Joint Effect of Financial Leverage, Agency Costs and Firm Size on Financial Performance of Non-Financial Firms Listed in the Nairobi Securities Exchange, Kenya

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Abstract
Non-financial firms play a crucial role in any economy by contributing significantly to a country's Gross Domestic Product (GDP). In Kenya's economic landscape, the contribution of non-financial firms to GDP is currently recorded at 31.4%, which is considerably far much below the globally recommended average of 50%. The suboptimal contribution of Kenya's non-financial firms to the national GDP raises concerns about the overall economic health and sustainability of the country, necessitating a comprehensive examination of the factors influencing the financial performance of these firms. This study, therefore, sought to establish the joint effect of financial leverage, agency cost and firm size on financial performance of non-financial firms listed at NSE. The study adopted a mixed approach research design comprising of descriptive, causal and longitudinal designs to a study population of 40 non-financial firms listed at NSE as at 1st January 2010 where 29 firms were purposively sampled and pooled for 14 years (2010-2023) to obtain 406 firm-year observations. Data was obtained from the NSE website, World Bank reports as well as Capital Market Authority website. A transformed regression model-feasible generalized least squares was fitted in case of existence of autocorrelation and heteroscedasticity. The study findings revealed that the joint effect of financial leverage, agency cost and financial performance was statistically significant with DER and AUR showing a statistically significant positive effect while ICR showed a statistically significant negative effect on financial performance. DAR and LTA showed no significant effect on financial performance. The study expands the existing base of knowledge on financial leverage and financial performance by incorporating the concept of agency cost and firm size on listed non-financial firms in the Kenyan context. The findings particularly highlight the value of maintaining a balanced debt-to-equity ratio while avoiding excessive interest burdens.

Keywords: Financial Leverage, Agency Costs, Firm Size, Financial Performance, Non-Financial Firms, Nairobi Securities

Introduction

Financial performance is a key measure of a company's overall health and sustainability in the long term since it reflects how well a firm utilizes its assets to generate revenues and profits (Barauskaite & Streimikiene, 2021). High financial performance indicates efficient management and a strong competitive position, attracting investors and facilitating growth (Hassan, 2023). However, most firms face suboptimal financial performance due to a range of internal and external challenges such as inefficient asset utilization, high operating costs and high levels of leverage. These factors contribute to a challenging environment for achieving optimal financial performance, necessitating a strategic approach to managing leverage by finding an optimal balance between debt and equity to improve financial outcomes (Kalash, 2023).

Financial leverage which refers to the use of debt to finance a firm's operations and investments, is suggested as a potential solution to improve financial performance (Pham, 2020). According to Rijssegem *et al.* (2023), debt financing has asserted itself over time as an important source of capital for both new and existing ventures as, compared to equity financing since it enhances investment capacity by allowing firms to undertake larger investments than would be possible through equity alone. It may also impose discipline on management to avoid wasteful expenditures and focus on profitable projects (Pomelli, 2023). Financial leverage lowers the probability of leaking value-creating intellectual property to competition and does not require giving up ownership or control (Kiema, 2021). Debt financing has a notable implication for corporations in so far as their operations are concerned since it can lead to a firm's success as well as its failure. It allows investors and companies to amplify gains, but it also exposes them to higher risks (Peprah & Ayaa, 2022). According to Wang *et al.* (2022), proper assessment and management of financial leverage ratios are essential to mitigate risks and ensure financial success.

Agency cost are the expenses incurred by an organization in mitigating conflicts of interest between its different stakeholders, particularly between the principal (shareholders) and the agent (management) (Payne & Petrenko, 2019). Agency cost arise as a result of the separation of ownership and control in corporations, where managers may prioritize their own interests over those of the shareholders (Panda & Leepsa, 2017). The concept of agency cost is a key aspect of agency theory, which explains the relationship between the principal and agent in an organizational setting. The primary objective of agency cost is to examine and understand the impact of these costs on corporate performance and decision-making, specifically on the relationship between financial leverage and financial performance (Guluma, 2021; Mutegi & Mutegi, 2018). These costs can include a wide range of expenses, including the cost of audits, inspections, and performance evaluations, as well as the opportunity cost of the principal's time and resources that are dedicated to monitoring the agent (Mustapha & Ahmad, 2011). The various measures of agency cost include asset utilization ratio, ratio of free cash flows to total assets and the operating expenses ratio (Chowdhury *et al.,* 2023).

