Original Research

The Influence of Financing Decisions on the Performance of Listed Non-Financial Firms in Tanzania

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Abstract

This paper gives empirical evidence from Tanzania on the influence of financing decisions on the performance of non-financial firms listed in the Dar Es Salaam Stock Exchange (DSE). The study used secondary data from 2007 to 2021. EViews software was used to perform the analysis in which descriptive statistics, correlation, and regression analysis were performed. Two leverage ratios were used to measure financing decisions, short-term debt to total assets (STDTA) and total debt to total assets (TDTA), and three accounting-based measures, return on assets (ROA), return on equity (ROE) and gross profit margin (GPM) as a proxy of firm performance. At the same time, firm size (FS) and sales growth (GR) were used as control variables. The findings based on descriptive statistics revealed that non-financial firms depend mainly on short-term debt for their investments. Also, the panel regression model results indicated that STDTA and TDTA negatively impact ROA. Similarly, TDTA was statistically significant with ROA. Moreover, STDTA and TDTA showed mixed results for ROE and GPM, with a significant negative and positive association with ROE, respectively. FS is reported to significantly impact firms' performance, while GR appears to impact ROA positively. The study concludes that the financing decisions of listed non-financial firms in Tanzania weakly influence the performance of firms. Researchers suggest that companies should make suitable financing decisions with attention to lower the cost of capital, enhancing financial stability, and maintaining firm performance.

Keywords: Financing Decision, Influence, Model, Performance, Panel Regression, Tanzania.

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Introduction

Financing decisions in capital structure are vital for any firm's performance. Scholars posit that financing decisions are salient as they are the backbone of any business operation or economic activity (Desai & Desai, 2018; Doan, 2020; Kasasbeh, 2021). Highlighting the importance of firms' financial decisions, Doan (2020) affirms that it allows non-financial firm managers or directors to seize opportunities and overcome development challenges. Similarly, financing decisions are essential components of capital structure in financial management (Pandey, 2015). Likewise, it gives financial managers strategies and plans about when, where, and how to obtain funds to suit the firm's investment requirements. To maximize their firms' performance, finance managers must choose the optimum financing strategy through debt or equity (Daud et al., 2016), which forms part of the firm's capital structure (Kasasbeh, 2021). Thus, the capital structure in financial decisions determines whether the company can raise money using only total debt, short-term debt, total equity, or a combination of debt and equity and what proportion will be appropriate to finance the non-financial firms (Kasasbeh, 2021).

The primary sector of the national economy comprises non-financial firms/companies that provide a range of goods and services to the market intending to make a profit (Saif-Alyousfi et al., 2020). Non-financial firms are the firms that are not primarily engaged in financial services, such as banking or insurance which operate in various industries, producing goods or offering services rather than dealing with financial transactions. Non-financial firms are the most significant sources of capital demand components that contribute to expanding the financial industry and financial activities (Saif-Alyousfi et al., 2020). In a similar spirit, the healthy financial standing of non-financial firms not only serves as the foundation for the smooth functioning of the entire economic system but also improves the conditions in which financial institutions' environments can operate and lowers the likelihood of financial risks (Saif-Alyousfi et al., 2020). Non-financial firms in the context of Tanzania can be traced from April 1998, when the operational started with Tanzania Oxygen Limited (TOL) being the first company to be registered in the Dar es Salaam Stock Exchange, which is the capital market of Tanzania, followed by Tanzania Breweries Limited (TBL) being the second company to be registered within the same year.

Since 1958, a growing body of literature on financial decisions has been based on Modigliani and Miller's (MM) work (Modigliani & Miller, 1958). Numerous studies have been conducted on financing decisions and the firm's performance in developed countries such as the USA, Japan, UK, Germany, and Italy (Campello, 2006; Kraus & Litzenberger, 1973; Molina, 2005; Qiu et al., 2021), in which the literature revealed conflicting results regarding the relationship between financing decision and performance of the firms. Even though financial decisions have been an essential concern for financial economists for decades, there are inadequate studies on firms' financing decisions, mainly from developing countries such as Tanzania. The few available studies in the Tanzanian context have generally focused on the capital structure and performance of the financial and non-financial listed firms (Ayo & Muba, 2021; Marobhe, 2014). Thus, there is a dearth of literature on financing decisions and firms' performance.

A study of the specific aspects of the capital structure, such as financing decisions on firm performance, is essential to help Tanzanian investors seize investment opportunities and manage firms during the financial crisis. Similarly, the study is indispensable as it will help non-financial firm management make sensible financing decisions aiming to improve the performance of the firms (Chang et al., 2019; Doan, 2020). Furthermore, financing decisions foster the firms to maximize their output from the input in the form of debt or equity (Kasasbeh, 2021). Consequently, this paper intends to investigate the nexus between financing decisions and the performance of non-financial firms traded in the Dar es Salaam Stock Exchange from 2007-2021.

