF			–0.319**	–0.427**
TAN			0.688***	0.766***
SIZE			0.001***	0.001***
GRO	0.004***	0.002***	–0.009***	–0.012***
ROE	0.014**	0.011**	19.171***	18.276***
_cons			-0.216	-0.314
N			2681	2681
R^2			0.046**	0.033**

Notes: **, and *** indicate significance levels of 5% and 1%, respectively. FS = Financial sustainability; OSS = Operational self-sufficiency; CDUA = CEO duality; DTA = Debt to total asset ratio; DTE = Debt to equity ratio; EFF = Operational efficiency; TAN = Assets tangibility; SIZE = Firm size; GRO = Assets growth; ROE = Return on equity

CONCLUSIONS, RESEARCH IMPLICATIONS AND FUTURE STUDIES RECOMMENDATIONS

Conclusions

This study investigates the main effects of CS and the moderating role of CDUA on the FS of Vietnamese publicly listed companies from 2018 to 2022. The findings reveal a statistically significant negative relationship between the DTA ratio and FS, consistent with the Pecking Order Theory. This theory posits that firms prefer internal financing over external debt to minimise financing costs and financial risk. High levels of debt may increase interest obligations and repayment burdens, thereby reducing operational flexibility and impairing overall firm efficiency.

In contrast, the regression results indicate a positive and significant relationship between the DTE ratio and FS, aligning with the Trade-Off Theory. This suggests that firms with a well-balanced use of debt relative to equity are better positioned to maintain financial health and operational independence. The results affirm H1, demonstrating that CS has a significant impact on both FS and OSS, with DTA exerting a negative effect and DTE a positive one.

Moreover, the moderation analysis reveals that CDUA weakens the positive effect of DTE on FS, indicating a negative moderating effect. When the CEO also serves as the board chairperson, the governance oversight may be reduced, potentially leading to suboptimal financial decisions. This supports H2 partially, as the interaction between DTE and CEO duality is negative and significant for FS, but not consistently significant across all models. These findings suggest that dual leadership structures may hinder the strategic use of leverage to sustain long-term financial performance, possibly due to a greater focus on short-term goals, which is consistent with Munir and Li (2018).

Overall, the results underscore the importance of maintaining a balanced CS to promote long-term FS, particularly in emerging markets such as Vietnam, where governance mechanisms may differ from those in more mature economies. Furthermore, the moderating role of CDUA highlights the critical need for firms to evaluate leadership structures when formulating

financing strategies. Firms characterised by high CDUA may need to adopt more conservative financial approaches to mitigate governance risks and preserve sustainability outcomes.

Research Implications

This study provides significant implications on CS and FS in several meaningful ways. From theoretical perspective, by empirically validating the Pecking Order Theory and Trade-Off Theory in the context of Vietnamese listed companies, the study reinforces the relevance and applicability of these foundational theories in emerging markets. The results highlight that excessive reliance on asset-based debt negatively impacts sustainability, while a strategic balance of debt relative to equity supports long-term performance. The study adds to governance literature by uncovering the moderating role of CEO dual leadership in the relationship between CS and FS. The partial support for the moderating effect suggests that leadership structures influence not only governance quality but also firms' financial strategy effectiveness, particularly in resource-constrained or risk-sensitive environments.

With respect to practical implications, the finding that CEO duality weakens the positive effects of DTE on sustainability signals a need to strengthen governance regulations, especially in publicly listed firms. Policymakers should encourage board independence and limiting dual leadership can enhance oversight and protect shareholder interests. Regulators should integrate sustainability indicators (like FS and OSS) into their corporate monitoring frameworks, ensuring that CS decisions do not compromise long-term economic resilience. Managers should consider the trade-off between risk and performance when leveraging debt. While a higher DTE ratio can support sustainability, excessive asset-based debt may harm operational efficiency. Hence, firms should optimise rather than maximise debt.

For Investors, they should not only consider a firm's debt level, but also evaluate the composition of its CS. A high DTE ratio may indicate a well-leveraged firm with growth potential, while a high DTA ratio could signal over-reliance on debt and financial fragility. Moreover, investors can incorporate FS and OSS into their investment risk models as forward-looking indicators of firm resilience, particularly in emerging markets with

volatile economic conditions. Given the moderating effect of CDUA, investors should scrutinise governance arrangements when assessing firm sustainability. Companies with separated leadership structures may offer more stable and transparent decision-making environments.