Firm size is the scale or magnitude of a business entity, typically measured by factors such as revenue, total assets, market capitalization, or the number of employees. The size of a firm can

have significant implications for its operations, management structure, market presence, and overall dynamics (Kivaya *et al.,* 2022). Firm size plays a crucial role in determining a company's financial performance (Adiputra & Hermawan, 2020). Companies with larger size often have more market power and can set higher prices, leading to higher profits (Oktasari, 2020). Additionally, larger companies tend to have more stable conditions and a higher commitment to improving their financial performance (Natsir & Yusbardini, 2020). These advantages can result in a positive relationship between firm size and financial performance (Oktasari, 2020; Mutegi et al., 2023). Understanding the implications of firm size is of significant importance to researchers, analysts, scholars, practitioners as well as investors as it can influence strategic decision-making, risk management, and the overall sustainability of a business. Different industries and economic sectors may have varying thresholds for what is considered a large or small firm based on their specific characteristics. (Çera *et al.,* 2019). Recognizing the implications of firm size is essential since it informs investment decisions, credit worthiness assessments, regulatory oversight and performance benchmarking. Firm size is as strategic variable that interacts with every aspect of financial management as well as corporate governance (Al-Hashimy, 2025).

Objective of the Study

To assess the joint effect of financial leverage, agency costs and firm size on financial performance of non-financial firms listed in the Nairobi Securities Exchange, Kenya

Research Hypothesis

There is no statistically significant joint effect of financial leverage, agency costs and firm size on financial performance of non-financial firms listed in the Nairobi Securities Exchange, Kenya

Literature Review

The empirical literature extensively explores the interplay between financial leverage, agency costs, firm characteristics, and financial performance, providing valuable insights into the complex relationships within corporate environments. Puri (2022) in his study on interaction of financial leverage and performance and the moderation effect of agency cost, sought to investigate the impact of financial leverage on the financial performance of small and large publicly listed firms in New Zealand. Further, it explored the moderating effect of agency costs on the association between financial leverage and firm performance. The research sample included quarterly data from New Zealand firms for a twelve-year period 2010 to 2021. Financial leverage was measured using the ratio of the firm's total debt to the book value of its assets. Agency cost and firm size were operationalized using the ratio of the firm's sales to total assets and logarithm of total assets respectively. Return on assets, return on equity and Tobins Q were used as metrics of financial performance. To test the hypotheses, correlation and panel data regression methods were used. The empirical results show that financial leverage has a significant positive impact on the performance of small firms, but a negative impact on their market value. In large firms, the opposite trend occurs, with firms having a higher market value when they have a higher level of debt in their capital structure. Additionally, the findings show that agency costs have a considerable impact on the relationship between financial leverage and

firm performance. This study delving into the interaction of financial leverage and performance, alongside the moderation effect of agency costs, offers valuable insights into the impact of these factors on the financial performance of small and large publicly listed firms in New Zealand. However, the applicability of these findings to the specific context of non-financial firms listed in the NSE, Kenya remains unexplored, leaving a notable research gap that warrants further investigation in understanding the dynamics of financial leverage, agency cost, firm size, and financial performance within the Kenyan context.

Kalash (2019) carried out a study on the relationship between Firm financial leverage, agency costs and firm performance of service firms in Turkey. The study aimed at analyzing the impact of firm financial leverage on the performance of firms with high and low agency costs. The study also sought to establish whether firm size has a significant influence on the interplay between financial leverage and firm performance. Using the ordinary least squares (OLS) method and the 2008-2017 data of 52 firms whose stock certificates were processed in the service sector in Istanbul Stock Exchange; it was found out that financial leverage had a negative impact on firm profitability and that impact was higher for firms with higher agency costs (firms with higher growth opportunities and fewer tangible assets) and lower for firms with agency costs of free cash flows (firms with higher free cash flows). The study also found out that there exists a significant moderating effect of firm size on the relationship between financial leverage and financial performance. This study however considered a short period of study findings which may not be sufficient enough for generalization purpose. The ordinary least squares method adopted in this study may not be suitable due to the panel nature of data. The current study therefore seeks to apply panel data regression model in the analysis of data.

Nazir *et al.* (2021) in their study on debt financing and financial performance of firms listed at Pakistani securities exchange sought to determine how financial leverage, agency cost and firms size impact on financial performance. The study adopted pooled ordinary least squares regression and fixed- and random-effects models to analyse a cross-sectional sample of 30 Pakistani companies operating in the automobile, cement and sugar sectors for a 5-year period 2013–2017. Operating leverage was proxied using both short term debt ratio while fiancial financial leverage was proxied by long term debt ratio. Firm size was mesured by the logarithm of total asset. The metric for agency cost was asset utilization ratio (AUR). Return on assets(ROA) and net profit margin (NPM) served as proxies for financial performance. The results indicated that both short- and long-term debt have negative and significant impacts on firm performance. This suggests that agency issues may lead to a high-debt policy, resulting in lower performance. However, firm size have positive effects on the profitability of nonfinancial sector companies.This study suggests that when debt financing significantly and negatively influences firm profitability, company owners and managers should focus on finding a satisfactory debt level. However, this study is limited to the automobile, cement and sugar sectors of Pakistan. There is therefore a need to carry out further studies that could address other sectors, such as textiles, fertilizers and pharmaceuticals.

