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Effect of Capital Structure on Financial Performance of Construction and Allied Firms Listed at the Nairobi Securities Exchange

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Abstract:
This study sought to examine the effect of capital structure on financial performance of construction and allied firms that are listed at the Nairobi Securities Exchange. A correlational research design was used and the study population involved all the construction and allied firms that were listed at the Nairobi Securities Exchange during the study period. The study relied on secondary data obtained from consolidated financial statements of the five construction listed firms. A regression analysis was performed so as to determine the nature of the relationship between the dependent and independent variables. A correlation analysis was also used so as to determine the strength of association between the variables. The study found out that capital structure affects the financial performance of listed construction firms. Capital structure was found to be weakly negatively correlated to financial performance of the firms. The study concluded that capital structure, liquidity and asset tangibility affected the financial performance of the construction and allied firms that are listed at the Nairobi securities Exchange. Liquidity and asset tangibility had a direct positive effect on the performance of the firms. The study thus recommends for proper working capital management and the need to strike a balance between financing methods by the firms since high levels of debt increases the risk of insolvency and thereby affecting firm performance

Keywords: *Capital structure, construction and allied firms, Nairobi securities exchange*

1. Introduction

Capital structure is the blend of debt financing and equity financing by a firm (Myers, 2010). It defines how a firm raises its finances for its operations. A firm may raise its funds by use of debt or equity or an equal blend of both debt and equity capital (Myers, 2010). Capital structure determines the level of current funds commitment by a firm in order to generate future gains. Thus proper attention and consideration must be taken while making the decision on the financing method to be used so as to improve the firm performance and maximize shareholders wealth in the long run (Mwangi et al, 2014).

Capital structure may be defined as how an entity combines various sources like ordinary shares, debt and preferred stock to finance firm's assets (Saad, 2010). Capital structure decisions influence every investment decision by the firm since it determines the kind of long term assets to be acquired for investments, it also determine short term investments. As a result this decision does affect the profitability and performance of the firm. Proper attention and consideration must be taken when deciding on what constitute a good capital structure decision so as to enhance the firm's performance and maximize shareholders wealth (Mwangi et al, 2014).

Equity is defined as capital contributed by owners of the business. It represents ownership for the shareholder. Equity represents the residual claim by shareholders after meeting the needs of preferred stockholders and debt holders upon liquidation of the business (Larson, 2012). Equity is raised by selling common stock or preferred stocks to individuals and institutional investors. Debt is defined more precisely by the Financial Accounting Standards Board as "probable future sacrifices of economic benefits arising from present obligation of an entity to transfer assets or provide services to other entities in the future as a result of past transaction or events." Include obligation such as accounts payable, loans (both secured and unsecured), bond, mortgage, commercial paper or other forms stating terms of repayment and interests requirements where applicable. There is implied intent to pay back the amounts owed by specific date agreed upon (Financial Accounting Standards Board, 1985).

Financial performance can be defined as an indicator of how well a firm puts into maximum utilization its available resources in order to generate more revenues and achieve its stated goals and objectives. Performance can be measured by the level of a firms' profit or loss over a given time period (Yahaya & Lamida, 2015).It can also be measured by gauging various aspects of the firms' activities and operations, these aspects may be expressed as ratios. These may include measuring the sales turnover, capital employed and asset base (Omondi, 2013). This study used return on net

income to total as the measure of an entity's performance. This ratio measures how the firm is able to generate additional income by using its assets (Khrawish, 2011).

1.1. Research Problem

Different studies on capital structure and firm performance reveal divergent results; Abor (2010) investigated the relationship between capital structure and profitability of listed firms in Ghana. The study showed showing that total debt was positively related to the firm's profitability. Kyereboah-Coleman (2012) examined the relationship between capital structure and performance of microfinance institutions in sub-Saharan Africa showing that high leverage is positively related with performance. Kajirwa (2015) studied the impact of debt financing on Kenyan commercial banks performance that were listed at the Nairobi Securities Exchange; the study used secondary data and analyzed its data quantitatively. The study deduced that debt financing impacted negatively on the banks performance and recommended that proper analysis should be taken before embarking on debt as the mode of financing investments.