The rest of this study is organized as follows: Section two is the literature review, including theoretical and empirical studies and a conceptual framework. The next section is a methodology summary summarising the data and explaining the choice of variables included in the analysis and the estimated model. The section that follows provides the results and discussions of the empirical research. Finally, the conclusion is drawn.

Literature Review

Theoretical Perspective

The theories pertaining to capital structure, such as those of Modigliani and Miller, the Pecking Order Theory, and the Trade-Off Theory, can help to understand the relationship between debt financing and the company's success (Dalci, 2018). However, the relationship between a firm's worth and performance has remained unclear in the literature on corporate finance and accounting since the seminal work of Modigliani and Miller 1958 (El-Sayed Ebaid, 2009). Modigliani and Miller's obsolete capital structure theory, therefore, claimed that financing decisions have no bearing on a company's value due to some implausible assumptions (Le & Phan, 2017), which is not relevant in practice, such as (i) taxes free economy (ii) presence of ideal financial markets (iv) there is no knowledge asymmetry, and (v) there is no bankruptcy cost (El-Chaarani, 2014), even though many authors have challenged the use of the MM theory because it is believed to fail to address the real-world state of affairs consistently.

Hence, Modigliani & Miller (1963) improved their earlier assertions regarding the firms' capital structure by asserting the tax benefit factor. The central aspect of taxes is that interest is an expense deducted from taxes (Abor, 2005). Whenever a business pays taxes, it is rewarded a "tax shield" from attention payments that partially offset the taxes paid. Therefore, to maximize their value, firms should use as much loan capital as possible, as suggested by (Modigliani & Miller, 1963). The debt gain caused by the tax shield creates a favorable correlation between debt and firm performance (Modigliani & Miller, 1963; Sener et al., 2021). Furthermore, it has been argued that, instead of the variety of securities a firm issues, its actual assets determine its worth (El-Sayed Ebaid, 2009).

On the other hand, theories of trade-offs and pecking order are at the front line when theorizing capital structure decisions after Modigliani and Miller's (1958) theory (Abor, 2005; El-Sayed Ebaid, 2009; Le & Phan, 2017). It states that the tax advantages of debt financing are mentioned as a benefit and a drawback of debt financing, respectively: the

price of debt in terms of bankruptcy and financial misery (Onuora, 2019). They offer competing hypotheses regarding the connection between business performance and finance choices (Legesse & Guo, 2020). According to the trade-off hypothesis, a company will choose between the advantages of levy savings and the costs of financial hardship to have an optimal capital structure that will maximize firm value (Kraus & Litzenberger, 1973; Myers, 1984). The trade-off model hypothesizes that the extra gainful companies utilize debt financing more in their capital structures than less profitable ones (Legesse & Guo, 2020).

On the contrary, the Pecking Order Theory is a different hypothesis established by Myers (1984) and (Myers & Majluf, 1984). Due to the incidence of an information gap regarding investment prospects at the firm between managers and investors, businesses choose to finance new investments first with internally generated capital that is retained earnings; if this source is insufficient, managers look to the second option, which is debt as an external source for backup and equity as a last recourse when no further debt may be incurred (Abor, 2005; El-Sayed Ebaid, 2009; Jahanzeb et al., 2013; Le & Phan, 2017). According to Myers (1984)**,** the superlative capital structure is challenging because equity is at the top and bottom of the "pecking order." Successful businesses that produce high retained earnings should use less debt in their capital structure than those that do not. In this essence, retained earnings should be preferred first in support of potential investments. He continues by saying that the issuance of debt secured by collateral aids in lowering the financing costs linked to asymmetric information.

However, an essential issue contends that no theory does sufficiently explain the impact of capital structure on a firm's success. Meanwhile, these thoughts are predicated on several problematic suppositions, although the social network is complicated and varied (Ardalan, 2017). Accordingly, theorists are not always fully conscious of the complexity of society or tradition.

Empirical Literature Review

Numerous academic empirical studies have been conducted on this theme, with varying degrees of success. Thus, this study evaluates empirical research on financing decisions of the capital structure and company performance worldwide to verify theoretical hypotheses.

Drawing experience from previous studies, Sener et al. (2021) investigated the effect of debt financing on the performance of companies in Turkey, with a sample of 9,820 publicly listed firms with 78,740 observations from 2010 to 2018. The data was analyzed quantitatively using regression with firm-fixed effect models based on the Hausman test. The study used three measures of debt financing as independent variables, i.e., STD, LTD or TD, and ROA as a performance measure. According to the study's findings, there is a negative correlation between debt financing and company performance, which is consistent with the theory of pecking order. The study was conducted outside Tanzania, where the policies regulating the capital market for registered firms are quite different from those of Turkey. Also, the study was mainly focused on public firms. Thus, a survey of financing decisions on the performance of public and private non-financial firms in Tanzania is pertinent to enhance economic growth.

