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

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Abstract
Purpose: This study sought to establish the effect of financial structure on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange in Kenya. Equally important was to establish the effect of ordinary share capital, determine the effect of retained earnings, examine the effect of long term debts, and establish the effect of short term debts listed at the Nairobi Securities Exchange in Kenya.
Materials and Methods: The study adopted a Census Research Design. The target population of the study was all the 5 firms' listed under the Construction and Allied Sector of NSE. Therefore, a census method was adopted for this study where all the 5 firms listed under the Construction and Allied Sector of the NSE will participate in the study. Secondary data was used in the study and data collection instrument was used. Quantitative data analysis methods which are descriptive analysis method and inferential analysis method were used. The data collected was analysed using Stata version 13. To ascertain the relationship between financial structure and financial performance, a multivariate regression analysis was adopted on all the variables.
Results: The study found that share capital, retained earnings and short term debts significantly affected the financial performance of listed construction and allied firm in Kenya while long term debt had a negative and insignificant effect on ROE. Only retained earnings positively affected ROE of listed construction firms in Kenya. The study concluded that financial structure is very critical to the financial performance of firms, therefore at every stage firms must determine the mode of financing that will have the highest effect on financial performance.
Recommendations: The study recommends that management of listed construction and allied firms should not rely predominantly on ordinary share capital as the main source of financing. On retained earnings, the study recommends that management of listed firms should consider retained earnings as the first priority in their financing structure. On long term debts, the study recommend that management of listed firms should least prioritize long terms debts since it is expensive form of financing and should only be considered as a last resort or for high potential investment opportunities. On short term debt, it is imperative for management of firms to keep their short term debts as low as possible since these debts negatively affect the performance.
Keywords: Retained Earnings, Share Capital, Short Term Debt, Long Term Debt, and financial performance.
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1. Introduction
Over the past decades, the world has with devastating effects witnessed numerous cases of business failure linked to financial structure and subsequent failure among globally reputed corporations such as Delta Air Lines, Enron and WorldCom represented the icons of corporate financial stability prior to filing for bankruptcy and that was linked to the problem of financial structure (Outecheva, 2010). Financial structure is a combination of a company's debt and equity that is used by a firm to finance its overall business operations and growth (Abor, 2005). It refers to the sources of funds from either the investors or the debts. Such a mix would incorporate the retained earnings, long tern debts, short term debts and the share capital. After many years of debate most finance theorists are now in agreement that an optimal financial structure should exist for firms and if so, how can it be determined (Eiteman; Stonehil & Moffett, 2007). Eiteman et al, (2007) further acknowledges that traditionalist and Modiglian & Miller school of thought has apparently ended in compromise.

How a business is financed is important to the managers of a business as well as the shareholders. This is because any wrong mix of either debt or equity may put the business in jeopardy of going down which increases its financial distress (Owolabo & Inyang, 2013). In the previous 10 years and so, due to their financial structure a number of listed firms at NSE has experienced devastating financial distress. As a result, a number of the firms have been placed under receivership, some are going through restructuring and others have been delisted. The common ground for those firms is excess debts which made it hard for them to operate normally (Motanya, 2009).

Government agencies reports have attributed delisting of firms from NSE to aggressive financing but many analysts and members of the public alike have discredited this explanation on grounds of political expediency

and lack of scholarly underpinning to support this assertion (Musiega, Chitiavi, Alala, Douglas & Rueben, 2013). Muchiri, Muturi and Ngumi (2016) are also of the argument that when a firm does not have the right mix of financial structure, it can lead to corporate failure. Kaumbuthu (2011) is also of the argument that a wrong mix of debt and equity, can negatively affect the performance of a firm.

1.2 Objectives of the Study
The main objective of the study was to establish the effect of financial structure on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange.
1.2.1 The specific objectives of that guided this research study
The specific objectives of the study were:

- To establish the effect of ordinary share capital on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange
- To determine the effect of retained earnings on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange
- To examine the effect of long term debts on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange
- To establish the effect of short term debts on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange

2.0 Literature Review
2.1 Theoretical Literature
2.1.1 Trade off Theory
Kraus and Lichtenberger (1973) was the proponent of the theory. It argues that most firms are in pursuit of debt levels which balance its tax advantages. Such firms direct financial structure towards targets reflecting tax rates, bankruptcy costs and business risk. In short, a firm balance between the benefits associated with borrowing and its subsequent costs while at the same time holding its investment plans constant. The theory argues that at the optimal financial structure, a firm balance between the optimal advantages of tax and the costs involved in borrowing (Serrasqueiro & Caetano, 2015).

The theory has however been criticized by various scholars based on its assumption that there are benefits to leverage within a financial structure. The assumption that the theory appreciates tax advantages through tax interests has been criticized. The theory argues that the interests on loans are not taxed hence advantageous. In real life, scholars have argued that firms have less leverage than this theory suggests.

The theory focuses on getting a balance between using debts and equity to finance a business. The theory posits that the use of debts is of advantage in reducing the costs involved in payment of interests because it has tax advantage. It also argues that firms which have high growth opportunities would prefer to borrow less so as not to lose value.

2.1.2 Pecking Order Theory
Myers (1984) proposed the theory which indicates that there is a hierarchy for financing a business whereby an order has to be followed in which financing means comes a head of which. The theory argues that when the firm's internal funds are not sufficient to fund their expansion, it would then borrow. However, the most preferred means of financing is retained earnings which are internal source before the use of external funds such as debts.

The theory argues that this is so because internal funds don't incur any costs and similarly doesn't need any additional information to third parties. Compared to getting debts, a firm is required to give out more additional information to outsiders and that may compromise competitive advantage. The theory has the assumptions that when firms disclose their sensitive information in a bid to attract external financing, it may lead to disclosure of sensitive information to outsiders. However, it ignores the fact that other reasons may determine a firm's financing decision. Due to this critique, the theory is not considered a substitute of Tradeoff theory, but its complement.

