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Naomi Mbithe MWEWA
Prof. James Ndirangu NDEGWA
Dr. James MURUNGA

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Drivers of Profitability among Non-Financial Firms listed at the Nairobi Securities Exchange

By:

Naomi Mbithe MWEWA [1], James Ndirangu NDEGWA (PhD)[2] and James MURUNGA (PhD) [3]

Abstract

This study examined the drivers of profitability among non-financial firms listed on the Nairobi Securities Exchange, focusing on financial structure, financial flexibility and non-debt tax shield. A longitudinal panel research design was adopted, using secondary data from 42 firms covering 2015-2024. Panel-data econometric techniques, including diagnostic testing and fixed-effects estimation, were employed, with firm age and the COVID-19 period included as control variables. The final transformed and lagged model explained 68.11% of the variation in profitability. Financial structure exhibited a statistically significant negative effect on profitability (β =-0.102154, p = 0.0010), while financial flexibility had a significant positive effect (β = 0.169435, p = 0.0177). NDTS had a negative but insignificant effect (β = -0.041061, p = 0.2061). The findings highlight the importance of prudent financing decisions and maintaining financial flexibility in enhancing corporate profitability. The study recommends balanced financing strategies that integrate financing capacity and tax considerations.

Keywords: *Financial Structure, Financial Flexibility, Non-Debt Tax Shield, Profitability, Non-Financial Firms, Nairobi Securities Exchange, Fixed-Effects Model, Panel Data.*

1. INTRODUCTION

1.1 Background

Profitability is a fundamental indicator of firms' financial performance, sustainability and efficiency in utilizing resources. It reflects an organization's ability to generate earnings from its available assets and is closely associated with corporate financing decisions. Firms must establish appropriate combinations of equity and debt to finance their operations and investments, as financing choices influence borrowing costs, financial risk, investment capacity and ultimately profitability (Seyoum et al., 2020; Yanti et al., 2021). Return on Assets (ROA), calculated as net income divided by total assets, provides an important measure of how effectively firms utilize their assets to generate returns (Shah & Khan, 2017).

[1]*Department of Business and Finance, School of Business and Economics, Machakos University, Kenya, e-mail: naomimunywoki@mksu.ac.ke, ORCID: 0009-0004-5565-0809*
[2] *Professor, Department of Accounting and Finance, Cooperative University of Kenya, Kenya, e-mail: jndegwa@cuk.ac.ke, ORCID: 0000-0003-4989-6293*
[3] *Department of Economics, School of Business and Economics, Machakos University, Kenya, e-mail: murunga.james@mksu.ac.ke, ORCID: 0000-0003-2929-5909*

Profitability of firms is particularly important in emerging capital markets, where businesses operate amid financing constraints, economic uncertainty and changing market conditions. Evidence of declining profitability among NSE-listed firms underscores the importance of understanding the factors influencing their financial performance. The Nairobi Securities Exchange (NSE) reported declining comprehensive income and earnings per share between 2020 and 2022, while market capitalization contracted by 28.24% in 2022 from 2.7 trillion in 2021 to 1.93 trillion. Furthermore, twelve non-financial firms issued profit warnings in 2023, indicating financial performance challenges within the market (Capital Markets Authority, 2022; Central Bank of Kenya, 2023; NSE, 2021b, 2022). These reports highlight the need to investigate the financing-related determinants of profitability among listed firms.

Financial structure represents one potential determinant of profitability. It reflects the composition of debt and equity used to finance a firm's assets and operations (Seyoum et al., 2020). Debt financing may comprise short-term and long-term borrowings, bank loans, bonds, commercial paper and trade credit. Although debt provides access to financial resources, its' associated financing obligations may influence profitability through interest expenses and financial risk. Previous empirical studies have reported inconsistent findings regarding this relationship. Motanya (2019) and Muchiri et al. (2016) in Kenya established negative relationships between financial structure and profitability, whereas Anandasayanan and Subramaniam (2015) in Sri Lanka reported a significant influence. Bussoli and Conte (2020) in Italy however, found that trade credit contributed positively to firm profitability.