A study by Kasasbeh (2021) examined the effect of financing decision ratios on firms' accounting-based performance from Jordan-listed companies. The study used 40 firms listed before the year 2007 with 200 observations. Mixed results were found where financing decisions proxied by total debt, short-term debt, and long-term debt to total assets and performance proxied by ROA and ROE revealed that total debt and short-term debt to total assets are significant and negative on the return on assets and return on equity. In contrast, long-term debt to total assets is substantial and flattering on both returns on assets and equity. Despite the study conducted in Jordan, it is essential to provide indicators for measuring capital structure and firm performance for listed non-financial firms in Tanzania.

Another study by Ankamah-Yeboah et al. (2021) studied the capital structure and firm performance in Croatian, Italian, Spanish, French, and Greek firms. Panel data involved 91 firms with 612 observations from 2008 to 2016. A stochastic frontier function and a multilevel instrument variable approach were employed for analysis. STDR, LTDR, and TD, on the one hand, and profit margin ratio, liquidity, tangibility, capital, sales, labor, and material, on the other hand, were surrogated for financing decisions and firms' performance measures, respectively. The study reported an inverted U-shaped relationship between leverage and firms' performance.

In Vietnam, Doan (2020) analyzed financial choices and business results of listed non-financial firms. The study employed the panel data of 102 firms from 2008 to 2018. GMM was used for analysis to ensure stable and efficient findings. The study used variables, i.e., TD, LTD, and STD, for financing decision measures and ROA for performance measures as a dependent variable. The study revealed that a firm's performance significantly correlates with financing decisions. Further findings exposed that the increase in debt use decreases firms' performance. Also, the inflation rate as a control variable positively affected financial development.

Legesse and Guo (2020) examined the association between debt financing and firms' efficiency in China, Germany, India, and Japan's manufacturing industries, using Panel data from the COMPUSTAT database from 2007 to 2017 with a sample of 27,260 observations. GMM was employed for analysis by taking debt financing proxy by STDR, LTDR, and TDR as independent variables and firms' efficiency surrogated by ROA. The results found that short-term debt positively links with ROA and has a negative relationship with long-term debt on firms' efficiency. The current study was conducted in both developed and developing countries, which are more advanced in technology to enhance the efficiency of their products. Surveying developing countries like Tanzania is vital to the nexus between financing decisions and firms' performance. Also, the variables used are imperative and will be modified to suit the current study.

Mugisha et al. (2020) explored the effects of short-term debt on the financial performance of Uganda's SMEs. A cross-sectional design with multistage sampling, i.e., Stratified and purposive sampling techniques, was adopted. Quantitative data were collected from 458 SMEs in Buganda, Uganda, and analyzed using descriptive and inferential statistics (Linear regression). The study revealed that short-term debt has a negative and statistically significant effect on financial performance measured by ROA on SMEs.

Desai and Desai (2018) studied financing decisions as a determinant of a firm's performance in Indian Pharmaceutical Industries. Using panel data for ten years from 2007-08 to 2016-17, and analyzed using correlation and multiple regression models. Two independent variables, LTDR and STDR, were employed to finance decisions, and four performance measures, i.e., ROE, ROA, EPS, and Tobin's Q, were used as dependent variables. The study revealed that borrowed funds affect financial performance adversely but are statistically insignificant. Both debt ratios reported a negative and significant effect on ROA only. Despite the analysis being limited to India and pharmaceutical industries, it is vital to provide indicators to measure capital structure and firms' performance in Tanzania.

Daud et al. (2016) investigated financing decisions and corporate performance in Malaysian Public firms. The study used Panel data covering 76 firms from 1994 to 2007. Regression models were employed for data analysis and reported an insignificant association amongst capital structure proxied by debt ratio and firms' performance proxy by ROA. The study was conducted in Malaysia and concentrated only on publicly listed firms. In contrast, the current study will be conducted in Tanzania, focusing on public and private but non-financial listed firms. Thus, a survey of financing decisions on the performance of non-financial firms in Tanzania is salient to enhance economic development.

Davydov (2016) investigated the impacts of bank debt financing on firms' performance in developing markets. Panel data of 700 publicly listed firms from 2003 to 2012 from the Bureau Van Database revealed that bank debt might increase a company's profitability. However, overall research on bank debt financing is unfavourable. Further results show that fully bank-financed companies experience less market value loss. Therefore, increased bank financing could improve a company's profitability and market value.