The theory in this study is linked to the independent variable which is retained earnings in the sense that when earnings are high or when firms are more profitable they tend to use retained earnings first in their investments and their transaction needs. Once the earnings are exhausted the firms will look out to outside suppliers of debt and when this is exhausted firms look up to equity issue hence pecking order of financing operations.

2.1.3 Modigliani Miller Capital Structure Theory
The theory was proposed by Modigilliani and Miller (1958). It renders irrelevant the connection between firm value and how it is financed. As a result, a firm would have same value regardless of the financing means it uses; debt or equity. The theory has however been criticized alongside its assumptions which state that the market of operation is perfect, the market lacks default risks, there is no taxes and that the same interest rates can be used

to borrow by both firms and investors. The thought that every company has equal accesses to information also brings a major point of departure from the theory. As a result, the distribution of dividends does not affect the firm's value only that it re directs the financing structure.

The theory also argues that a firm should expect a rate of return on its capital regardless of means of financing (Brusov, Filatova, Orekhova & Eskindarov, 2015). These assumptions have been rendered impossible in an ideal scenario. Wepukhulu (2018) linked these criticisms to the development of the tradeoff theory.

2.1.4 Capital Asset Pricing Model

Various independent scholars were the proponents of the model and it contributed to its final shape. Jack Treynor (1961, 1962), William F. Sharpe (1964), John Lintner (1965) and Jan Mossin (1966) were some of the scholars who played a critical role in the final shape of the model. The model describes that the choice of any given portfolio or investment carries with it inherent risks or returns. As a result, it has been used in finance to explain the risks or returns associated with a choice of a financing mechanism.

The model has however not been free from criticism especially for its use of an arbitrary number as the market risk value with no practical underpinning. To that end, there have been suggestions for improvement to incorporate more accurate market risk values. The model is important in the study in establishing equity financing. It helps to establish the cost of equity capital for firms and evaluating the performance of managed portfolios.

2.2 Empirical Literature

2.2.1 Ordinary Share Capital and Financial Performance

Manawaduge *et al*. (2010) interrogated the impact of financial structure on firms in Sri Lanka. Through panel regression methods, the study focused on a sample of 100 firms and revealed that the most preferred financing mode was ordinary share, followed by short term debts then long term debts and they positively affected performance.

Irfan (2011) on the other hand focused on a sample of 436 Karachi listed firms in the non-financial sector and linked financial structure to their performance. Through panel regression methods of random effect models, the study confirmed the presence of pecking order among those firms and established that the use of internal funds, as opposed to debts, was a positive determinant of performance indicators. Akinyomi and Olagunju (2013) established the financial structure in the context of Nigerian listed firms. The study made use of pooled regression analysis on 24 sampled firms and revealed that ordinary share financing improved performance of the firms investigated.

2.2.2 Retained Earnings and Financial Performance

Nyaboga (2008) used panel data spanning 10 years to find out whether financing structure was related to agency costs at NSE. A Random effect model was essential and appropriate in the study which indicated that retained earnings improved firm performance but debts had negative effects. Ebaid (2009) on the other hand, established through panel regression analysis that both types of debts affected performance of firms negatively in Egypt. While short term debts had a significant effect, long term debts had no significance on the performance of the Egyptian firms.

A study by Kanwal (2012) on how retained earnings affect performance revealed that it negatively affected performance since the forgone earnings for using it would otherwise have been more than the current investment returns for the retained earnings. Contrary to these findings, Khan and Zulfiqar (2012) through regression analysis established no significance between the two variables.

2.3.3 Short Term Debts and Financial Performance

Badar and Saeed (2013) focused on the behaviour of debt financing in Karachi listed firms and how it impacts on performance. Using data between the year 2007 and 2011, it was revealed that long term debts positively improved performance indicators of the firms from the returns to the profits. Short term debts had contrary results. Le and Phung (2013) on the other hand focused on Vietnamese Stock Exchange between the year 2007 and 2011 and investigated the financing structure. The measures of performance ranged from market value, profits and returns on both assets and equity. It was revealed that short term debts had negative impact on the market value, profits and returns on both assets and equity.

In Iran, Salteh *et al* (2012) specifically concentrated on the firms listed at Tehran Stock Exchange under the manufacturing sector and established through panel regression analysis that financial structure improved performance of the firm measured as either returns on assets or equity. Of contrary results is a study by Khan (2012) which showed that financial structure had no significant effect thus supporting the MM model. The study focused on 36 firms indicated high dependence rate on short term debt but its effect was not significant at all.

2.2.4 Long Term Debts and Financial Performance

Mumtaz, Rauf, Ahmed and Noreen (2013) focused on large private firms listed at Karachi and interrogated their financial structure against their performance. From the findings obtained through pooled regression analysis, the findings revealed that long term debts improved firm growth. The study by Amenya (2015) conducted using data

between the year 2008 and 2013 for firms at NSE indicated that high long term debts were associated with reduced returns on assets and equity.