Financial flexibility is another important financing consideration. It refers to a firm's capacity to mobilize financial resources at reasonable cost to respond to unexpected cash-flow shocks and capitalize on profitable investment opportunities (Yanti et al., 2021; Mahmood et al., 2018). Financial flexibility enables firms to maintain liquidity, reduce financial distress risks and undertake value-enhancing investments. Nevertheless, empirical findings remain varied, with studies reporting positive effects on firm performance, Chang and Wu, (2022) study in Taiwan Stock Exchange, and evidence of an inverted U-shaped relationship from a study in European countries, suggesting that the benefits may depend on the level of flexibility maintained (Bilyay-Erdogan, 2020).

Non-debt tax shield (NDTS) constitutes another potential determinant of profitability. Introduced by DeAngelo and Masulis (1980), NDTS refers to tax deductions arising from non-debt-related expenses and incentives, including depreciation allowances, depletion allowances and investment tax credits. These provisions reduce taxable income without requiring debt financing and may therefore substitute for the tax benefits associated with borrowing. However, empirical evidence concerning their influence on financial performance remains inconclusive.

Despite extensive research on financing decisions and firm profitability, empirical findings concerning financial structure, financial flexibility and NDTS remain inconsistent across institutional and economic settings. Consequently, this study examines their effects on profitability among non-financial firms listed on the NSE using firm-level panel data covering 2015-2024.

1.2 Objective of the Study

The study sought to examine the drivers of profitability among non-financial firms listed on the Nairobi Securities Exchange. The specific objectives were:

a) Determine the effect of financial structure on profitability;
b) Determine the effect of financial flexibility on profitability;
c) Determine the effect of non-debt tax shield on profitability.

1.2.1 Hypotheses

The study tested the following null hypotheses:

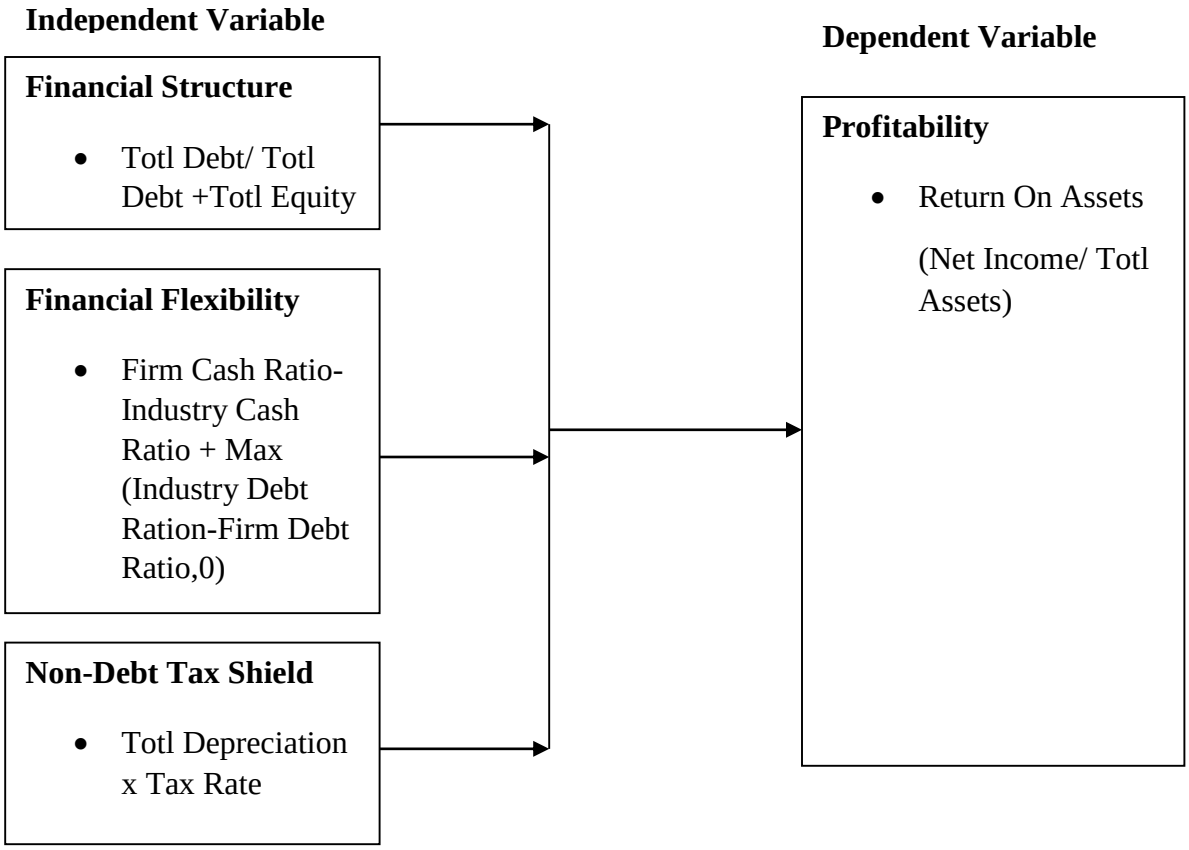
H_{01}: Financial structure has no effect on the profitability of non-financial firms listed on the Nairobi Securities Exchange.