Limitations and Future Recommendations

While this study provides valuable insights, it has limitations that open directions for future research. First, this study is limited to Vietnamese publicly listed companies, which may restrict the generalisability of the findings to other markets, especially developed economies or countries with different institutional frameworks and governance practices. Future research could conduct comparative cross-country studies involving both emerging and developed markets to explore how institutional environments, legal systems, and governance structures influence the relationship between CS, CDUA and FS.

Second, the study relies exclusively on secondary financial data and panel regression techniques, which may not fully capture the qualitative aspects of managerial decision-making or the underlying motives behind CS choices and CDUA. Future studies may adopt a mixed-methods approach by incorporating qualitative interviews with executives or board members to provide deeper insights into the rationale behind CS decisions and governance practices.

Third, the current study focuses solely on CDUA as a governance factor, overlooking other relevant board characteristics such as board independence, ownership structure or audit committee effectiveness that could also influence FS. Future research should consider broadening the scope of corporate governance variables to include a more comprehensive set of governance indicators. This would allow for a more nuanced understanding of how different governance mechanisms interact with financial structure to impact FS.

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REFERENCES

Abdul, J. M. (2017). Impact of capital adequacy on the performance of Nigerian banks using the Basel accord framework. *East Africa Research Papers in Business, Entrepreneurship and Management, 7*, 1–15.

Ahmad, A. M., Hassan, S. U., & Abubakar, A. (2022). Impact of capital structure on financial performance of listed agricultural companies in Nigeria. *Gusau Journal of Accounting and Finance, 3*(3), 23–32. https://doi.org/10.57233/gujaf.v3i3.189

Ahmad, N., Ting, I. W. K., Tebourbi, I., & Kweh, Q. L. (2022). Non-linearity between family control and firm financial sustainability: Moderating effects of CEO tenure and education. *Eurasian Business Review, 12*(4), 719–741. https://doi.org/10.1007/s40821-021-00197-7

Alipour, M., Mohammadi, M. F. S., & Derakhshan, H. (2015). Determinants of capital structure: An empirical study of firms in Iran. *International Journal of Law and Management, 57*(1), 53–83. https://doi.org/10.1108/IJLMA-01-2013-0004

Andrus, J. L., Scoresby, R. B., Lee, J., Rainville, A. B., Smith, R. M., & Syed, I. (2025). Taking charge as a contextual cue: How new CEO regulatory focus influences strategic change. *Journal of Management, 51*(4), 1384–1417. https://doi.org/10.1177/01492063231206110

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

Baltagi, B. H. (1998). Panel data methods. In A. Ullah, & D. E. A. Giles (eds.), *Handbook of applied economic statistics* (pp. 311–323). CRC Press. https://doi.org/10.1201/9781482269901-40

Banerjee, A., Nordqvist, M., & Hellerstedt, K. (2020). The role of the board chair: A literature review and suggestions for future research. *Corporate Governance: An International Review, 28*(6), 372–405. https://doi.org/10.1111/corg.12350

Basiru, J. O., Ejiofor, C. L., Onukwulu, E. C., & Attah, R. U. (2023). Financial management strategies in emerging markets: A review of theoretical models and practical applications. *Magna Scientia Advanced Research and Reviews, 7*(2), 123–140. https://doi.org/10.30574/msarr.2023.7.2.0054

Bhabra, G. S., & Hossain, A. T. (2024). Do CEO risk-reducing incentives affect operating leverage? Evidence from CEO inside debt holdings. *Meditari Accountancy Research, 32*(3), 693–720. https://doi.org/10.1108/MEDAR-07-2022-1740

Bhaskar, R., Bansal, S., & Pandey, D. K. (2024). CEO duality and corporate social responsibility: A moderation effect of founder CEO. *Research in International Business and Finance, 71*, 102410. https://doi.org/10.1016/j.ribaf.2024.102410

Brockett, A., & Rezaee, Z. (2012). *Corporate sustainability: Integrating performance and reporting*. John Wiley & Sons. https://doi.org/10.1002/9781119202899

Brok, P. (2024). Debt and taxes: The role of corporate group structure. *Review of Finance, 28*(6), 2051–2082. https://doi.org/10.1093/rof/rfae024

Bui, P., & Nguyen, P. (2025). Unveiling the dynamics: Corporate governance's impact on firm performance in Vietnam's thriving market landscape. *Journal of the Knowledge Economy, 16*(2), 9095–9122. https://doi.org/10.1007/s13132-024-02271-7

Burkart, M., & Panunzi, F. (2006). Agency conflicts, ownership concentration, and legal shareholder protection. *Journal of Financial intermediation, 15*(1), 1–31. https://doi.org/10.1016/j.jfi.2004.12.004

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.