Focusing on Malaysian firms, Ahmad, Abdullah and Roslan (2012) interrogated whether financial structure affected firm performance of selected firms between the year 2005 and 2010. Using returns on equity and assets, it was revealed that long term debts improved firm performance since it gave the firm enough time to realize growth and repay. Similarly, a study by Jaramillo and Schiantarelli (2012) in Ecuadorian context indicated a significant relationship. A moderating factor was age of the firm which determined who was eligible for a loan and who was not. In South Africa and Ghanaian context, Abor (2007) documented that while long term debts had significant positivity, short term debts were negatively related to firm growth.
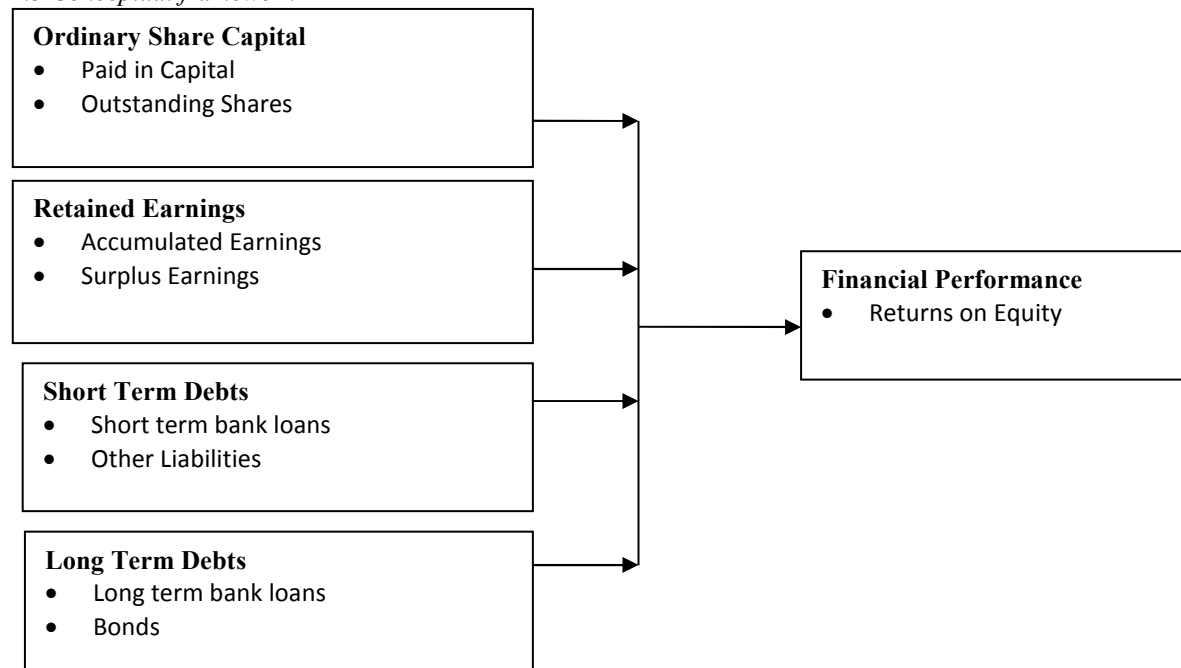
2.3 Conceptual framework

Figure 1: Conceptual Framework

2.3.1 Ordinary Share Capital

The value indicates the contribution of the business owners and in most cases is free from debts. Through their contributions, just like the debtors do, contributors of equity earn interest through dividends. After their earnings, any appropriate earnings are retained by the firm for more expansion and growth (Titman *et al*., 2011). The measurement of the share capital is through a comparison of the market share value with that in the financial audited books (Phylaktis *et al*., 2010; Oladeji, *et al*., 2015). To measure the value of the company's shares, one can use the net book value of a firm's shares as most scholars do. The value per share is determined by first establishing the total value of shares and then dividing by the total number of shares issued.

According to Saeedi and Mahmoodi (2011), book ratio can be used to determine the investment value whereby higher values denote stock over valuation and low ratios denotes otherwise. Low values of book ratio imply that there is a problem with the firm which needs redress. This ratio can greatly direct the direction of the firm's investors' decision to invest in it.

When adjusting the capital assets, there are inherent risks and benefits involved with that which are well documented in the Capital Asset Pricing Model. When the prices of securities are changed, there is a subsequent change in the returns associated with it as well as the cost of capital which ultimately changes the financing mix of the firm. In as much as managers choose policies aimed at increasing the shareholders' wealth, they also consider a balance in their financial structure for financing their projects (Asghari, *et al.,* 2009). According to Loughran, (2008) geographic location is closely related to information asymmetries and that information asymmetries between corporate insiders and outside investors seem to play at least some role as a determinant of equity issuance.

2.3.2 Retained Earnings

Businesses exist to create wealth for the shareholders. In cases where a business invests back the profits; there is a need to generate more growth. Retentions are the fraction of the profits which are ploughed back into the business and are not distributed to the shareholders as dividends (Dinayak, 2014). According to Campbell (2012), a firm which retains its profits has a higher chance of growing at a faster rate.

Dinayak, (2014) indicates that retained earnings are considered as equity and are recorded under it in the financial position statement. Orwel (2010) has supported the use of retained earnings in the sense that its readily available and the freedom of use is there with less conditions. It also sends out a message to the investors that the business is doing well and doesn't need to borrow. However, retained earnings are a limited source of financing, and have also a high opportunity cost which is foregone benefits in form of dividends by equity holders (Chasan, 2012).

Ogier et al (2004) argued that whether it's retained earnings or other financial structure, its impact on financial performance is not significant at all. However, Myers and Majluf (1984) indicated that the Pecking order is critical and that retained earnings have more importance than other means of financing. A financial order is required in a firm that needs to perform better. Similalry, Mohammadzadeh *et al* (2013) was in agreement with the Pecking order that internal resources (retained earnings) should be prioritized instead of debts, a statement which other people like Wright (2014) also subscribe to.

2.3.3 Short Term Debts

Muhammad *et al,* (2014) argued that short term debts are the short term liabilities of the organizations normally in a span of one year. It is recorded as a current liability in a firm's balance sheet while long-term debt which matures in over a year falls under the long term liabilities. The short term debts improve a firm's cash flow in its day to day operations (Mohamad & Saad, 2011; Khidmat & Rehman, 2014).

Fama and French (2002) argued that debt financing is advantageous to a firm in the sense that it has tax advantage of interests while the same also has inherent problem of potential bankruptcy and agency conflicts. There is hence a need to strike a balance between the benefits of debt financing and the potential costs involved with it. Khidmat and Rehman, (2014) argued that in the Pakistanian case, considering the firms listed at Karachi, between 2001 and 2009, ROA and ROE was negatively affected by the solvency ratio. However, long term debts were established to be more beneficial to the organization in the long run.

Akbas, Caliskan, Durer and Karaduman, (2011) also interrogated business financing through debts and revealed that short term debts improved the working capital of a firm which in turn improved its performance. Extension of payment period to suppliers was also found to be important in enhancing performance of the firm. In another Pakistanian context, Bokhari and Khan (2013) argued that when the non-financial sector is specifically considered, whichever type of debts used impacts negatively on its growth.