H_{02}: Financial flexibility has no effect on the profitability of non-financial firms listed on the Nairobi Securities Exchange.

H_{03}: Non-debt tax shield has no effect on the profitability of non-financial firms listed on the Nairobi Securities Exchange.

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1.3 Conceptual Framework



2. METHODOLOGY

2.1 Research Philosophy

This study adapted the positivism research philosophy. This philosophy is appropriate because, according to Park et al., (2020), positivism relies on the hypothetical deductive method to verify a priori hypotheses that are often stated quantitatively where functional relationships are derived between causal and explanatory factors (Independent Variables) and outcomes (Dependent Variable). The study focused on investigating the effect of financial Structure, Financial Flexibility, Non-Debt Tax Shield to determine how they drive the profitability of non-financial firms listed on NSE.

2.2 Research Design

Research design tries to answer the questions of who, what, when, where and how and attempts to explain the reasons for the phenomenon that are observed (Cooper & Schindler, 2014). This study adapted a longitudinal research design. A longitudinal research design involves repeated observations of the same variables over a long period of time ((Zikmund et al., 2013). This design allowed the collection of data on financial structure, financial flexibility and non-debt tax shield repeatedly over the 2015-2024 period from the listed non-financial firms and established relationships.

3.3 Study Population

The target population for this study was the non-financial firms listed on the Nairobi Securities Exchange. Because of the small dimension of the non-financial firms, the study used census approach and data was collected from a total of 46 non-financial firms. The non-financial firms are chosen because of the declining performance and hence profitability of the NSE 20 share index over the last decade. The study used secondary data from the non-financial firms listed in Nairobi Securities Exchange. The Non-Financial Firms were the unit of observation and unit of analysis in this study. Some of the firms were excluded because full set of audited financial statements could not be obtained: Deacons East Africa PLC, ARM Cement PLC, Mumias Sugar and Laptrust Imara I-REIT. The final sample used for analysis was 42 non-financial firms listed on NSE.

2.4 Data Collection Procedure

Clearance and ethical approval were obtained from the relevant institutions, and a research license was granted by NACOSTI to carry on with the research. The study used secondary panel data on the study: Financial Structure, Non-Debt Tax Shield, Financial Flexibility, Firm Age and profitability of the Non-Financial Firms listed at the NSE for the period 2015 - 2024. Secondary data has the advantage of being readily available, faster and cheaper to obtain (Zikmund et al., 2013). Data was electronically retrieved from digitally stored records of the audited financial statements of the individual non-financial firms listed at the NSE from the firm's websites, CMA and NSE, which was collected by using a structured data collection sheet and subsequently cleaned, coded and analyzed using STATA software.