Chen, D., Kim, J.-B., Li, O. Z., & Liang, S. (2018). China's closed pyramidal managerial labor market and the stock price crash risk. *The Accounting Review, 93*(3), 105–131. https://doi.org/10.2308/accr-51867

Climent Serrano, S., Bustos Contell, E., & Labatut Serer, G. (2018). Opportunities for a sustainable European financial system. *Journal of Business & Financial Affairs, 7*, 357. https://doi.org/10.4172/2167-0234.1000357

Dabi, R. S. K., Nugraha, Disman, & Sari, M. (2023). Capital structure, financial performance and sustainability of Microfinance Institutions (MFIs) in Ghana. *Cogent Economics and Finance, 11*(2), 2230013. https://doi.org/10.1080/23322039.2023.2230013

Delas, V., Nosova, E., & Yafinovych, O. (2015). Financial security of enterprises. *Procedia Economics and Finance, 27*, 248–266. https://doi.org/10.1016/S2212-5671(15)00998-3

Do, T. K., & Vo, X. V. (2023). Is mandatory sustainability disclosure associated with default risk? Evidence from emerging markets. *Finance Research Letters, 55*, 103818. https://doi.org/10.1016/j.frl.2023.103818

Duru, A., Iyengar, R. J., & Zampelli, E. M. (2016). The dynamic relationship between CEO duality and firm performance: The moderating role of board independence. *Journal of Business Research, 69*(10), 4269–4277. https://doi.org/10.1016/j.jbusres.2016.04.001

Eckbo, B. E., Thorburn, K. S., & Wang, W. (2016). How costly is corporate bankruptcy for the CEO? *Journal of Financial Economics, 121*(1), 210–229. https://doi.org/10.1016/j.jfineco.2016.03.005

Fonchamnyo, D. C., Anyangwe, T., Chantal, N. N., & Dinga, G. D. (2023). Capital structure and financial sustainability: Stakes of microfinance institutions in Bamenda, Cameroon. *Future Business Journal, 9*(1), 41–50. https://doi.org/10.1186/s43093-023-00222-3

Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: Which factors are reliably important? *Financial Management, 38*(1), 1–37. https://doi.org/10.1111/j.1755-053X.2009.01026.x

Glowka, G., Kallmünzer, A., & Zehrer, A. (2021). Enterprise risk management in small and medium family enterprises: The role of family involvement and CEO tenure. *International Entrepreneurship and Management Journal, 17*(3), 1213–1231. https://doi.org/10.1007/s11365-020-00682-x

Hai, N. C., Chuong, H. N., & Trung, T. (2022). Linkages and development of local industrial space: Research in the key economic region of Southern Vietnam. *Cogent Economics & Finance, 10*(1), 2109273. https://doi.org/10.1080/23322039.2022.2109273

Hariyanti, H., Putra, C. I. W., Yusuf, M., Suhendra, A., & Subagio, M. (2024). Financial management: How banking systems support SMEs sustainability (Literature Review). *Greenation International Journal of Economics and Accounting (GIJEA), 2*(2), 126–138. https://doi.org/10.38035/gijea.v2i2.196

Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods, 39*, 709–722. https://doi.org/10.3758/BF03192961

Hussain, M. D., Muhammad, M., Ahmed, I., & Hossain, M. T. Bin. (2023). Impact of stakeholders as board members on sustainability and social outreach of microfinance institutions in developing markets. *International Journal of Managerial and Financial Accounting, 15*(1), 26–49. https://doi.org/10.1504/IJMFA.2023.127523

Hussain, M. D., Rahman, I. K. A., Hossin, M. S., & Said, J. (2019). Board leadership structure and microfinance performance for better governance practices in Bangladesh. *International Journal of Business & Management Science, 9*(2), 299.

Iancu, D. A., Trichakis, N., & Tsoukalas, G. (2017). Is operating flexibility harmful under debt? *Management Science, 63*(6), 1730–1761. https://doi.org/10.1287/mnsc.2015.2415

Islam, M. S., & Diba, S. I. (2024). Does corporate governance affect the corporate financial sustainability? Panel empirical evidence of an emerging capital market. *Journal of Financial Markets and Governance, 3*(1), 75–87. https://doi.org/10.54728/JFMG.202407.00079

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and capital structure, *Journal of Financial Economics, 3*, 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jordão, R. V. D., & de Almeida, V. R. (2017). Performance measurement, intellectual capital and financial sustainability. *Journal of Intellectual Capital, 18*(3), 643–666. https://doi.org/10.1108/JIC-11-2016-0115

Karim, S. (2021). An investigation into the remuneration-CSR nexus and if it can be affected by board gender diversity. *Corporate Governance: The International Journal of Business in Society, 21*(4), 608–625.