2.3.4 Long Term Debts

Muhammad et al, (2014) defined long term debts as the amount owed for a period above one year. As a result, long term debts have more interests than the short term debts. It has been argued that these debts have the potential of improving performance of a firm especially when well managed. However, when its conditions are unfavorable, it poses a risk of bankruptcy. Highly leveraged firms may be forced to sell their assets since high debts offers creditors less protection in the scenario they are bankrupt.

Abor (2007) conducted an analysis between firms with high debts in their statements compared to their counterparts with higher equity levels. From a comparative approach, it was determined that the firms with higher debts also subsequently recorded low efficiency. Taking a case of small businesses, Amor (2007) revealed that those businesses with poor debt policy recorded low ROA and ROE. Ebaid (2009) while focusing on listed Egyptian firms indicated the importance of both long and short term debts, on all the measures of financial performance. The effect was however adverse. Ahmad, Abdullar and Roslan (2012) indicated that in Malaysia, most firms preferred financing through debts. The trends in their performance signaled better performance while among SMEs in Masvingo, Dube (2013) also seconded use of debts to enhance firm performance.

3.0 Research Methodology

The study adopted a Census Research Design. This research design is suitable in analysis of an entire set targeted. Similar studies by Rukwaro, Munga'tu and Kwesisi (2018), Kimutai and Muigai (2018) as well as Maina and Ishmail (2014) who interrogated the link between financial structure and financial performance of firms at NSE Kenya also focused on the entire set. The target population of the study was all the 5 firms' listed under the Construction and Allied Sector of NSE. Therefore, a census method was adopted for this sturdy where all the 5 firms listed under the Construction and Allied Sector of the NSE will participate in the study. A census is more appropriate because there are only 5 firms in the sector and this is in agreement with the assertion by Brinkmann (2014) that a researcher can adopt a census on a population below 200 units. Secondary data was used in the study and data collection instrument suitable for the purpose was used. The time period was 10 years (2009-2018) since this is the time when most of the firms in the construction and allied sector have experienced mixed performance. Data on the measures of financial structure as well as ROE was collected from firm's published annual financial statements obtained from their websites. Quantitative data analysis methods which are descriptive analysis method and inferential analysis method were used. The data collected was analysed using Stata version 13. To ascertain the relationship between financial structure and financial performance, a multivariate regression analysis was adopted on all the variables. The regression model took the form:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where; Y = Financial Performance (ROE) measured by the ratio of net profits to total equity

X_1 = Ordinary Share Capital measured by total paid in capital and outstanding shares

X_2 = Retained Earnings measured by total accumulated earnings and current surplus earnings

X_3 = Short Term Debts measured by total short term bank loans and other liabilities

X_4 = Long term debts measured by total long term bank loans and mortgage bonds

β_0 = the y-intercept (constant)

$\beta_1 \ldots \beta_4$ = the slope which represents the degree with which financial performance changes as the independent variable changes by one unit variable.

ε = error component

The regression analysis using the ordinary least square (OLS) model was assumed for this study. However, before its use, diagnostic tests which included normality, multicollinearity, autocorrelation and heteroskedasticity tests were conducted.

4.0 Results and Discussions

4.1 Descriptive Statistics of the Study Variables

Analysis of the descriptive statistics of the study variables that include mean, standard deviation, minimum and maximum values during the study period was undertaken.

The study results show that the average ordinary share capital for listed construction and allied firms on NSE was Kshs 9,081,580. The firm with the maximum ordinary share capital had Kshs 25,300,000 while that with the minimum had Kshs 118,635. The findings implied that capital contribution of shareholders/owners of the listed construction and allied firms varied across different firms. The findings further indicate that some firms were heavily financed by owners more than others.

In terms of retained earnings, the average retained earnings for the listed construction and allied firms were Kshs 5,913,921. However, the firm with the least retained earnings had Kshs -2,948,977 which indicated loss making while the firm with the highest retained earnings had Kshs 19,100,000. Retained earnings is derived from profits hence these findings implied that not all the firms made profits during the study period some of the firm made losses hence negative retained earnings.

The results further show the average long terms debts for listed construction and allied firms were Kshs 3,091,903, however some firms had large long terms debts as indicated by the maximum value of Kshs 10,300,000 while others had least long terms debts as indicated by minimum value of Kshs 4,925,000. According to pecking order theory debt financing is not among the most preferred source of capital and firms only consider it as an alternative after exhausting other cheap forms of financing such share capital and retained earnings. This may explain why the average long terms debts for the listed construction and allied firms was low implying preferences of other sources of capital.

The descriptive statistics for short term debts show that the mean for the sector was Kshs 3,917,811 while the maximum and minimum values were Kshs 17,200,000 and 923,649 respectively. The findings show that the listed construction and allied firms borrowed more short term debts in comparison to long terms debts during the period 2009 to 2018.

Analysis of the return on equity indicate that the average ROE for listed construction and allied firms was 0.134603, however, performance varied across various firms with some firms performing extremely well as indicated by a maximum ROE of 0.7705736 while others performed poorly as indicated by minimum ROE of -0.483. These findings concur with Muchiri, Muturi and Ngumi (2016) who also showed that some of the listed firms on NSE have been performing poorly which necessitated their delisting. The descriptive statistics of the study variables are presented in Table 1.

Table 1. Descriptive statistics of the study variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Ordinary Share Capital	50	9,081,580	8,479,992	118.635	25,300,000
Retained Earnings	50	5,913,921	6,776,444	-2,948,977	19,100,000
Long Term Debts	50	3,091,903	2,891,665	4,925	10,300,000
Short Term Debts	50	3,917,811	3,136,771	923,649	17,200,000
Financial Performance (ROE)	50	0.134603	0.223513	-0.483	0.7705736

(All figures are in Million)