2.5 Data Processing and Analysis

The study used the empirical model below to achieve the set objectives:

$$ROAi,t = \beta 0 + \beta 1FinStrui,t + \beta 2FinFli,t + \beta 3NDTSi,t + \beta 4FmAgi,t + \varepsilon i,t \quad \ldots\ldots(1)$$

Where:

$ROAi,t =$ Return on Assets of firm i in time t

$FinStri,t$ = Financial Structure of firm i in time t

$FinFli,t$ = Financial Flexibility of firm i in time t

$NDTSi,t$ = Non-Debt Tax Shield of firm i in time t

$FmAgi,t$ = Age of firm i in time t

Di,t = COVID-19 dummy variable for firm i in time t

$\beta 1$, $\beta 2$, $\beta 3$ and $\beta 4$, are coefficients of Financial Structure, Financial Flexibility, Non-Debt Tax Shield, and Firm Age and the COVID-19 dummy variable respectively.

$\beta 0$ = Constant

$\varepsilon i,i$ = Error term for firm i in year t

The study variables were operationalized as shown in the table below:

Table 1: Operationalization of the Variables

Variable	Variable Definition	Variable Measurement	Measurement Scale	Supporting Literature
ROA	Net income divided by total assets	Net income/Total Assets	Ratio	Ali & Anwar (2021); Rafiuddin, (2015); Abeywardhana, (2015)
Financial Structure	Total Debt divided by total debt plus total equity	Total debt /total debt +total equity	Ratio	(Jeleel & Olayiwola, 2017); (Seyoum et al., 2020); (Foyeke etal., (2016)
Financial Flexibility	Difference of firm's cash ratio and industry cash ratio	Firm Cash Ratio-Industry Debt Ratio + Max (Industry Debt Ratio-Firm Cash Ratio,0)	Ratio	(Wel et al., 2017)

Variable	Variable Definition	Variable Measurement	Measurement Scale	Supporting Literature
Non-Debt Tax Shield	Saving from depreciation	Depreciation x Tax rate	Ln (Depreciation x Tax rate)	(Jairo, 2004)
Firm Age	Age in years	Years since incorporation	Ln (No of years)	Kartiningsih & Daryanto, (2020); Ilaboya & Ohiokha, (2016)
COVID-19	COVID-19 Dummy	1=COVID-Period 0=After COVID	Binary	Yuen et al., (2022); Lu & Khan, (2023); Putra, (2024)

3. RESULTS

3.1 Findings on Descriptive Statistics

The descriptive statistics for all variables included in the study is shown below. The summary statistics include the number of observations, mean, standard deviation, minimum, Q1, Median, Q3 and maximum for each variable. These statistics provide essential insights into the central tendencies, variability, and distributional characteristics of the data, which in turn inform the choice of appropriate econometric techniques and the interpretation of regression results for the forty-two non-financial firms listed on the NSE. Table 2 below shows the descriptive statistics.

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Q1	Median	Q3	Maxim
ROA	372	0.001	0.167	-1.015	-0.04	0.016	0.064	0.466
Financial Structure	410	0.675	1.092	0.025	0.27	0.476	0.757	14.187
Financial Flexibility	407	0.079	0.196	-0.37	0	0	0.1	2.58
NDTS	405	3721.134	17338.63	0.003	8.262	60.612	241.62	209744.4
Firm Age	420	60.643	36.347	3	25.75	58	83	155
COVID - Dummy	420	0.3	0.458804	0	0	0	1	1

The descriptive statistics revealed considerable variation among the non-financial firms listed on the NSE during 2015-2024. Profitability, measured by ROA, had a mean of 0.0011, indicating slightly positive average profitability, although substantial differences existed across firms and years. Financial structure also showed wide dispersion and extreme observations, reflecting heterogeneous financing patterns. Financial flexibility recorded a mean of 0.0792, while NDTS exhibited a high mean and standard deviation, indicating substantial positive skewness. Firm age averaged approximately 60.64 years, demonstrating varying organizational maturity. The COVID-19 dummy indicated that 30% of observations represented the coded period. These characteristics justified conducting diagnostic tests before regression estimation.