Kong, Y., Donkor, M., Musah, M., Nkyi, J. A., & Ampong, G. O. A. (2023). Capital structure and corporates financial sustainability: Evidence from listed non-financial entities in Ghana. *Sustainability (Switzerland), 15*(5), 5054211. https://doi.org/10.3390/su15054211

Lamanauw, B., & Lalowang, I. R. A. (2024). Exploring strategic financial management techniques in entrepreneurship: A detailed literature review on practices that drive business sustainability and growth. *Atestasi: Jurnal Ilmiah Akuntansi, 7*(2), 1111–1132. https://doi.org/10.57178/atestasi.v7i2.900

Le, H. T. M., Ting, I. W. K., Kweh, Q. L., & Ngo, H. L. T. (2023). CEO duality, board size and firm performance: Evidence in Vietnam. *International Journal of Business Excellence, 29*(1), 98–120. https://doi.org/10.1504/IJBEX.2023.128255

Miller, M. H. (1977). Debt and taxes. *The Journal of Finance, 32*(2), 261–275. https://doi.org/10.1111/j.1540-6261.1977.tb03267.x

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. The *American Economic Review, 48*(3), 261–297.

Moghaddam, A. G., Kashkoueyeh, M. S., Talezadeh, M., Aala, M., Ebrahimpour, M., & Tehranypour, M. (2015). The impact of capital structure on corporate performance. *International Journal of Academic Research in Business and Social Sciences, 5*(3), 148–163. https://doi.org/10.6007/IJARBSS/v5-i3/1535

Mubeen, R., Han, D., Abbas, J., & Hussain, I. (2020). The effects of market competition, capital structure, and CEO duality on firm performance: A mediation analysis by incorporating the GMM model technique. *Sustainability, 12*(8), 3480. https://doi.org/10.3390/su12083480

Muiruri, W. N., & Wepukhulu, J. M. (2018). Effect of financing decisions on financial performance of listed companies at the Nairobi Securities Exchange, Kenya. *Journal of International Business, Innovation and Strategic Management, 2*(3), 101–114.

Munir, Q., & Li, T. (2018). Nonlinearity between CEO power and firm leverage: Evidence from the threshold model. *Review of Managerial Science, 12*, 593–620. https://doi.org/10.1007/s11846-016-0224-x

Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics, 2*, 72–90.

Myers, S. C. (1984). Finance theory and financial strategy. *Interfaces, 14*(1), 126–137. https://doi.org/10.1287/inte.14.1.126

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

Naomi, I. W. (2023). Debt financing and financial performance of manufacturing firms in Kenya. *African Journal of Commercial Studies, 3*(2), 86–95. https://doi.org/10.59413/ajocs/v3.i2.1

Nazir, A., Azam, M., & Khalid, M. U. (2021). Debt financing and firm performance: Empirical evidence from the Pakistan Stock Exchange. *Asian Journal of Accounting Research, 6*(3), 324–334. https://doi.org/10.1108/AJAR-03-2019-0019

Nguyen, A. H., & Nguyen, L. H. (2020a). Determinants of sustainability disclosure: Empirical evidence from Vietnam. *The Journal of Asian Finance, Economics and Business, 7*(6), 73–84. https://doi.org/10.13106/jafeb.2020.vol7.no6.073

Nguyen, D. T., Le, T. D. Q., & Tran, S. H. (2023). The moderating role of income diversification on the relationship between intellectual capital and bank performance evidence from Viet Nam. *Cogent Business & Management, 10*(1), 2182621. https://doi.org/10.1080/23311975.2023.2182621

Nguyen, H. T., & Nguyen, A. H. (2020b). The impact of capital structure on firm performance: Evidence from Vietnam. *The Journal of Asian Finance, Economics and Business, 7*(4), 97–105. https://doi.org/10.13106/jafeb.2020.vol7.no4.97

Nguyen, T. H., Nguyen, Q. T., Nguyen, D. M., & Le, T. (2023). The effect of corporate governance elements on corporate social responsibility reporting of listed companies in Vietnam. *Cogent Business & Management, 10*(1), 2170522. https://doi.org/10.1080/23311975.2023.2170522

Opler, T. C., & Titman, S. (1994). Financial distress and corporate performance. *The Journal of Finance, 49*(3), 1015–1040. https://doi.org/10.1111/j.1540-6261.1994.tb00086.x

Osazefua Imhanzenobe, J. (2020). Managers' financial practices and financial sustainability of Nigerian manufacturing companies: Which ratios matter most? *Cogent Economics and Finance, 8*(1), 1724241. https://doi.org/10.1080/23322039.2020.1724241