Gleason (2011) examined the relationship between performance and leverage using data for 2009 to 2010 of European Community retailers from 14 European countries and the performance measured using return on assets. The results indicated that total debt has a significant influence on performance, as measured by return on assets. Another study by Abor (2010) in Ghana on capital financing and profitability of firms which were listed revealed that debt was significantly related to performance. Kaumbuthu (2010) examined the impact of capital composition and financial performance of industrial firms that were listed at Nairobi securities exchange and his findings showed that there was a negative debt equity ratio. Another study by Raza (2013) on leverage and company's performance from the Karachi stock for the period 2004to 2009 revealed that leverage impacted negatively on performance. These findings revealed a literature gap on what constitutes as an optimal structure and its effect on performance; It is this gap that this study sought to fill.

1.2. Research Objective

This study sought to find out the effect of capital structure on financial performance of construction and allied firms listed at the Nairobi Securities Exchange.

2. Methods

The study used a correlational research design. Target population was all the five Construction and Allied companies that were listed at the Nairobi Securities Exchange. The study period covered ten years from 2008 to 2017.The study relied on secondary data which was obtained from consolidated financial statements and mostly used the consolidated statement of comprehensive income and consolidated financial statement of financial position. The consolidated financial statements covered a period of ten years from 2008 to 2017. Correlation was done to determine the relationship between capital structure and the financial performance of the construction and allied firms listed. Regression analysis was done to determine the reliability of the model. Analysis of variance and T-test were done to determine the relationship between the variables.

$Y=\alpha+\beta_1X_1 + \beta_2X_2+ \beta_3X_3 +\beta_4X_4 + \varepsilon$

Y = Illustrates performance of the firm determined using Return on Assets (ROA)

α = denotes the value of performance without the inclusion of independent variables

X_1 = Independent variable that denoted Debt ratio (Overall debt divided by total Capital ratio)

X_2 = Independent variable that denoted Liquidity (Current Assets divided by Current Liabilities)

X_3 = Independent variable that denoted fixed assets tangibility (Fixed assets divided by Total assets)

X_4 = Independent variable that denoted the size of the Firm (measured by Log of total assets)

$\beta_1\beta_2\beta3\beta4$ = Regression coefficients, ε = Error of estimation.

3. Results

In order to establish and determine the total variation in the construction and allied firms' financial performance as determined by the independent variable under study namely liquidity, capital structure, tangibility of fixed assets and the firm size a multiple regression analysis model was used. Table 1 below shows the regression coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.344	.176		1.960	.056	-.009	.698
	Capital structure(DR)	-.016	.013	-.073	-1.282	.206	-.042	.009
	Asset Tangibility(TR)	.230	.015	.826	15.581	.000	.200	.260
	Liquidity (CR)	.096	.018	.294	5.223	.000	.059	.133
	Firm size (FS)	-.075	.024	-.163	-3.110	.003	-.124	-.027

Table 1: Regression Coefficients
a. Dependent Variable: R0A

From table1 above the study established the following regression equation;
ROA = 0.344– 0.016DR + 0.230TR + 0.096CR - 0.075FS + ε

From the above equation it was established that holding all the independent variables (capital structure, liquidity, asset tangibility, and size of the firm) to constant zero, return on assets (performance) of the firm would be 0.344. A factor decrease in capital structure or leverage holding all the other variables constant would lead to an increase in financial performance of the construction and allied firms listed at Nairobi securities exchange by a factor of 0.016. A unit increase in asset tangibility holding all the other variables constant would increase the financial performance of the construction and allied firms listed at Nse by 0.230. The regression model also shows that a unit increase in liquidity while holding constant all the variables would lead to an increase in financial performance by 0.096. The regression equation also shows that a unit decrease in size of the firm would lead to an increase in the financial performance of the listed construction and allied firms by 0.075.

The P values for three independent variables under study namely asset tangibility, liquidity and size of the firm were denoted as 0.000, 0.000 and 0.003 respectively and all were below the significant test of 0.05 indicating that there existed a significant association between these independent variables and the dependent variable. The P value for the capital structure was found to be 0.200 which was above the 0.05 test of significance thereby indicating a non-significant association between capital structure and the financial performance of the listed construction and allied firms as measured by return on assets.

A correlation analysis was performed and the findings of the correlation are as shown in table 2 below.