El-Sayed Ebaid (2009) analyzed Egypt's business performance regarding capital structure choices. From 1997 to 2005, non-financial listed enterprises' panel data were used. They employed STD/TA, LTD/TA, and TD/TA to quantify financial leverage and multiple regression analysis with ROA, ROE, and GPM as proxies for business performance. The study demonstrates that choices made regarding finance have little to no impact on a company's performance.
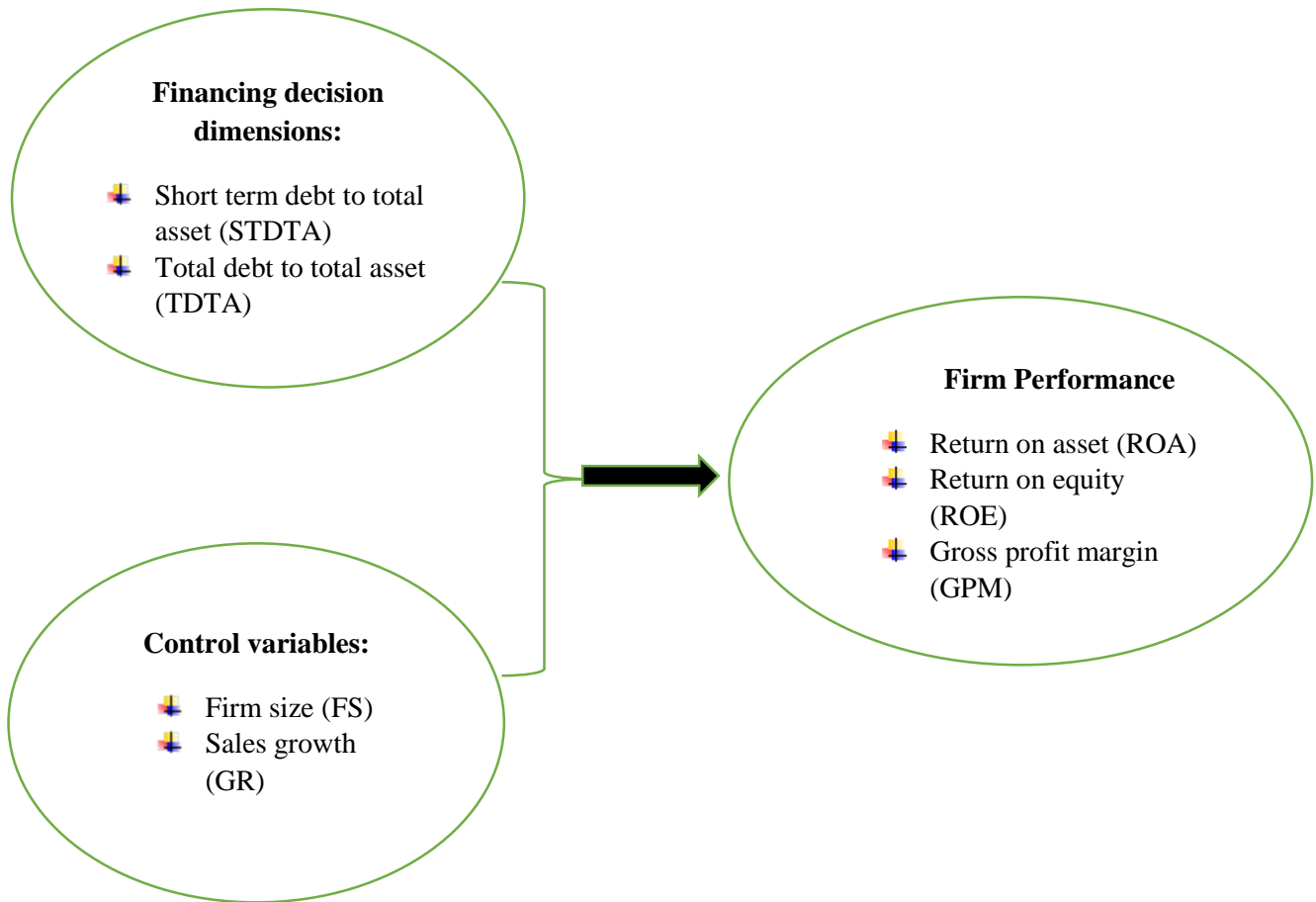
Conceptual Framework

Figure I. Conceptual model of the study

Methodology

Data Collection and Sample

The study employed secondary data that was gathered from the Tanzanian capital market. The study's sample includes publicly and privately traded non-financial companies. The audited annual financial information was extracted from the Dar es Salaam Stock Exchange (DSE) website from 2007 - 2021. An audited report ensures the legitimacy and dependability of the information gathered. After screening listed companies against some criteria, financial services firms, including banks and insurance companies, were detached from the sample, as the central bank of Tanzania regulates their capital structure and differs from this study's needs. The remaining companies were evaluated for the accessibility of financial information during the assessment period (2007 to 2021). Six of fifteen listed non-financial firms made up the final sample following this screening, while firms with missing, insufficient, and extreme data were removed.