4.2 Trend Analysis

4.2.1 Ordinary Share Capital and ROE

The results presented in Figure 1 show the trend analysis for ordinary share capital against financial performance measured using ROE. The results show that average ordinary share capital for listed construction and allied firms on NSE increased between 2009 and 2018. On the other hand, average financial performance measured by ROE

decreased within the same period. The findings clearly indicate that between 2009 and 2018, listed construction and allied firms in Kenya performed poorly despite an increase in ordinary share capital. The findings confirmed arguments by Muchiri, Muturi and Ngumi (2016) that some listed firms have been struggling and the increase in share capital could be among the efforts made by shareholder to salvage the situation.
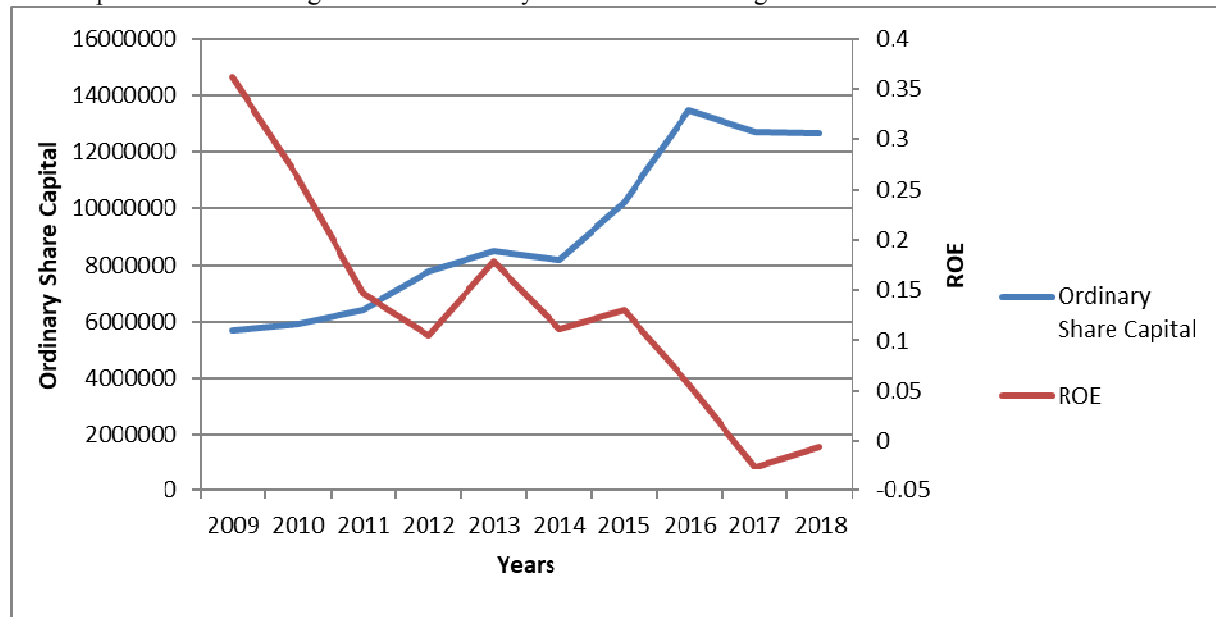

Figure 1. Trend Analysis for Ordinary Share Capital and ROE

4.2.2 Retained Earnings and ROE

The results of trend analysis for retained earnings and return on equity for listed construction and allied firms in Kenya show that retained earnings increased between 2009 and 2014 followed by a drop between 2014 and 2017. There was a slight increase in retained earnings for year 2017/18. On the other hand, ROE decreased between 2009 and 2012, increased slightly in 2012/13 and dropped again between 2013 and 2017. Similar to retained earnings, ROE increased slightly in financial year 2017/18. The findings show that as retained earnings increased, ROE of listed construction and allied firms increased and the converse happened. These finding concurs with Campbell (2012) who argued that a firm which retains its profits has a higher chance of growing at a faster rate. Similarly, Myers and Majluf (1984) indicated that the Pecking order is critical and that retained earnings have more importance than other means of financing. According to the study findings and previous studies highlighted above, it is important for firms to increase their retained earnings especially when performance drops. Retained earnings are then re-invested to boost the performance of the firms. The results are presented in Figure 2.
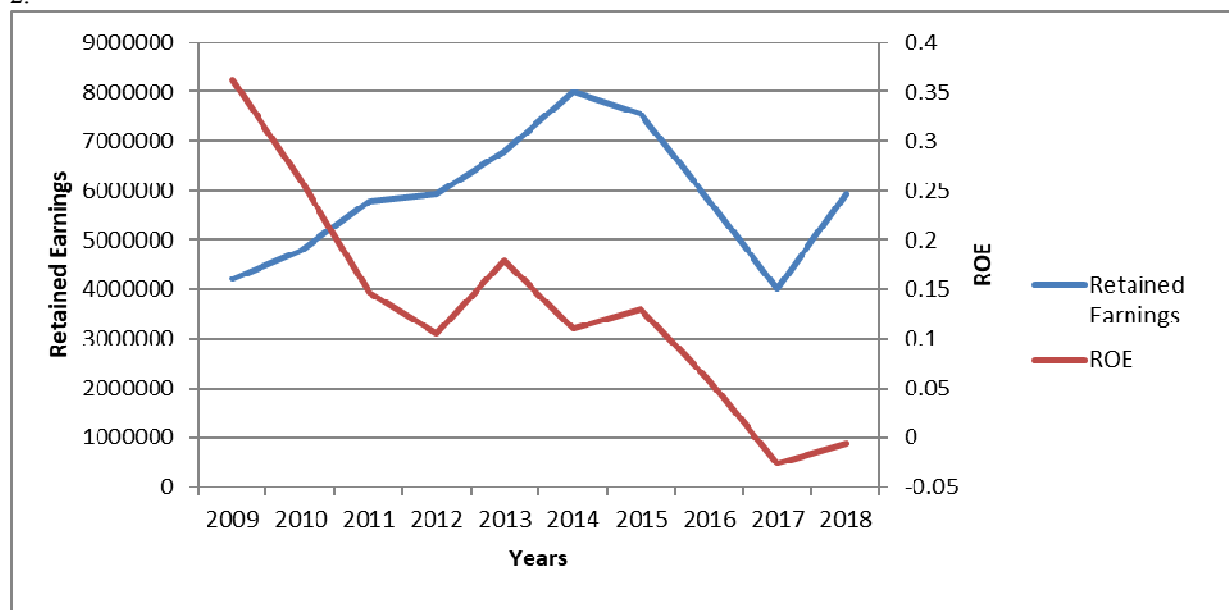