Correlations						
		R0A	Firm size	Asset Tangibility	Liquidity	Capital structure
R0A	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	50				
Firm size	Pearson Correlation	-.088	1			
	Sig. (2-tailed)	.544				
	N	50	50			
Asset Tangibility	Pearson Correlation	.866**	.071	1		
	Sig. (2-tailed)	.000	.623			
	N	50	50	50		
Liquidity	Pearson Correlation	.427**	.039	.136	1	
	Sig. (2-tailed)	.002	.788	.347		
	N	50	50	50	50	
Capital Structure	Pearson Correlation	-.302*	-.062	-.157	-.373**	1
	Sig. (2-tailed)	.033	.667	.275	.008	
	N	50	50	50	50	50

Table 2: Correlation Analysis

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

From table 2 above, it can be observed that there exist a weak negative correlation between the size of the firm and the financial performance of the listed and construction firms listed at Nairobi Securities Exchange. The correlation coefficient between firm size and return on assets is -0.088. The P-value of 0.544 also shows that there exist no significant association between firm size and financial performance of the listed construction and allied firms since the P-value is above the 0.05 test of significance.

Asset tangibility was found to be strongly positive correlated to financial performance with a coefficient of 0.886 with a P-value of 0.000 which is below the threshold of 0.05 thereby indicating a statistically significant association between asset tangibility and firm financial performance. Liquidity was found have a weak positive correlation to financial performance of the listed firms with a coefficient value of 0.427. The P-value was found to be 0.002 thereby indicating a statistically significant association between liquidity and financial performance. Capital structure was found to be weakly negatively correlated to financial performance of the firm with a correlation coefficient value of -0.302 and a P-value 0.0033 indicating a statistically significant association between capital structure and financial performance of the construction and allied firms listed at Nairobi securities exchange.

Capital structure was found to be weakly negatively correlated to both the firm size and asset tangibility with correlation coefficients of -0.062 and – 0,157. The P-values is 0.667 for firm size and 0.275 respectively. Both the two P-values indicate that there's no statically association between capital structures and both the firm size and asset tangibility of the construction and allied firm listed at Nairobi securities exchange since the P-values are all above 0.05. Capital structure was also found to have a weak negative correlation with liquidity with the two having a correlation of -0.373 and a P-value of 0.008 indicating a significant statistical association between them. Tangibility of assets was found to be weakly positively correlated to liquidity with a correlation coefficient of 0.136 however the P-value of 0.347 indicate no statistically significant association between the two variable.

4. Conclusion and Recommendation

4.1. Conclusion

From the findings of the study, it can be concluded that capital structure affect the financial performance of construction and allied firms. The study revealed that there exist a statistically significant association between capital structure and the financial performance of construction and allied firms listed at the Nairobi securities exchange. A moderate negative correlation exist between capital structure and all the independent variables namely liquidity, asset tangibility, size of the firm and the financial performance of the construction and allied firms listed at Nairobi securities exchange. It can also be concluded that asset tangibility greatly and positively affect or determine the financial performance of the listed construction firms. Thus efficient utilization of assets would lead to improved financial performance.

Liquidity was found to be one major variable that affects the financial performance of the listed firms. Liquidity was found to have a positive correlation to the size of the firm and return on assets thereby indicating it as a major concern that needs to be taken into consideration when analyzing the financial performance of a firm. The firm size was found to be negatively related to financial performance hence it can be concluded that how well a firm assets are utilized will determine its performance and not how big the operations of a firm are.

4.2. Recommendations

The construction and allied firms should strike a balance on the proportions of debt and equity to be used in their working capital since high levels of debt increases the risk of insolvency and thereby affecting the firm performance. Debt covenants and costs associated with its usage should be well calculated since high restrictive covenants may affect the liquidity of the firm hence affecting its performance.

Recognizing the critical role that capital structure plays in determining a firm's performance it is imperative that firms adopt best practices with respect to capital management. Earlier studies established that firms in developing countries relied more on equity finance than debt. While the results of this study are in contrast to the earlier findings, it is important for firms to establish optimal mixes in capital structure that enhances their financial performance. Proper working capital management practices should be prioritized by the management for the firms in construction industry since much of its operations are capital intensive and are long term investments. Thus the construction firms should incorporate growth strategies in their plans so as to enable them grow in their asset base.

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