Variables of the Study

Performance: Literature employs a variety of performance metrics for firms; these metrics consist of accounting-based metrics derived from the company's audited financial statements, such as ROA, ROE, and GPM (Table I). Other firms adopted Tobin's Q metric, a market-based metric to measure performance (Desai & Desai, 2018). Meanwhile, other firms combine accounting and market values (Desai & Desai, 2018; Ibhagui & Olokoyo, 2018). Consequently, three popular accounting-based performance indicators are used in this study to assess the firm's performance these are ROA (return on assets), ROE (return on equity), and GPM (gross profit margin).

Financial leverage is employed as an independent variable in the current study. Similar to some earlier literary works, two leverage ratios were used (as a proxy of financing decision) to test the capital structure of the firms; these are the short-term debt ratio (STD) and the total debt ratio (TD) (see Table I).

Control variables: the firm's size and sales growth are encompassed as control variables to account for additional potential effects on a company's performance. In line with some of the previous studies (see Table I), it has been noted that the performance of a company may be influenced by its size; larger companies have a more comprehensive range of capabilities and can benefit from economies of scale, which may affect the findings and implications. By integrating the model's size and sales growth variables, this study regulates the variations in the firm's working environment (El-Sayed Ebaid, 2009). To account for the impacts of business size and sales growth on the dependent variable, size is measured by the firm's natural logarithm of total assets, and sales growth is measured by the difference between the current year's sales minus the previous year's sales divided by last year's sales (i.e., performance). The details of the variables employed in this investigation are summarized in Table I.

Table I. Summary of study variables

Variables	Symbol	Measures	Reference used as a source
Dependent Variables			
Return on assets	ROA	Net profit/Total assets	(Dalci, 2018; Daud et al., 2016; Desai & Desai, 2018; Doan, 2020; El-Sayed Ebaid, 2009; Kasasbeh, 2021; Sener et al., 2021)
Return on equity	ROE	Net profit/Total equity	(Dalci, 2018; Daud et al., 2016; Desai & Desai, 2018; Doan, 2020; El-Sayed Ebaid, 2009; Kasasbeh, 2021; Sener et al., 2021)
Gross profit margin	GPM	Gross profit/Sales turnover	(El-Sayed Ebaid, 2009)
Independent Variables			
Short-term debt to total assets	STDTA	Short-term debt/Total assets	(Abor, 2005; Ankamah-Yeboah et al., 2021; Dalci, 2018; Desai & Desai, 2018; Doan, 2020; El-Sayed Ebaid, 2009; Kasasbeh, 2021; Sener et al., 2021)
Total debt to total assets	TDTA	Total debt/Total assets	(Abor, 2005; Ankamah-Yeboah et al., 2021; Dalci, 2018; Daud et al., 2016; Doan, 2020; Kasasbeh, 2021; Sener et al., 2021)
Control Variables			
Firm size	FS	Natural logarithm of total assets	(Abor, 2005; Dalci, 2018; Daud et al., 2016; Doan, 2020; Legesse & Guo, 2020)
Sales(firm) growth	FG	Current year's sales minus the previous year's sales divided by the previous year's sales	(Abor, 2005; Ankamah-Yeboah et al., 2021; Dalci, 2018; Hamid et al., 2015)

Empirical Modelling

The model proposed by El-Sayed Ebaid (2009) was adopted and modified to suit the current study. The following regression models confirmed the connection between leverage and a firm's performance:

Performance (ROA) = β0 + β1STDTAit + β2TDTA it + β3FSit + β4GRit + eit   (1)

Performance (ROE) = β0 + β1STDTAit + β2TDTA it + β3FSit + β4GRit + eit   (2)

Performance (GPM) = β0 + β1STDTAit + β2TDTA it + β3FSit + β4GRit + eit   (3)

where:

Performance	Performance of the firm "i" at the time "t is measured in three proxies, i.e., ROA, ROE, and GPM
β_0	Equation intercept
STDTAit	Short-term debt to total assets for firm i at time t.
TDTAit	Total debt to total assets for firm i at time t.
LnFsit	Natural logarithm of total assets for firm i at time t.
Grit	Change in sales divided by the previous year's sales for firm i at time t.
Bit	Change coefficient for independent variables for firm i at time t
eit	Error term for firm i at time t

Results and Discussion

Descriptive statistics

Table 2. Summary of descriptive statistics

Variables	Mean	Median	Std	Min	Max	Obs.
ROA	5.0962	5.1414	0.50226	0.797	6.395	90
ROE	5.269	5.2473	0.4477	3.8305	8.5829	90
GPM	0.3737	0.4113	0.205	0	1	90
STDTA	0.3109	0.2144	0.6828	0.0108	6.5036	90
TDTA	0.4542	0.328	0.6852	0.0108	6.5068	90
FS	22.6218	22.6598	2.7841	18.2263	26.8774	90
GR	1.5511	1.5671	0.2473	0.5	1.9931	90