Theoretical Review

The study is anchored on the Trade-Off Theory, postulated by Kraus and Litzenberger in 1973, provides a critical framework for understanding the dynamics of capital structure. The theory posits that firms strive to balance the tax advantages of debt against the costs of potential financial distress to determine their optimal level of financial leverage. The theory is premised on the assumptions that firms aim to maximize their value by balancing the benefits and costs of debt financing; interest payments on debt are tax-deductible, creating a tax shield that encourages firms to take on debt; firms are aware of the costs associated with financial distress and considers this factor in their decision-making; firms can find an optimal capital structure where the marginal benefit of debt is equal to the marginal cost of debt; firms operate in a world with imperfect capital markets where taxes and bankruptcy costs exist differentiating it from the Modigliani-Miller theorem's assumption of perfect markets. Specifically, the tax shield provided by debt interest payments enhances firm value by reducing taxable income (D'Amato, 2021).

This theory is limited in the sense that as financial leverage increases, the firm also faces higher risks of financial distress and bankruptcy, which can impose significant direct and indirect costs (Kalash, 2023). The theory does not account for managerial biases or behavioural factors, such as overconfidence or risk aversion, which may lead firms to deviate from the "optimal" capital structure (Adler, 2023). In practice, it is difficult to accurately determine the cost of financial distress and the benefit of tax shield. This makes it hard for firms to identify the exact trade-off point (Frank & Goyal, 2024). However, this theory is merited on the basis that unlike other theories, such as the Modigliani and Miller theorem, the trade-off theory puts into consideration real world factors such as taxes, agency costs as well as bankruptcy costs hence making it more applicable to actual firm behavior (Gofe & Asfaw, 2023). The theory is based on the principle of firm value maximization hence explaining the reason why firms choose a debt-equity mix that maximizes their value. It accounts for the fact that as firms grow and change, they continuously strive to balance the cost and benefits associated with leverage. It provides a clear explanation as to why firms employ debt in their capital structure, particularly, due to tax benefits associated with the debt (Ichwanudin *et al.*,2023).

Conceptual Framework

A conceptual framework is a diagrammatic representation of the relationship between independent and dependent variables. The conceptual framework of the study is shown in Figure 1.
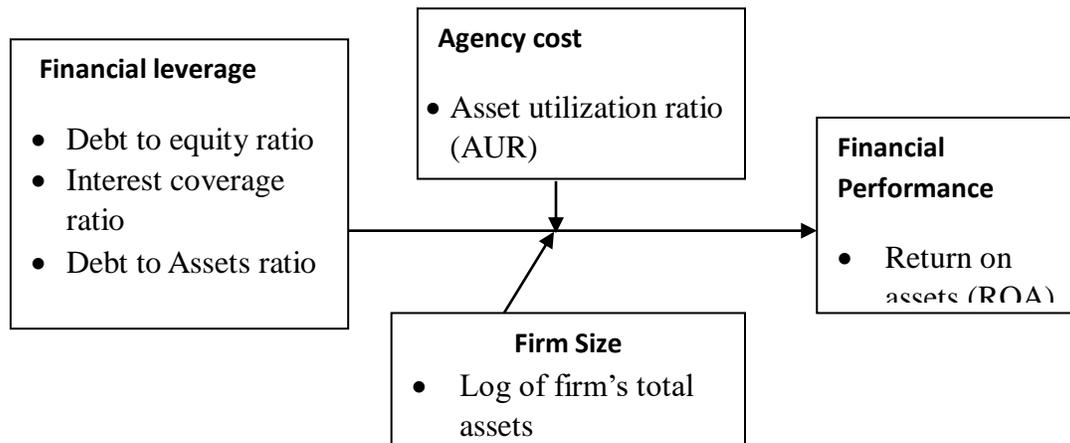

Figure 1: Relationship between Financial Leverage, Agency Cost, Firm Size and Financial Performance

Source (Researchers, 2024)

Methodology

Location of the Study: This study was conducted at the Nairobi Securities Exchange (NSE).

Research Philosophy: This study adopted a positivist research philosophy.

Research Design: A mixed research approach that involves descriptive, causal and longitudinal research designs was adopted for this study.

Population of the Study: The population of the study comprised of all the 40 non-financial firms listed at NSE Kenya as at 1st January, 2010 (NSE Handbook, 2010). The financial firms were excluded from the study because they are highly regulated by Central Bank of Kenya and other regulatory bodies. Therefore, their financial leverages are highly regulated.

Sampling Procedure and Sample Size: The study adopted purposive sampling technique in selection of research sample. The study therefore selected a sample of 29 non-financial firms that had been in existence throughout the period under consideration.