Figure 2. Trend Analysis for Retained Earnings and ROE

4.2.3 Long Term Debts and ROE

Also done was trend analysis for long terms debts and return on equity for listed construction and allied firms in Kenya. The findings show that there were fluctuations of long terms debts for listed construction and allied firms in Kenya for the period between 2009 and 2018. For instance, the average long term debts increased between 2009 and 2012, dropped between 2012 and 2014, increased slightly in 2014/15 before dropping between 2015 and 2018. The results show that between 2009 and 2012 there was a negative relationship between long terms debts and ROE. Long terms debts increased during that period which was occasional by drop in ROE. The finding implied that majority of the listed construction and allied firm increased long terms debts to boost declining performance. Between 2013 and 2018, trend for long terms debts and ROE was similar. There was decline in both long terms debts and ROE. These finding are in line with Abor (2007) who determined that the firms with higher debts also subsequently recorded low efficiency. The results are presented in Figure 3.
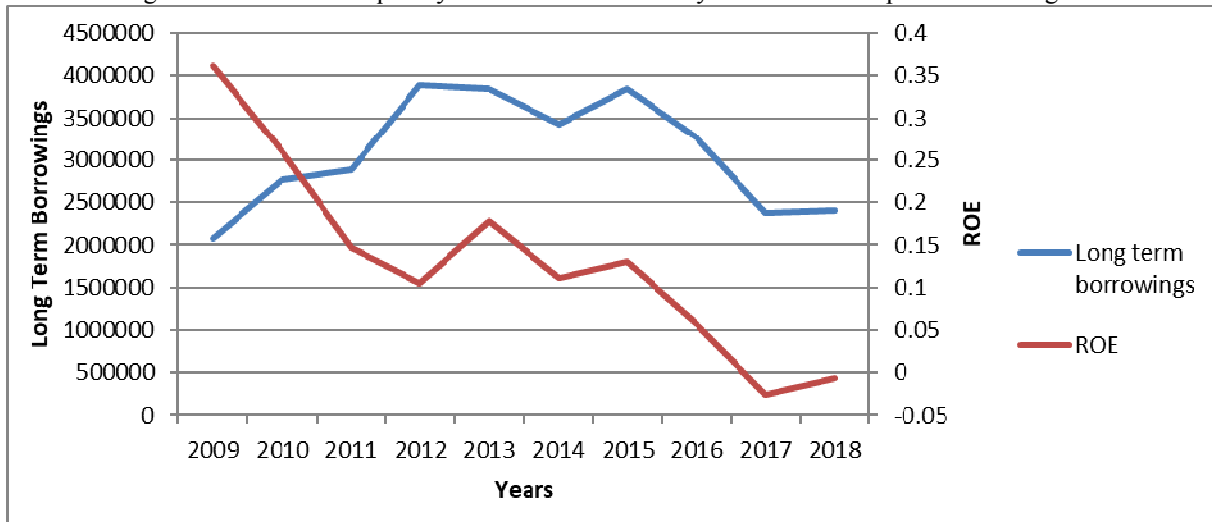

Figure 3. Trend Analysis for Long Term Debts and ROE

4.2.4 Short Term Debts and ROE

Finally, the study conducted a trend analysis for short term debts and return on equity for listed construction and allied firms in Kenya. The trend shows a clear inverse trend between short term debts and ROE. The findings show that as ROE declined more firms increased their short terms debts probably to cater for operating expenses. These finding agree with Mohamad and Saad, (2011) and Khidmat and Rehman (2014) who found that the short term debts improve a firm's cash flow in its day to day operations. Similalry, Bokhari and Khan (2013) argued that whichever type of debts used impacts negatively on its growth. The results are presented in Figure 4.
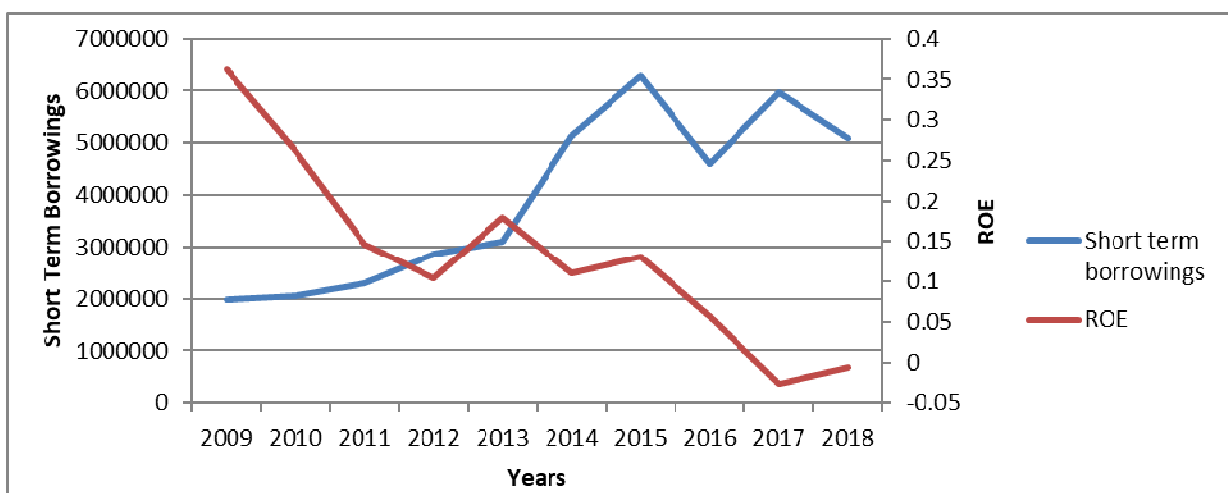

Figure 4. Trend Analysis for Short Term Debts and ROE

4.3 Inferential Statistics

Inferential statistics were used to test the effect of financial structure on financial performance of firms in the construction and allied industry listed at the Nairobi Securities Exchange.