3.2 Correlation Analysis

Pearson correlation test was conducted to find out the direction and strength of the linear associations among the study variables. The resultant correlation coefficients are shown in table 3 below:

Table 3: Correlation and multi-collinearity matrix

Variable	ROA	FS	FF	NDTS	AGE	COVID
ROA	1					
Financial Structure	-0.459	1				
Financial Flexibility	0.025	-0.021	1			
NDTS	-0.038	-0.011	0.042	1		
Firm Age	0.163	-0.158	0.147	-0.153	1	
COVID Dummy	-0.017	0.077	0.084	0.029	0.063	1

Table 3 presents the Pearson correlation coefficients among the study variables. The correlation analysis revealed that ROA had a moderate negative relationship with financial structure ($r = -0.459$), while its relationships with financial flexibility, NDTS, firm age, and COVID-19 were weak. Correlations among the explanatory variables were generally low, indicating limited linear associations. Financial structure showed a weak negative association with financial flexibility and firm age, while other relationships were similarly weak. Overall, the results provided preliminary

evidence that serious multicollinearity was unlikely. This was subsequently verified using Variance Inflation Factor (VIF) diagnostics.

3.3 Diagnostic Tests

3.3.1 Multicollinearity Test

Variance Inflation Factor Test was conducted, and the variance inflation factors and tolerance statistics were used to determine whether the explanatory variables exhibited problematic linear relationships. The results of the Variance Inflation Factor Test are shown in table 4 below:

Table 4: Multi-collinearity Test

Variable	VIF	Tolerance
Financial Structure	1.035	0.967
Financial Flexibility	1.031	0.97
NDTS	1.035	0.966
Firm Age	1.13	0.885
COVID Dummy	1.019	0.981

The VIF and the tolerance values were way below the maximum and above the minimum critical threshold values of 10 and 0.10 respectively. The results demonstrate that Financial Structure, Financial Flexibility, NDTS, Firm Age and the COVID Dummy values can be included simultaneously in the regression models without creating serious multicollinearity problems. Consequently, the individual effects of the study variables on the profitability of non-financial firms listed on the Nairobi Securities Exchange were estimated with reasonable confidence.

3.3.2 Normality Test

The Jarque-Bera test was conducted to determine whether the regression residuals are normally distributed. The results are indicated in table 5 below:

Table 5: Jarque-Bera Test

H_0: Residuals are normally distributed.
H_1: Residuals are not normally distributed

Test	Statistic	p-value	Decision
Jarque-Bera	2,898.785	<0.001	Reject H_0

The results show a Jarque-Bera statistic of 2,898.785 with a p-value < 0.001. Since the p-value is less than the 5% significance level, the null hypothesis of normality is rejected. Logarithmic transformations were therefore introduced for positively valued and highly skewed variables. Where variables contained zero or negative observations, signed-log transformations were employed. The transformed specifications were subsequently used in the regression model as part of the final regression analysis.

3.3.3 Heteroscedasticity Test

The Breusch-Pagan LM and Breusch-Pagan F tests were employed to establish whether the variance of the regression residuals is constant across observations. The null hypothesis was that the residuals are homoscedastic, meaning that they have constant variance. Table 6 below shows the results of the test.

Table 6: Breusch-Pagan Test for Heteroscedasticity

H_0: The residuals are homoscedastic.
H_1: Heteroscedasticity is present.

Test	Statistic	p-value	Decision
Breusch-Pagan LM	21.084	0.0018	Reject H_0
Breusch-Pagan F	3.661	0.0015	Reject H_0

The Breusch-Pagan LM test ($\chi^2 = 21.084$, $p = 0.002$) and F test ($F = 3.661$, $p = 0.002$), both rejected the null hypotheses of constant variance, confirming the presence of heteroscedasticity. Consequently, logarithmic and signed-log transformations were applied, while firm-clustered

robust standard errors were used to improve the reliability of coefficient inference, significance tests, and confidence intervals to obtain inference robust to heteroscedasticity and within-firm dependence.