Data Analysis:

Statistical Package for Social Scientists (SPSS) version 28.0, Stata and R studio were used for data analysis. Descriptive statistics like mean, percentage frequency and standard deviation was used in preliminary analysis while inferential statistics like t-test and F-test were used in hypothesis testing at 5% level of significance. Panel data regression model was used to show the relationship between independent variables and dependent variable.

Model Specification

The combined effect of financial leverage, agency cost and firm size on financial performance of non- financial firms listed at the NSE was investigated by the following model.

$ROA_{it} = \beta o + \beta_1 DER_{it} + \beta_2 ICR_{it} + \beta_3 DR_{it} + \beta_4 AUR_{it} + \beta_5 LTA_{it} + e_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots (viii)$

Where: ROA is financial performance as measured by return on asset, β_0 is the regression constant, i is 1, 2, …, 29 non-financial firms, t is 1 …., 14 years, $\beta_{1\ldots\ldots}$ β_6 coefficient estimates, DER Debt-to-Equity ratio, ICR Interest Coverage ratio, DAR debt -to- assets ratio, AUR agency cost as measured by asset utilization ratio, LTA is firm size as measured by logarithm of total assets and e is the error term.

Findings

Correlation between all the Study Variables

The correlation matrix of association between financial leverage, agency cost, firm size and financial performance was investigated. The results for the overall correlation among study variables are summarized in table 1

Table 1: Pearson's Correlation Matrix for all Study Variables

		ROA	DER	ICR	DAR	LTA	AUR
ROA	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	406					
DER	Pearson Correlation	.325[*]	1				
	Sig. (2-tailed)	0.012					
	N	406	406				
ICR	Pearson Correlation	-0.425[*]	-0.082	1			
	Sig. (2-tailed)	0.041	0.099				
	N	406	406	406			
DAR	Pearson Correlation	0.343[*]	.334[**]	.133[**]	1		
	Sig. (2-tailed)	0.038	0.000	0.008			
	N	406	406	406	406		
LTA	Pearson Correlation	0.234[*]	.251[**]	0.241[*]	.183[**]	1	
	Sig. (2-tailed)	0.04	0.000	0.025	0.000		
	N	406	406	406	406	406	
AUR	Pearson Correlation	0.147[*]	0.120[*]	0.208[**]	0.165[*]	.128[**]	1
	Sig. (2-tailed)	0.035	0.027	0.008	0.019	0.010	
	N	406	406	406	406	406	406

Source (Researcher, 2024)

The correlation analysis in Table 12 presents the nature and strength of relationships among return on assets (ROA), Debt-to-Equity Ratio (DER), Interest Coverage Ratio (ICR), debt-to-asset ratio (DAR), Logarithm of Total Assets (LTA), and Asset Utilization Ratio (AUR). ROA, a key profitability measure, exhibits a statistically significant positive correlation (0.325, p = 0.012) with DER at 5 % level of significance, suggesting that firms with higher financial leverage may experience improved profitability, potentially due to effective debt utilization. However, ROA shows a negative and statistically significant correlation with ICR (-0.425, p = 0.041) at 5 % level of significance, indicating that firms with lower interest burdens tend to have better financial performance, possibly due to lower financial distress. Additionally, ROA maintains a significant positive correlation with DAR (0.343, p = 0.038) at 5% level of significance, implying that a higher proportion of debt in total assets is associated with increased financial performance.

Furthermore, ROA has a statistically significant positive relationship with LTA (0.234, p = 0.04) at 5% level of significance, which suggests that larger firms tend to have better financial performance, likely due to economies of scale. The statistically significant positive correlation between ROA and AUR (0.147, p = 0.035) at 5% level of significance indicates that firms utilizing their assets efficiently tend to generate better returns.

Among the other relationships, DER and DAR (0.334, p < 0.001) display a strong positive statistically significant correlation, indicating that firms with high leverage also have a significant proportion of debt in their asset structure. LTA exhibits statistically positive correlations with DER (0.251, p < 0.001), ICR (0.241, p = 0.025), and DAR (0.183, p < 0.001) at 5% level of significance, signifying that firm size influences leverage, interest coverage, and debt structure. AUR is also statistically positively correlated with DER (0.120, p = 0.027) and ICR (0.208, p = 0.008) at 5% level of significance, emphasizing the role of asset utilization in financial decisions.

The objective was to assess the joint effect of financial leverage, agency cost and firm size on financial performance of non-financial firms listed in the Nairobi Securities Exchange, Kenya. The following stated hypothesis was tested: H_{O4}: There is no statistically significant joint effect of financial leverage, agency costs and firm size on financial performance of non- financial firms listed in the Nairobi Securities Exchange, Kenya. The effect of financial leverage, agency cost and firm size on financial performance of an entity is confirmed if the Wald statistics of overall significance establishes that the coefficients are statistically significant jointly. The Wald statistics takes into account the sum of predictive power of financial leverage, agency cost and firm size hence determining the overall significance. The assumptions of ordinary least square of multicollinearity, heteroskedasticity and autocorrelation were tested so as to establish the appropriate estimator model fit.