Table 2 displays descriptive statistics for the independent and dependent research variables. Table 2's descriptive statistics make reference to two significant indications. First, the mean (median) values of the ratio of STDTA and TDTA are 0.3109 (0.2144) and 0.4542 (0.328), respectively. The results revealed that most of the leverage of Tanzanian firms is composed of short-term debt for their investments. The findings conform with the results of (Jones & Edwin, 2019) in Nigeria, where the total debt level is deficient. It can be suggested that Tanzania's capital market is fragile, and bank interest rates are high. The findings are supported by the studies conducted in China and Egypt (Dawar, 2014; El-Sayed Ebaid, 2009; Eldomiaty et al., 2019), which reported that the capital markets in China and Egypt are less efficient and incomplete when compared to capital markets in industrialized countries (Kasseeah, 2008).

Second, as displayed in Table II, the mean (median) values for ROA, ROE, and GPM are 5.0962 (5.1414), 5.2690 (5.2473), and 0.3737 (0.4113), respectively. The study revealed low performance on how efficiently the firms utilise the available resources through very low leverage and good use of shareholders' funds. Also, the study shows the average size of the firms is 22.6218, with a minimum size of 18.2263 and a maximum

size of 26.8774, indicating that the firms under investigation are closely related regardless of their sector differences.

Correlation Analysis

Table 3. Correlations coefficients among study variables

	ROA	ROE	GPM	STDTA	TDTA	FS	GR
ROA	1	-0.0727	0.3101	-0.9004	-0.9324	-0.0796	0.0704
ROE		1	0.0236	0.0958	0.1663	-0.1909	0.1016
GPM			1	-0.1869	-0.2638	-0.324	0.2306
STDTA				1	0.9667	-0.0791	0.0202
TDTA					1	0.019	0.0128
FS						1	-0.0436
GR							1

Table 3 presents the correlations among the study variables. The study observed that STDTA and TDTA have a negative relationship with ROA and GPM while revealing a positive relationship with ROE. Among the firm control variables, FS and GR, the study has shown that ROA, ROE, GPM, and STDTA have a negative relationship with FS, while on the other hand, demonstrating a positive relationship with GR and TDTA revealed a positive relationship with both FS and GR.

Regression Results

Tables 4 through VI present the panel least squares regression analysis performed to examine the association between the financing decision and the performance of the firm. Table 4 presents the findings from examining the correlation between performance indicators for financing decisions as measured by ROA (Model 1), ROE (Model 2), and GPM (Model 3), respectively.

Table 4 revealed that the proportion of total debt to total assets reduces the firm's ROA. Meanwhile, GR has a positive coefficient of 0.156895, which is not statistically significant at the 5% level, indicating evidence to suggest that the firm's growth rate may positively affect its ROA, although this relationship needs further investigation.

The R-squared value of 0.899313 indicates that the model explains 89.93% of the variation in ROA, while the adjusted R-squared value of 0.873787 suggests that the model fits well, considering the number of independent variables included. The F-statistic is significant at the 1% level, indicating that the model is overall statistically significant.

In summary, the panel regression analysis suggests that the financing decision of non-financial firms, as measured by TDTA, has a significant negative effect on their ROA. The results are consistent with the findings obtained by (Desai & Desai, 2018). Similarly, the research aligns with the study by (Doan, 2020) which took place in Vietnam. According to Doan's study, the negative influence of financing decisions (TDTA and STDTA) on firm performance indicates that the increase in debt use will decrease firm

performance. That is to say, the higher the debt ratio, the less profits firms can gain (Dawar, 2014; Doan, 2020).

Table 4. Model 1- Financing decision and performance measured by ROA

Variables	Coefficient	Std. Error	t-Statistics	Prob.
C	5.466944	0.212305	25.75049	0
STDTA	-0.15891	0.126666	-1.254554	0.2138
TDTA	-0.528536	0.126162	-4.189343	0.0001
FS	-0.014349	0.007519	-1.908306	0.0604
GR	0.156895	0.083921	1.869565	0.0657
Effects specification				
The period fixed (Dummy variables)				
R-squared	0.899313		Mean dependent var	5.096238
Adjusted R-squared	0.873787		S.D. dependent var	0.502588
S.E. of regression	0.178552		Akaike info criterion	-0.422783
Sum squared resid.	2.263534		Schwarz criterion	0.104955
Log-likelihood	38.02523		Hannan-Quinn criteria.	-0.209968
F-statistic	35.2309		Durbin-Watson stat	1.766136
Prob(F-statistic)	0.0000			

Also, TDTA was found to be significant with ROA, while STDTA, FS, and GR do not have a statistically significant effect on ROA. There could be a number of reasons why the short-term debt-to-total-assets ratio is not significant. Firstly, the unique market conditions and regulatory framework in Tanzania may make short-term debt ratios less significant than other financial indicators. Secondly, the impact of this ratio on performance evaluations may be lessened by differences in industry structures among listed companies. Thirdly, the availability of financial data may be inadequate to support reliable assessments, making it difficult to determine the real effect of short-term debt ratios on firms' performance. Lastly, macroeconomic factors, such as exchange rate fluctuations or government policies, may overshadow the significance of individual financial indicators in the context of the Tanzanian market.