4.3.1 Pearson Correlation Results

Table 2. Pearson Correlation Results

	Share Capital	Retained Earnings	Long term Debt	Short Term Debts	ROE
Share Capital	1				
Retained Earnings	0.7729	1			
Long term Debt	0.2593	0.3708	1		
Short Term Debts	0.5685	0.4676	0.4679	1	
ROE	-0.3068	0.4827	0.1519	-0.3199	1

The results in Table 2 show ordinary share capital and ROE had a r= -0.3068, which implies that the association between ordinary share capital and ROE for listed construction and allied firms between 2009 and 2018 was negative. The findings implied that as firms increased their ordinary share capital their ROE declined. The findings confirmed arguments by Muchiri, Muturi and Ngumi (2016) that some listed firms have been struggling and the increase in share capital could be among the efforts made by shareholder to salvage the situation.

The results further show that retained earnings and ROE had correlation r= 0.4827, these results implied that retained earnings and ROE were positively associated. Increase in retained earnings for listed construction and allied firms in Kenya between 2009 and 2018 results to increase in return on equity. The findings concur with those of Orwel (2010) who supported the use of retained earnings in the sense that it's readily available and the freedom of use is there with less conditions. It also sends out a message to the investors that the business is doing well and doesn't need to borrow. Also, Myers and Majluf (1984) indicated that the Pecking order is critical and that retained earnings have more importance than other means of financing.

The results of correlation analysis also show that long term debts and ROE had a correlation of 0.1519, which implies that as the long term debts increased for listed construction and allied firms, their ROE declined. The findings show that between 2009 and 2018, long term debts and ROE for listed construction and allied firms in Kenya had a negative association. These finding are in line with Abor (2007) who determined that the firms with higher debts also subsequently recorded low efficiency.

Finally, the correlation between short term debts and financial performance for listed construction and allied firms in Kenya was r=-0.3199 which indicated that there was a negative association between short term debt and ROE of listed construction and allied firms in Kenya between 2009 and 2018. The findings show that listed construction and allied firms increased their short term borrowings as their ROE declined. These finding agree with Bokhari and Khan (2013) who argued that whichever type of debts used impacts negatively on its performance.

4.3.2 Regression Analysis Results

Results of the regression model fitted to test the effect of financial structure on financial performance of listed construction and allied firms in Kenya are presented in Table 3.

Table 3. Regression Analysis Results

ROE	Coef.	Std. Err.	t	P>|t|
Share Capital	-2.3100	1.116	-2.07	0.049
Retained Earnings	2.0200	0.701	2.88	0.008
Long Term Debt	-3.7800	1.871	-2.02	0.054
Short Term Debts	-0.1900	0.058	-3.27	0.003
_cons	0.2387	0.085	2.82	0.009
$F(4,26) = 6.70$				
Prob > F = 0.0008				
R-sq: within = 0.5074				

The results of model summary show that the model had an R-squared=0.5074, which implied that financial structure (ordinary share capital, retained earnings, long term borrowings and short term borrowings) accounted for 50.74% of the variation in ROE of listed construction and allied firms in Kenya. The remaining percentage of 49.26% could be explained by others variables besides financial structure.

The results further revealed F (4,26) = 6.70 with Prob > F = 0.0008, implying that the overall model fitted was statistically significant. These results show that the model had a goodness of fit on the data. Hence, the model could be adopted to predict the effect of financial structure (ordinary share capital, retained earnings, long term borrowings and short term borrowings) on financial performance of listed construction and allied firms in Kenya.

The regression results show that coefficient for ordinary share capital was β=-2.3100, p= 0.049 <0.05 implying that the effect of ordinary share capital on ROE for the period between 2009 and 2018 was negative and significant. These finding further implied that increase in ordinary share capital did significantly affect ROE. Muchiri, Muturi and Ngumi (2016) also found that even though listed firms in Kenya increased share capital their performance continued to decline leading to some firm being delisted from NSE.

The coefficient for Retained Earnings was $\beta=2.0200$, $p=0.008<0.05$ implying that retained earnings had a positive and significant effects on financial performance of listed construction and allied firms in Kenya. The finding implied that as the listed construction and allied firms increased their retained earnings by one unit, their financial performance also increased by 2.0200 units. The findings confirmed that retained earnings had a significant effect on financial performance of listed construction and allied firms in Kenya. These finding concurs with Campbell (2012) who argued that a firm which retains its profits has a higher chance of growing at a faster rate.

The coefficient for long term debts was $\beta=-3.7800$, $p=0.054>0.05$ implying that long term debts had a negative and insignificant effects on financial performance of listed construction and allied firms in Kenya. The finding implied that as the listed construction and allied firms increased their long term debts by one unit, their financial performance declined by 3.7800 units. The finding support those by Bokhari and Khan (2013) who argued that whichever type of debts used it impacts negatively on its firm performance.

The coefficient for short term debts was $\beta=-0.1900$, $p=0.003<0.05$ implying that short term debts had a negative and significant effects on financial performance of listed construction and allied firms in Kenya. The finding implied that as the listed construction and allied firms increased their short term debts by one unit, their financial performance declined by 0.1900 units. The study findings concur with those of Badar and Saeed (2013) who revealed that short term debts had negative impact on the market value, profits and returns on both assets and equity. Short term debt is an expensive source of capital and has higher exposure to interest rate risk due to its shorter-term debt maturity. Increase in short term debts imply that a firm is unable to meet its day to day operations which further implies poor performance.

According to the finding in this section financial structure is a good predictor of financial performance of firms. The study found that retained earnings, long term debts and short term debts significantly affected the financial performance of listed construction and allied firm in Kenya. Both long and short term debts were found to have a negative effect while retained earning had a positive effect. Ordinary share capital had a significant effect on financial performance of listed construction and allied firms in Kenya.

5.0 Diagnostic Tests
In this section, the study presents the diagnostic tests conducted to ensure that data used adhered to regression assumptions to avoid having exaggerated results. The tests conducted include test for normality, test for multicollinearity, and test for autocorrelation and finally test for heteroskedasticity. These test were necessary since the study employed regression analysis to test the relationship between independent variables and dependent variables.