Multicollinearity Test

The variance inflation factor (VIF) test was conducted to assess potential multicollinearity among the independent variables: debt-to-equity ratio, interest coverage ratio, debt-to-assets ratio, log of total assets and asset utilization ratio. The results are indicated in Table 1.

Table 2: Multicollinearity Test for Model 5

Variable	VIF	Tolerance (1/VIF)
Debt-to-Equity Ratio	1.2	0.83
Interest Coverage Ratio	1.04	0.96
Debt-to-Assets Ratio	1.17	0.85
Log Assets	1.1	0.91
Asset Utilization Ratio	1.02	0.98

Source (Researcher, 2024)

The results in Table 1 indicate that all VIF values are below the commonly accepted threshold of 10 (O'Brien, 2007), with the highest VIF value being 1.20. Additionally, the mean VIF of 1.11 suggests that multicollinearity is not a significant concern in this model. As a rule of thumb, VIF values below 5 indicate low multicollinearity, while values above 10 signal a problematic level of correlation among predictors. Given the low VIF values, the independent variables do not exhibit excessive multicollinearity, allowing for reliable interpretation of the regression coefficients.

Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

A Breusch-Pagan / Cook-Weisberg test for heteroskedasticity was conducted to assess whether the variance of residuals is constant in the model. The results were summarized in Table 2

Table 3: Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity for Model 5

Test Statistic	(χ^2)	p-value	Decision
Breusch-Pagan / Cook-Weisberg	0.58	0.4477	Fail to Reject H_O (No Heteroskedasticity)

The test results in table 2 yielded a chi-square statistic of 0.58, with a corresponding p-value of 0.4477. Since the p-value is greater than 0.05, we fail to reject the null hypothesis (H_0) of homoskedasticity. This indicates that the assumption of constant variance holds, suggesting that heteroskedasticity is not a concern in this model. The presence of homoskedasticity supports the reliability of standard errors and the validity of statistical inferences drawn from the regression analysis.

Wooldridge Test for Autocorrelation

A Wooldridge test for autocorrelation in panel data was conducted to determine whether first-order serial correlation was present. The Wooldridge test results were summarized in Table 3

Table 4: Wooldridge Test for Autocorrelation in Panel Data for Model 5

Test Statistic	Value
F-statistic	2.153
p-value	0.1531
Decision	Fail to reject H_0 (No autocorrelation)

Source (Researcher, 2024)

The test results in Table 3 produced an F-statistic of 2.153 with a p-value of 0.1531. Given that the p-value exceeds the 0.05 significance level threshold, the null hypothesis (H_0) of no first-order autocorrelation cannot be rejected. This suggests that the residuals of the model are not serially correlated, which supports the assumption of independent errors over time. The absence of autocorrelation enhances the reliability of the model's estimates (Wooldridge, 2010).

Random Effects GLS Regression Predicting ROA

A random-effects generalized least squares (GLS) regression was conducted to analyze the relationship between financial ratios and Return on Assets (ROA). The GLS results are summarized in Table 4.

Table 5: Random-Effects GLS Regression for Predicting ROA

Predictor	β (Coefficient)	Std. Error	z-value	p-value	95% CI (Lower)	95% CI (Upper)
DER	0.143	0.071	2.02	0.044	0.004	0.283
ICR	-14.133	1.839	-7.69	0	-17.737	-10.529
DAR	0.103	0.363	0.28	0.777	-0.609	0.815
AUR	7.018	1.691	4.15	0	3.704	10.332
LTA	0.006	0.1	0.06	0.954	-0.19	0.202
Constant	3.988	0.661	6.03	0	2.692	5.283
Model Statistics	Value	P value				
Wald χ^2	175.3	< .001				
R^2 (Overall)= 0.438, Number of observations =406,						

Source (Researcher, 2024)

Results in Table 4 present findings from a random-effects generalized least squares (GLS) regression examining the influence of financial leverage, agency cost and firm size on firm financial performance, measured by return on assets (ROA). The debt-to-equity ratio (DER) was positively associated with performance (β = 0.143, p = .044), indicating that higher leverage,

when balanced against equity, may enhance financial performance. This supports traditional capital structure theory, which suggests that appropriate debt usage can optimize returns by lowering the cost of capital. Conversely, the interest coverage ratio (ICR) was significantly and negatively related to ROA (β = -14.133, p < .001), suggesting that firms with greater capacity to cover interest payments might actually exhibit lower profitability. This counterintuitive outcome could point to overly conservative financial strategies or under-leveraged operations, which may limit return potential despite greater stability. Other structural indicators in the model, such as the debt-to-asset ratio (DAR) and log of total assets (LTA), were not statistically significant (p = .777 and .954, respectively). The non-significance of DAR implies that the share of assets financed through debt does not independently influence firm performance when DER and other variables are controlled. Similarly, firm size, proxied by LTA, did not show a meaningful impact on profitability. This may suggest that performance gains from scaling up operations are not universal and may be contingent upon industry dynamics or efficiency in resource use.