Table 5 shows that the proportion of short-term debt to total assets reduces the firm's ROE. Similarly, the results show that the firm's growth rate may positively impact its ROE, but further research is required. GR has a positive coefficient of 0.158951, which is statistically significant at 10%. The total debt ratio to total assets revealed a positive coefficient of 1.147048 and is significant at 5%.

Table 5. Model 2 -Financing decision and performance measured by ROE

Variables	Coefficient	Std. Error	t-statistics	Prob.
C	6.134503	0.482906	12.7033	0
STDTA	-1.066745	0.288114	-3.702505	0.0004
TDTA	1.147048	0.286967	3.997138	0.0002
FS	-0.057526	0.017103	-3.36341	0.0012
GR	0.158951	0.190885	0.832704	0.4078
Effects specification				
The period Fixed (Dummy variables)				
R-squared	0.343589	Mean dependent var		5.269022
Adjusted R-squared	0.177174	S.D. dependent var		0.447728
S.E. of regression	0.406133	Akaike info criterion		1.220818
Sum squared resid.	11.711	Schwarz criterion		1.748556
Log-likelihood	-35.93683	Hannan-Quinn criter.		1.433633
F-statistic	2.064659	Durbin-Watson stat		1.476853
Prob(F-statistic)	0.01638			

The adjusted R-squared value of 0.177174 shows that the model may be overfitting, while the R-squared value of 0.343589 indicates that the model explains 34.4% of the variation in ROE. The model appears statistically significant overall, as noted in the F-statistic of 2.064659 and corresponding p-value of 0.01638, showing that at least two independent variables are significantly connected to ROE. According to the Durbin-Watson statistic of 1.476853, the residuals may exhibit some autocorrelation.

Table 6. Model 3-Financing decision and performance measured by GPM

Variables	Coefficient	Std. Error	t-statistics	Prob.
C	0.545245	0.221374	2.463008	0.0162
STDTA	0.204202	0.132077	1.546083	0.1265
TDTA	-0.280598	0.131551	-2.132989	0.0364
FS	-0.020994	0.007841	-2.677624	0.0092
GR	0.236831	0.087506	2.706463	0.0085
Effects specification				
The period fixed (Dummy variables)				
R-squared	0.342211	Mean dependent var		0.373722
Adjusted R-squared	0.175448	S.D. dependent var		0.205032
S.E. of regression	0.186179	Akaike info criterion		-0.339123
Sum squared resid	2.461049	Schwarz criterion		0.188615
Log-likelihood	34.26053	Hannan-Quinn criter.		-0.126308
F-statistic	2.052075	Durbin-Watson stat		1.09925

The results in Model-3, as shown in Table 6, suggest that the short-term debt to total assets ratio (STDTA) has a positive but statistically insignificant effect on GPM, as indicated by the coefficient of 0.204202 and the p-value of 0.1265. The total debt to total assets ratio (TDTA) has a negative and statistically significant effect on GPM, as indicated by the coefficient of -0.280598 and the p-value of 0.0364. Firm size (FS) has a negative and statistically significant impact on GPM, as indicated by the coefficient of -0.020994 and the p-value of 0.0092. Growth (GR) has a positive and statistically significant effect on GPM, as indicated by the coefficient of 0.236831 and the p-value of 0.0085.

The R-squared value of 0.342211 indicates that the model explains about 34.2% of the variation in GPM, while the adjusted R-squared value of 0.175448 suggests that the model may be overfitting. The F-statistic of 2.052075 and associated p-value of 0.017146 suggest that the model is statistically significant overall, indicating that at least one of the independent variables is significantly related to GPM. The Durbin-Watson statistic of 1.099250 suggests that there may be some autocorrelation in the residuals.

In conclusion, the findings indicate that factors such as firm size and growth and financing decisions proxy by total debt to total assets ratio significantly affect gross profit margin for non-financial firms listed in the DSE. However, the short-term debt to total assets ratio is not significantly related to GPM. The findings corroborate with what was found by (El-Sayed Ebaid, 2009) in Egypt, which revealed that STDTA shows an insignificant relationship with firms' performance when measured by GPM.