3.3.5 Serial Correlation

The Breusch-Godfrey LM test with one lag was conducted to determine whether the regression residuals are serially correlated. The null hypothesis was that there is no serial correlation in the residuals. Table 7 shows the results of the serial correlation test.

Table 7: Breusch-Godfrey Test for Serial Correlation

H_0: There is no serial correlation.
H_1**:** Serial correlation is present.

Test	LM Statistic	Lag	p-value	Decision
Breusch-Godfrey LM	36.775	1	<0.001	Reject H_0

The results indicated a Breusch-Godfrey LM statistic of 36.775 with a p-value <0.001, which rejected the null hypothesis of no serial correlation. The detection of serial correlation further justified the use of clustered standard errors, which are robust to both heteroskedasticity and serial correlation. By employing clustered standard errors, the study ensured that the statistical inferences are valid even in the presence of serial correlation in the error terms.

3.3.6 Stationarity Test

Panel stationarity testing was undertaken to establish whether the variables exhibited unit roots over the study period 2015-2024. The Fisher-type Augmented Dickey-Fuller (Fisher-ADF) test was conducted to establish the stationarity properties of the variables used in the study. The results are shown in table 8 below:

Table 8: Panel Stationarity Test

H_0: Panels contain a unit root.
H_1: Panels are stationary.

Variable	Level Fisher ADF	p-value	Level Decision	First-Difference Fisher ADF	p-value	Integration
Profitability (ROA)	112.2056	0.0216	Stationary	–	–	I(0)
Financial Structure	78.0645	0.6618	Non-stationary	207.4126	<0.001	I(1)
Financial Flexibility	133.1884	<0.001	Stationary	–	–	I(0)
NDTS	80.3283	0.5316	Non-stationary	246.4409	<0.001	I(1)

The Fisher-ADF panel unit root test indicated that profitability and financial flexibility were stationary at level, with p-values of 0.0216 and less than 0.001, respectively, indicating that both variables were integrated of order zero, I (0). In contrast, financial structure and NDTS were non-stationary at level, with p-values of 0.6618 and above conventional significance levels. However, both became stationary after first differencing, with p-values below 0.001. Therefore, financial structure and NDTS were integrated of order one, I(1), confirming mixed-order integration among the study variables.

3.3.7 Cho Test for Pooled OLS vs Fixed Effect

The Chow test was conducted to determine whether pooled Ordinary Least Squares (OLS) or the Fixed Effects (FE) model was more appropriate, and the results are shown in table 8 below:

H_0: Pooled OLS is appropriate.
H_1: Firm-specific effects are significant.

Test	F-statistic	Degrees of Freedom	p-value	Decision
Chow/F-test for Firm Effects	6.3773	(40, 310)	<0.001	Reject H_0

Since the p-value is below the 5% significance level, the null hypothesis is rejected, and the pooled OLS model is rejected in favor of the Fixed Effects model.

3.3.8 Hausman Specification Test

The Hausman specification test was subsequently conducted to determine whether the Fixed Effects (FE) or Random Effects (RE) model was more appropriate for the panel data analysis and the results are shown in table 9 below:

Table 9: Hausman Specification Test

H_0: Random effects is appropriate.
H_1**:** Fixed effects is appropriate.

Test	Chi-square	df	p-value	Decision
Hausman Test	83.9186	6	<0.001	Reject H_0

The Hausman test produced a chi-square statistic of 83.9186 with six degrees of freedom and $p < 0.001$. Consequently, the fixed-effects estimator was selected as the principal panel regression model.