These findings imply that firm structure alone is not a guarantee of superior performance and must be complemented by effective strategic management. Notably, the asset utilization ratio (AUR) demonstrated a strong and positive association with ROA (β = 7.018, p < .001), underscoring the importance of operational efficiency. Firms that use their asset base more effectively to generate revenue are more likely to experience superior financial performance outcomes. From a managerial standpoint, this finding reinforces the value of asset productivity over expansion. The regression model was statistically significant overall (Wald $\chi^2(5)$ = 175.3, p < .001), and the R^2 value of 0.438 indicates that approximately 43.8% of the variation in firm performance is explained by predictors included in the model. These results provide meaningful insights into the role of financial ratios in driving firm outcomes, particularly emphasizing the effectiveness of leverage and asset use over size and debt proportions. The equation for the joint effect of financial leverage, agency cost and firm size on financial performance was therefore generated and presented as follows:
$$ROA_{it}=3.988+0.143 \cdot DER_{it}-14.133 \cdot ICR_{it}+0.103 \cdot DAR_{it}+7.018 \cdot AUR_{it}+0.006 \cdot LTA_{it}$$

Discussion of Findings

The current study's findings on the joint effects of financial leverage, agency costs, and firm size on financial performance both corroborate and contrast with existing empirical literature in important ways. The positive relationship between debt-to-equity ratio (DER) and return on assets (ROA) (β = 0.143, p = .044) aligns with Puri's (2022) findings for small firms in New Zealand, where leverage was found to enhance performance. This supports the traditional view that moderate debt levels can improve financial performance through tax shields and discipline effects (Modigliani & Miller, 1958). However, this contrasts with Nazir et al.'s (2021) Pakistani study which found negative effects of both short- and long-term debt on performance, suggesting contextual differences in how leverage operates across markets. The significant negative association between interest coverage ratio (ICR) and ROA (β = -14.133, p < .001) presents a particularly interesting finding that diverges from conventional expectations. This counterintuitive result may reflect what Kalash (2019) observed in Turkish service firms - that

firms with greater financial stability (higher ICR) might actually underperform due to overly conservative financial strategies that limit growth potential.

This finding challenges the assumption that stronger interest coverage necessarily translates to better performance, suggesting instead that some degree of financial risk-taking may be beneficial. The strong positive relationship between asset utilization ratio (AUR) and ROA ($\beta = 7.018$, $p < .001$) strongly corroborates Nazir et al.'s (2021) findings in Pakistan, where AUR similarly emerged as a key driver of financial performance. This consistency across different emerging markets underscores the universal importance of operational efficiency in driving profitability, regardless of national context. The result supports resource-based view arguments that effective asset management creates competitive advantages that translate directly to the bottom line (Barney, 1991). Notably, the non-significant findings for debt-to-assets ratio (DAR) and firm size (LTA) contrast with several previous studies. Kalash (2019) found significant positive effect of firm size on financial performance in Turkey, Similarly Nazir et al. (2021) reported positive size effects in Pakistan. This discrepancy may reflect unique characteristics of the Kenyan market, where scale advantages may be less pronounced due to market fragmentation or where different size thresholds determine when scale benefits accrue. The DAR result particularly contrasts with trade-off theory predictions, suggesting that in the NSE context, the proportion of debt-funded assets may matter less than the equity-debt balance captured by DER.

The study's methodological approach addresses several limitations in prior research. By employing random-effects GLS regression on a substantial panel (406 observations across 29 firms), it improves upon Kalash's (2019) OLS approach and Nazir et al.'s (2021) smaller sector-specific sample. The comprehensive model incorporating multiple leverage measures and controls provides a more nuanced understanding than studies focusing on single dimensions of capital structure. These findings have important implications for both theory and practice. They suggest that the relationship between leverage and performance is more complex than traditionally assumed, varying not just by firm size (as Puri 2022 found) but also by the specific dimension of leverage considered. The strong showing of AUR reinforces the need to consider operational factors alongside financial structure in performance analyses. For NSE-listed firms, the results indicate that strategic debt management (particularly maintaining an optimal DER) coupled with rigorous asset utilization may be more important than sheer size in driving profitability. Future research could build on these findings by exploring non-linear relationships - perhaps DER benefits follow an inverted U-shape, where advantages turn to disadvantages beyond some threshold. Comparative studies across East African markets could help determine whether these patterns reflect Kenya-specific conditions or regional characteristics. Additionally, qualitative research could uncover the managerial practices that enable some firms to achieve superior asset utilization regardless of size or leverage