The ROA model's independent variables are STDTA, TDTA, FS, and GR. The regression analysis shows that the intercept term (C) is statistically significant at the 1% level, and the coefficients for TDTA and GR are also statistically significant at the 1% and 5% levels, respectively. These results suggest that TDTA and GR negatively and positively impact ROA.

The ROE model's independent variables are STDTA, TDTA, FS, and GR. The regression analysis shows that the intercept term (C) is statistically significant at the 1% level, and the coefficients for STDTA, TDTA, and FS are also statistically significant at the 1% level. These results suggest that STDTA and FS have a negative impact on ROE (Desai & Desai, 2018; Modigliani & Miller, 1963).

For the GPM model, the independent variables are STDTA, TDTA, FS, and GR. The regression analysis shows that the intercept term (C) is statistically significant at the 5% level, and the coefficient for FS is statistically significant at the 1% level. These results suggest that FS has a negative impact on GPM.

The effects specification in each model shows that period-fixed effects (dummy variables) were included to control for time-invariant unobserved heterogeneity. The R-squared values in each model indicate that the independent variables explain a moderate amount of the variance in the dependent variable. The adjusted R-squared values are lower, meaning that the independent variables may not be as good at predicting the dependent variable when applied to new data.

Conclusion

This study investigates the influence of financing decisions on the performance of listed non-financial firms in Tanzania. The findings based on the studied variables revealed that most of the leverage of non-financial firms listed in DSE comprises short-term liabilities for their investments. In contrast, the level of total debt was reported to be minimal. The study findings revealed further that Tanzania's capital market is fragile, and bank interest rates are high. Moreover, the results found a low performance on how efficiently the firms utilize the available resources through very low leverage and good use of shareholders' funds. Also, firm size indicates that the firms under study are closely related regardless of their sector differences.

The empirical tests indicate that financing decision proxies by STDTA and TDTA bearings negatively affect the firms' performance measured by ROA. Similarly, STDTA reveals no statistically significant impact on ROA, while TDTA was statistically significant. On the other hand, financing decision proxies by STDTA and TDTA, and the dependent variable is ROE, indicate mixed results. STDTA reveals a significant negative relation with ROE, while TDTA reports a significant positive association with ROE. Moreover, financing decision proxies by STDTA and TDTA as independent variables and GPM as dependent variables and measure of firm performance also reveal mixed results. GPM reports an insignificant but positive relation with STDTA, while a significant negative association with TDTA was shown. FS is reported to significantly impact firms' performance, while GR appears to impact ROA positively. Henceforth, the results lead the study to conclude that the financing decision of listed non-financial firms in Tanzania has a positive and negative but also weak influence on Tanzania's listed companies' performance.

Recommendations

Based on the study findings, researchers have recommended that the financial managers of non-financial firms listed in DSE should reduce their reliance on short-term liabilities, which form the major part of their source of finance, to enhance financial stability, lower the cost of capital, improve investor confidence, provide flexibility for strategic investments, reduce financing risk, and enhance creditworthiness. Similarly, non-financial firms listed in DSE should follow the Perking Order Theory propositions in choosing to finance new investments. According to the theory, new investments should be financed first with internally generated capital, such as retained earnings; if this source is insufficient, managers should look to the second option, which is debt as an external source for backup and equity as a last recourse when no further debt may be incurred. Also, the authority of DSE should implement several strategies such as cost management, diversification of revenue streams, enhanced market liquidity, and market education and outreach in order to enhance its financial strength and sustainability.

Limitations and scope for further study

The results of the current study should be assessed in light of a couple of limitations. First, this study focuses on only non-financial firms listed in DSE in Tanzania. Thus, future research should carefully scrutinize the impacts of financing decisions on the

performance of financial firms listed in DSE to determine whether the findings can be applied generally. Second, the current study has employed TD and STD as a proxy of financing decisions (leverage ratios) and ROA, ROE, and GPM as a proxy for firm performance, while FS and GR have been considered as a control variable. Therefore, future studies can consider engaging long-term debt (LTD) as a proxy for leverage ratio and return on investment (ROI), Net profit margin ratio (NPM), return on capital employed (ROCE), earnings per share (EPS) and Tabin's Q as a measure of performance. All these will help in widening the scope of the study and enhance further discoveries. Third, potential performance-influencing variables for the company, such as industry-specific variables and global business diversification, have not yet been examined. As a result, this will provide an intriguing pattern for research in the future.

Furthermore, empirical research on the nexus between financial leverage and Tanzanian firms' value is also salient. Moreover, it is essential to look into how the maturity structure of the company's debt affects its decisions and performance. Eventually, more investigation is needed to determine how ownership structure and financial decisions interact to impact business performance.

Authors' contribution

All authors contributed to the study's conception and design. VPK and KS performed materials preparation, data collection, and analysis. VPK wrote the first draft of the manuscript. KS and all the authors editing the manuscript commented on the versions and read and approved the final manuscript for publication.

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