5.1 Normality Test
To test whether the data is normally distributed, Kolmogorov-Smirnov (K-S) Test was performed for all the variables. In this test, a p-value greater than 0.05 at 5% level of significance indicates that the data is normally distributed. The results for normality test are presented in Table 4.

Table 4. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		Short term borrowings	Long term borrowings	Ordinary Share Capital	Retained Earnings	ROE
	N	50	50	50	50	50
Normal Parameters a,b	Mean	3917810.51	3091903	9081580	5913921	0.131911
	Std. Deviation	3136770.89	2891665	8479992	6776444	0.222038
Most Extreme Differences	Absolute	0.233	0.155	0.203	0.203	0.166
	Positive	0.233	0.155	0.203	0.203	0.158
	Negative	-0.17	-0.143	-0.145	-0.135	-0.166
Kolmogorov-Smirnov Z		1.632	1.088	1.421	1.347	1.175
Asymp. Sig. (2-tailed)		0.121	0.188	0.055	0.053	0.127

a Test distribution is Normal.
b Calculated from data.

The results in Table 4 show that p-value for Kolmogorov-Smirnov Z for all the variables was greater than 0.05. Hence the study failed to reject the null hypothesis and concluded that data for all the variables was normally distributed. The regression assumption for normality was therefore achieved.

5.2 Multicollinearity Test
The study further conducted a test for multicollinearity to establish whether there was high correlation among the independent variables. The regression assumptions dictate that two or more variables with a high correlation

(above 0.70, or VIF >10) should not be included in the same regression analysis. This study used VIF and the findings are presented in Table 5.

Table 5. VIF Test for Multicollinearity

Variable	VIF	1/VIF
Ordinary Share Capital	4.60	0.217352
Retained Earnings	3.82	0.261727
Short Term Debts	2.01	0.498739
Long Term Debts	1.38	0.722798
Mean VIF	2.95	

The results presented in Table 5 show that Ordinary Share Capital had VIF =4.60, Retained Earnings had VIF =3.82, Short Term Debts had VIF =2.01 and Long Term Debts had VIF =1.38. None of the variables had VIF greater than 10 hence; the study concluded that there was no threat of multicollinearity among the independent variables. All the variables were legible to be included in the regression analysis

5.3 Autocorrelation Test
This study also tested for autocorrelation using Durbin Watson (DW) test where a DW value of between 1 and 2 indicated absence of autocorrelation. This test is very critical especially for variables with time aspects. The serial autocorrelation test whether there exists relationship between variables at time t and t-1.

Table 6. Autocorrelation Test

Model	Durbin-Watson
1	1.201

a Predictors: (Constant), Retained Earnings, Short term borrowings, Long term borrowings, Ordinary Share Capital

b Dependent Variable: ROE

The results show that Durbin Watson statistics was 1.202 which falls between 1 and 2 hence it was concluded that there was no threat of serial autocorrelation in the data set. The data was adequate for regression analysis in testing the influence of financial structure on financial performance of listed construction and allied firms in Kenya.

5.4 Heteroskedasticity Test
The final diagnostic test conducted by the study was test for heteroskedasticity which tests whether there is constant variance in the errors terms of the regression model. Assumptions of regression analysis dictates that error term must have a constant variance (Homoscedasticity). The results for Heteroskedasticity Test are presented in Table 7.

Table 7. Breusch-Pagan test for heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROE
chi2(1)   =   0.61
Prob > chi2 = 0.4340

This study tested for Heteroskedasticity using Breusch Pagan test where a p-value greater than 0.05 at 5% level of significance indicate the absence of Heteroskedasticity/constant variance. The results in Table 4.5 shows a p-value of 0.4340>0.05 hence the study failed to reject the null hypothesis that error term has a constant variance indicating absence of Heteroskedasticit

6.0 Conclusions and recommendations
6.1 Conclusion of the Study
The study concluded that financial structure is very critical to the financial performance of firms, therefore at every stage firms must determine the mode of financing that will have the highest effect on financial performance. For instance, this study concludes that firms can not overly rely on ordinary share capital as their financing mode only. Firms that entirely rely on share capital grow sluggishly due to reduced performance. High performing firms use various financing forms in an optimal way.

The study further concluded that firms that use retained earnings grow faster and increase their financial performance compared to firms that use other forms of financing. Compared to other forms of financing retained earnings is cheap hence it is among the top in the pecking order of financial structure. The study therefore concludes that firms should prioritize the use of retained earnings in their financial structure to boost their financial performance. The study also concluded that besides the few benefits of debt financing, firms should

consider it as the last in the pecking order in their financial structures. Long term debt is expensive and is only good for high potential investment opportunities. Short term debt is even more expensive, has higher exposure to interest rate risk due to its shorter-term debt maturity and therefore should be the last in the pecking order.

6.2 Recommendations of the Study

The study recommends that management of listed construction and allied firms and other firms should not rely predominantly on ordinary share capital as the main source of financing. This is because ordinary share capital on its own cannot meet the investment demands of the firms to boost performance. Instead management of firms should seek to combine various forms of financing that will have the highest effect on the financial performance of their firms.   On retained earnings, the study recommends that management of listed firms should consider retained earnings as the first priority in their financing structure. Retained earnings should be prioritized since it is among the cheapest form of financing accessible to all firms which positively and significantly increase their financial performance. Management of these firms should engage with the shareholders whenever there is a need for investment/expansion to ensure earnings are retained for that purpose. On long term debts, the study

established that long term debts had a negative and insignificant effect of financial performance of listed construction firms in Kenya. Therefore, the study recommend that management of listed firms should least prioritize long terms debts since it is expensive form of financing and should only be considered as a last resort or for high potential investment opportunities. Long terms debts become extremely expensive in highly volatile economic environment such as those experienced in developing economies like Kenya. On short term debt, it is imperative for management of firms to keep their short term debts as low as possible since these debts negatively affect the performance. Borrowing to finance day to day activities is risky for any firm and firms should consider other cost cutting approach such as layoffs of excess staff and scaling down activities.

7.0 Acknowledgement

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