Conclusion

The study's findings collectively paint a comprehensive picture of capital structure dynamics in Kenya's non-financial sector. Important conclusions emerge from the analysis that have both theoretical and practical significance. The joint effect of financial leverage, agency costs, and

firm size reveals that these factors collectively shape financial performance in interconnected ways. The integrated model, which accounted for all three variables simultaneously, explained 43.8% of the variation in return on assets (ROA), underscoring the multidimensional nature of performance determinants. The findings suggest that financial leverage does not operate in isolation; its impact is significantly influenced by how efficiently firms utilize their assets (agency costs) and their organizational size. For instance, while leverage may generally enhance performance, its benefits are most pronounced in firms with high asset utilization and larger scale. Conversely, smaller firms or those with poor operational efficiency may not reap the same advantages, highlighting the need for a holistic approach to capital structure decisions.

Recommendations and Policy Implications

The study's findings suggest several practical recommendations for corporate managers, investors, and policymakers. For corporate executives, the results emphasize the importance of adopting a strategic approach to capital structure decisions. Firms should carefully consider their specific circumstances, including their size and operational efficiency, when determining appropriate leverage levels. The findings particularly highlight the value of maintaining a balanced debt-to-equity ratio while avoiding excessive interest burdens.

For financial managers, the research underscores the strategic importance of monitoring asset utilization as a core performance metric. Given the mediating role that asset utilization plays in the relationship between financial leverage and firm performance, enhancing operational efficiency emerges as a critical lever for maximizing the positive effects of debt financing. Efficient use of assets not only contributes directly to profitability but also strengthens a firm's ability to service debt, thereby reducing financial risk and improving overall financial health.

To this end, regular assessments of asset productivity such as turnover ratios and revenue per asset unit should be systematically incorporated into the financial planning and decision-making processes. These assessments enable managers to identify underperforming assets, allocate capital more effectively, and support data-driven strategies that align operational capabilities with financial objectives. By integrating asset utilization metrics into key performance dashboards and leveraging them for continuous improvement, firms can achieve a more resilient and optimized capital structure that balances growth, risk, and return.

Policymakers can draw several important implications from the study's findings. First, the evidence suggests that regulatory frameworks should be adaptive and responsive to firm heterogeneity, particularly with regard to size. In Kenya's mixed corporate environment comprising both large multinationals and small to medium-sized enterprises (SMEs) a one-size-fits-all approach to financial regulation may hinder optimal firm performance. Tailored policies that enhance access to capital for smaller firms, such as tiered lending criteria, government-backed loan guarantees, or targeted tax incentives, can help level the playing field without compromising financial prudence. Second, the findings highlight the potential for policy interventions aimed at improving transparency and corporate governance to reduce agency costs. Strengthening disclosure standards, enforcing timely financial reporting, and encouraging the

adoption of sound governance practices particularly in sectors prone to inefficiency can enhance accountability and promote more efficient asset utilization.

Taken together, these insights support a dual-track policy approach: one that fosters inclusive financial systems for all firm sizes while simultaneously reinforcing the institutional frameworks that uphold market discipline and integrity. Such a strategy can contribute to a more stable, competitive, and performance-oriented corporate sector in Kenya and similar emerging economies.

References

Adler, D. E. (2023). Theories from behavioral finance are at the forefront of explaining differences in corporate financial policies and capital structures. Most important, however, behavioral corporate finance has reintroduced humanity–in all its complexity and subtlety-into corporate finance, where indeed it belongs. Advanced Introduction to Behavioral Finance, 113.

Adiputra, I. G., & Hermawan, A. (2020). The effect of corporate social responsibility, firm size, dividend policy and liquidity on firm value: Evidence from manufacturing companies in Indonesia. *International Journal of Innovation, Creativity and Change*, *11*(6), 325-338.

Al-Hashimy, H. N. H. (2025). The relationship between financial management strategies and firm financial performance: the moderating role of firm size. *Journal of Financial Management of Property and Construction*.

Barauskaite, G., & Streimikiene, D. (2021). Corporate social responsibility and financial performance of companies: The puzzle of concepts, definitions and assessment methods. *Corporate Social Responsibility and Environmental Management*, *28*(1), 278-287.

Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of management, 17(1), 99-120.

Çera, G., Belas, J. R., & Čepel, M. (2019). Linking firm characteristics to perceived important social factors for entrepreneurial activity. *Economics and Sociology*.

Chowdhury, M., Mahmud, I., & Hoque, M. M. (2023). Factors Influencing Agency Costs in the Publicly Listed IT Firms: Evidence from Bangladesh. *Business and Finance Journal*, *8*(1), 1-15.