3.4 Regression Analysis

Following the diagnostic tests, a transformed regression model was estimated to assess the robustness of the relationships between financial structure, financial flexibility, non-debt tax shield (NDTS) and profitability. The results are presented in Table 10 below:

Table 10: Final Transformed and Lagged Fixed-Effects Regression Results

Variable	Coefficient	Std. Error	t-statistic	p-value
Constant	-0.401637	0.295673	-1.358	0.1743
Lagged transformed ROA	0.031270	0.081696	0.383	0.7019
ln Financial Structure	-0.102154	0.031096	-3.285	**0.0010**
Signed-log Financial Flexibility	0.169435	0.071412	2.373	**0.0177**
ln(1+NDTS)	-0.041061	0.032476	-1.264	0.2061
Firm Age	0.002861	0.003965	0.722	0.4705
COVID-19 Dummy	-0.015033	0.016688	-0.901	0.3677
N = 317; R^2 = 0.6811	**Estimator:** Firm fixed effects. **Inference:** Standard errors clustered by firm.			

The model explained approximately 68.11% of the variations represented within the fixed effects estimation framework. The results provide particularly strong evidence regarding financial structure and financial flexibility. Financial structure was negative and statistically significant (β=-0.102154, p=0.0010), while financial flexibility was positive and statistically significant (β=0.169435, p=0.0177). NDTS was negative but statistically insignificant (β=-0.041061, p=0.2061).

Objective 1: To assess the effect of Financial Structure on the profitability of non-financial firms listed in the Nairobi Securities Exchange.

The results of the regression model for objective 1 are shown in table 11 below.

Table 11: Financial Structure and profitability

$H_{0:}$ Financial Structure does not affect profitability

H_1: Financial Structure has an effect on profitability

Variable	Coefficient	Std. Error	t-statistic	p-value
ln Financial Structure	-0.102154	0.031096	-3.285	**0.0010**

The coefficient of the natural logarithm of financial structure is negative (β=-0.102154, p=0.001). The associated p-value< 0.01 significance level, indicating strong statistical evidence of negative effect of financial structure on profitability.

Objective 2: To investigate the effect of Financial Flexibility on the profitability of non-financial firms listed in the Nairobi Securities Exchange.

The results of the regression model for objective 2 are shown in table 12 below:

Table 12: Financial Structure and profitability

$H_{0:}$ Financial Flexibility does not affect profitability

$H_{1:}$ Financial Flexibility has an effect on profitability

Variable	Coefficient	Std. Error	t-statistic	p-value
Signed-log Financial Flexibility	0.169435	0.071412	2.373	**0.0177**

The regression results indicated that financial flexibility has a positive and statistically significant effect on profitability (β=0.169435, p= 0.0177). The associated p-value<0.05 indicates strong evidence of a positive effect of financial flexibility on profitability.

Objective 3: To examine the effect of Non-Debt Tax Shield on the profitability of non-financial firms listed in the Nairobi Securities Exchange.

The findings of the regression model for objective 3 are shown in table 13 below:

Table 13: NDTS and Profitability

$H_{0:}$ NDTS does not have an effect on profitability
$H_{1:}$ NDTS has an effect on profitability

Variable	Coefficient	Std. Error	t-statistic	p-value
ln(1+NDTS)	-0.041061	0.032476	-1.264	0.2061

The regression results showed that NDTS had a negative but statistically insignificant effect on profitability (β = −0.041061, p = 0.2061), indicating that NDTS did not significantly influence profitability.

4. DISCUSSION

The findings were consistent with theoretical expectations and differed from some previous empirical studies, highlighting contextual differences in corporate financing. The finding that financial flexibility has a statistically significant positive effect on profitability is consistent with the theoretical arguments of DeAngelo and DeAngelo (2007), Gamba and Triantis (2007), and Byoun (2021), and aligns with the empirical evidence from Ogutu and Njuguna (2024) and Bilyay-Erdogan (2020) from developed and emerging countries who found that financial flexibility had a

positive and statistically significant effect on profitability. However, the findings contrast with those of Chang and Wu, (2022), who found an inverted U-shaped relationship between financial flexibility and performance.

Overall, the results suggest that financial flexibility may enhance profitability, whereas NDTS appears to have a limited direct effect on profitability among NSE-listed non-financial firms. The findings are consistent with the theoretical predictions of the Trade-off Theory and Pecking Order Theory. They are also consisitent with previous empirical evidence from African markets, including Seyoum et al., (2020) in Ethiopia, Motanya, (2019) in Kenya, Eze and Timipere, (2020) in Nigeria, and Muchiri et al., (2016) in East Africa who found that financial structure had a negative and statistically significant effect on profitability. However, the results contradict those of Jeleel and Olayiwola, (2017), Omoregie et al., (2019) and Ibhagui and Olokoyo (2018) who found that financial structure had a positive and statistically significant effect on profitability.