Pearce, J. A., & Zahra, S. A. (1991). The relative power of CEOs and boards of directors: Associations with corporate performance. *Strategic Management Journal, 12*(2), 135–153. https://doi.org/10.1002/smj.4250120205

Pham, C. D. (2020). The effect of capital structure on financial performance of Vietnamese listing pharmaceutical enterprises. *The Journal of Asian Finance, Economics and Business, 7*(9), 329–340. https://doi.org/10.13106/jafeb.2020.vol7.no9.329

Saygili, A. T., Gecim, M., Ozturkoglu, Y., & Saygili, E. (2022). Analysis of corporate governance and financial sustainability using the TOPSIS method. *International Journal of Contemporary Economics and Administrative Sciences, 12*(1), 433–459.

Schoenmaker, D., & Schramade, W. (2023). Capital structure. In *Corporate finance for long-term value* (pp. 431–462). Springer. https://doi.org/10.1007/978-3-031-35009-2_15

Sekabira, H. (2013). Capital structure and its role on performance of microfinance institutions: The Ugandan case. *Sustainable Agriculture Research, 2*(3), 86–100. https://doi.org/10.5539/sar.v2n3p86

Semykina, A., & Wooldridge, J. M. (2010). Estimating panel data models in the presence of endogeneity and selection. *Journal of Econometrics, 157*(2), 375–380. https://doi.org/10.1016/j.jeconom.2010.03.039

Setiadharma, S., & Machali, M. (2017). The effect of asset structure and firm size on firm value with capital structure as intervening variable. *Journal of Business & Financial Affairs, 6*(4), 1–5. https://doi.org/10.4172/2167-0234.1000298

Rehman, S. S. F. U. (2013). Relationship between financial leverage and financial performance: Empirical evidence of listed sugar companies of Pakistan. *Global Journal of Management and Business Research, 13*(8), 45–53.

Tao, J., Shan, P., Liang, J., & Zhang, L. (2024). Influence mechanism between corporate social responsibility and financial sustainability: Empirical evidence from China. *Sustainability, 16*(6), 2406. https://doi.org/10.3390/su16062406

Tran, N. M. (2025). Corporate governance and financial distress: Moderating role of firm complexity in an emerging economy. *Investment Management & Financial Innovations, 22*(1), 288. https://doi.org/10.21511/imfi.22(1).2025.22

Ullah, A., Pinglu, C., Ullah, S., Zaman, M., & Hashmi, S. H. (2020). The nexus between capital structure, firm-specific factors, macroeconomic factors and financial performance in the textile sector of Pakistan. *Heliyon, 6*(8), e04741. https://doi.org/10.1016/j.heliyon.2020.e04741

Van Khanh, V. T., Hung, D. N., Van, V. T. T., & Huyen, H. T. (2020). A study on the effect of corporate governance and capital structure on firm value in Vietnam. *Accounting, 6*(3), 221–230. https://doi.org/10.5267/j.ac.2020.3.004

Wijethilake, C., & Ekanayake, A. (2020). CEO duality and firm performance: The moderating roles of CEO informal power and board involvements. *Social Responsibility Journal, 16*(8), 1453–1474. https://doi.org/10.1108/SRJ-12-2018-0321

Wu, N., Zhao, J., Musah, M., Ma, Z., Zhang, L., Zhou, Y., Su, Y., Joseph Kwasi Agyemang, J. K., Asiamah, J. A., & Cao, S. (2023). Do liquidity and capital structure predict firms' financial sustainability? A panel data analysis on quoted non-financial establishments in Ghana. *Sustainability, 15*(3), 2240. https://doi.org/10.3390/su15032240

Zabolotnyy, S., & Wasilewski, M. (2019). The concept of financial sustainability measurement: A case of food companies from Northern Europe. *Sustainability, 11*(18), 5139. https://doi.org/10.3390/su11185139

Zaefarian, G., Kadile, V., Henneberg, S. C., & Leischnig, A. (2017). Endogeneity bias in marketing research: Problem, causes and remedies. *Industrial Marketing Management, 65*, 39–46. https://doi.org/10.1016/j.indmarman.2017.05.006

Zahid, M., Rahman, H. U., Khan, M., Ali, W., & Shad, F. (2020). Addressing endogeneity by proposing novel instrumental variables in the nexus of sustainability reporting and firm financial performance: A step-by-step procedure for non-experts. *Business Strategy and the Environment, 29*(8), 3086–3103. https://doi.org/10.1002/bse.2559