D'Amato, A. (2021). Does intellectual capital impact firms' capital structure? Exploring the role of firm risk and profitability. Managerial finance, 47(9), 1337-1356.

Ichwanudin, W., Nurhayati, E., & Anwar, C. J. (2023). Modeling the Relationship between Capital Structure and Company Value in the Perspective of Agency and Trade-Off Theory. structure, 14, 15.

Frank, M. Z., & Goyal, V. K. (2024). Empirical corporate capital structure. In Handbook of Corporate Finance (pp. 27-125). Edward Elgar Publishing.

Gofe, T. E., & Asfaw, A. S. (2023). Factors Affecting Capital Structure Decisions of Banks: A Systematic Literature Review Evidence from Commercial Banks of Ethiopia. Journal of Investment, Banking and Finance (JIBF), 1, 1-13.

Guluma, T. F. (2021). The impact of corporate governance measures on firm performance: the

influences of managerial overconfidence. *Future Business Journal*, *7*(1), 50.

Hassan, S. (2023). Assessment of Financial Performance and Competitive Dynamics of Insurance Companies on the Indonesian Stock Exchange. *Indonesia Accounting Research Journal*, *11*(2), 11-127.

Kalash, I. (2023). The financial leverage–financial performance relationship in the emerging market of Turkey: the role of financial distress risk and currency crisis. *EuroMed Journal of Business*, *18*(1), 1-20.

Kalash, İ. (2019). Firm financial leverage, agency costs and firm performance: An empirical research on service firms in Turkey. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi, 8(1),*, 624-636.

Kiema, B. M. (2021). *Effect of Financial Leverage on Financial Performance of Energy and Petroleum Firms Listed at the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Kivaya, B. M., Kemboi, A., & Odunga, R. (2020). Moderating role of firm size on corporate governance and financial performance of microfinance institutions in Kenya. *African Journal of Emerging Issues*, *2*(1), 1-23.

Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. The journal of finance, 28(4), 911-922.

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.

Mustapha, M., & Ahmad, A. C. ((2011)). Agency theory and managerial ownership: evidence from Malaysia. *Managerial Auditing Journal, 26(5)* , 419-436.

Mutegi, T. M., Joshua, P. M., & Maina, J. K. (2023). Workplace safety, Employee safety attitudes and employee productivity of manufacturing firms. *SA Journal of Human Resource Management*, 21, 1989.

Mutegi, T. M., & Mutegi, M. K. (2018). Effect of Micro-Insurance Segment on Insurance Uptake In Kenya. J*ournal of Environmental Sustainability Advancement Research*, 4.

Nandi, R., & Banerjee, P. (2023). An empirical study of the impact of operating and financial leverages on the performance of select Indian firms listed on the National Stock Exchange in India. *International Journal of Indian Culture and Business Management,30(4)*, 478-496.

Natsir, K., & Yusbardini, Y. (2020). The effect of capital structure and firm size on firm value through profitability as intervening variable. In *8th International Conference of Entrepreneurship and Business Management Untar (ICEBM 2019)* (pp. 218-224). Atlantis Press.

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.

O'brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. Quality & quantity, 41, 673-690.

Oktasari, D. P. (2020). The effect of liquidity, financial leverage and firm size on financial distress. *East African Scholars Multidisciplinary Bulletin*, *3*(9), 293-297.

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems

and perspectives. *Indian journal of corporate governance, 10(1)*, 74-95.

Payne, G. T., & Petrenko, O. V. (2019). Agency Theory in Business and Management Research. *Oxford Research Encyclopedia of Business and Management*. HYPERLINK "https://doi.org/10.1093/acrefore/9780190224851.013.5" https://doi.org/10.1093/acrefore/9780190224851.013.5

Peprah, W. K., & Ayaa, M. M. (2022). The convergence of financing decision, business strategy through organisational competitiveness to sustainable competitive advantage: A conceptual analysis. *International Journal of Economics and Finance*, *14*(2), 87-96.

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.

Pomelli, A. (2023). *Inside Debt Financing: Theory, Practice, and Regulatory Approaches* (p. 197). FrancoAngeli.

Puri, S. K. (2022). Interactions of financial leverage and firm performance: the moderating effects of agency costs.

Puri, S. K. (2022). Interactions of Financial leverage And Firm Performance: The Moderating Effects of Agency Costs.

Rijssegem, L., Paeleman, I., Hünermund, E., & Andries, P. (2023). Founder's financial knowledge and the new firm's ability to obtain debt financing. *British Journal of Management*.

Wang, G. W., Mohammed, B. S., & Hamad, A. A. (2022). An investigation on the risk awareness model and the economic development of the financial sector. *Annals of Operations Research*, 1-23.

Wooldridge, J. M. (2010). *Introductory econometrics: A modern approach* (5th ed.). Cengage Learning, 399–432.