4.1 Conclusion

The study examined the effects of financial structure, financial flexibility, and non-debt tax shields on the profitability of 46 non-financial firms listed on the NSE from 2015-2024. The findings established that financial structure negatively and significantly affected profitability, while financial flexibility had a positive and statistically significant effect. However, NDTS had no significant effect on profitability. The study contributes to the literature by examining these three financial drivers within a common empirical framework in the regional and local context.

4.2 Proposed Theory of change

The findings of the study form a basis for proposing a theory of change to act as a guide for practical implementation of managerial strategies that aim at improving profitability of non-financial firms listed on the Nairobi securities exchange (NSE). The proposed framework links evidence on financial structure, financial flexibility and non-debt tax shields to specific managerial intervention measures and anticipated profitability outcomes. Table 14 below shows the link between the study findings, the proposed interventions, the immediate and the long-term anticipated outcomes:

Table 14: Theory of change framework

Study finding	Proposed intervention	Immediate expected outcome	Longer-term anticipated outcome
Financial structure negatively relates to profitability	Review debt levels, control borrowing costs and financing mix	Better financing-cost controls	Potential improved profitability
Financial flexibility positively relates to profitability	Strengthening liquidity planning, cash-flow forecasting and working-capital management	Greater capacity to respond to financial requirements	Greater financial resilience and potentially higher profitability
NDTS has no statistically significant relationship with profitability in the baseline model	Integrate tax planning with investment appraisal	More informed capital-investment decisions	Better-informed resource allocation

The negative and statistically significant relationship between financial structure and profitability suggests that firms should critically evaluate their financing arrangements and the costs associated with debt financing. Boards of directors and finance managers should periodically review debt levels, borrowing costs, repayment schedules and the balance between debt and equity financing. The positive and statistically significant relationship between financial flexibility and profitability underscores the importance of maintaining the capacity to respond to changing financial and operating conditions. Firms should strengthen cash-flow forecasting, working-capital management, liquidity planning and access to timely financing alternatives. Maintaining adequate financial reserves and avoiding unnecessary commitments enable firms to respond to unexpected expenditure, pursue profitable investment opportunities and sustain operations during periods of economic uncertainty.

On the other hand, the statistically insignificant relationship between NDTS and profitability in the baseline model suggests that depreciation-related tax benefits should not be treated as an independently established driver of profitability in the listed non-financial firms. Managers should evaluate depreciation allowances and other applicable tax provisions within a broader investment appraisal and tax-planning framework.

The implementation of the proposed Theory of Change requires the participation of boards of directors, finance managers, investment committees and relevant regulatory and policy institutions. Boards should provide oversight of financing policies and financial risk, while finance managers translate these policies into operational budgets, liquidity forecasts and periodic financial performance reviews. Firms should monitor implementation using indicators such as financing costs, debt-servicing capacity, liquidity measures, working-capital efficiency and return on assets (ROA). Regular monitoring would enable management to identify emerging financial pressures, evaluate the effectiveness of interventions and adjust financial strategies where necessary.

4.3 Recommendations

Management should maintain prudent financial structures aligned with sustainable cash flows and preserve financial flexibility through liquidity planning and diversified financing. NDTS should not drive investment decisions. Boards should strengthen oversight of borrowing policies, while the Capital Markets Authority and Nairobi Securities Exchange should promote transparent disclosure of debt commitments, liquidity positions, and major investments.

Future research should extend the study to unlisted firms and other African securities markets to determine whether the findings are specific to Kenya or generalizable across institutional settings. Researchers should also examine alternative profitability measures, including return on equity, operating margins, and market-based performance, to establish whether the observed relationships extend beyond ROA.

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