Capital Structure and Profitability of Insurance Firms Listed At Nairobi Securities Exchange, Kenya

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Abstract: *Recent trends indicate a decline in profitability of insurance firms in Kenya mainly attributed to poor investment and financing decisions. According to the Insurance Regulatory Authority of Kenya, the combined industry profit before tax (PBT) declined from 14.1 billion in 2015 to 12.8 billion in 2016 which represented a decline of 9.21 percent. The poor state of profitability does not exempt firms listed in Nairobi Securities Exchange. While capital structure decision has been fronted as one of the determinants of profitability, there is scarcity of empirical evidence on this subject especially with regard to the insurance industry. To thrive, the insurance firms should adopt financing decisions that best places them in a position to compete and survive in the ever changing business environment. Whereas studies have been done on this area, gaps remain unresolved on the need to consider other components of capital of firms in the analysis such as gearing level, the need to replicate the study locally and expand the indicators of equity financing embraced in the analysis. Specifically, the study sought to establish the effect of short term debt ,long term debt, internal equity and external equity capital on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya as well as the moderating role of capital intensity on the relationship between capital structure and profitability of insurance firms listed at Nairobi Securities Exchange, Kenya. The study adopted positivist research philosophy and causal research design. The target population comprised of all the 6 insurance firms listed in Kenyan Securities Exchange over the period 2011 to 2018. The study used secondary data which was collected using a document review guide. Data was analyzed using descriptive analysis, correlation analysis and multiple regression analysis. The study found that long-term debt had a significant effect on profitability (p<0.05), short term debt had a significant effect on profitability (p<0.05), internal equity had a significant effect on profitability (p<0.05), external equity had a significant effect on profitability (p<0.05) and lastly capital intensity did not have moderating effect on the relationship between capital structure and profitability (p>0.05). Hence, capital structure financing sources significantly predicted profitability; however, the joint effect of the capital structure sources had an insignificant effect on profitability of the firms studied. Hence, the study recommended that companies should combine financing sources that contribute positively towards profitability.*
Keyword: *Short-term debt, long-term debt, internal equity, External equity and Capital intensity.*

I. Introduction and Background

The insurance industry plays an important part in facilitating economic growth and risk management to protect entities (Kyereboah, 2007). It is expected that change in capital structure decisions by an insurance company affected its profitability. This position is further supported by Alawwad (2013) that capital structure contributes greatly to financial performance. Capital structure represents impartial link concerning equity and debt. The whole significance of capital structure decisions is the need to optimally manage the cost of capital which has ramification on the competitive positioning of the firm (Pandey, 2009). Keown, Martin, Petty, and Scott (2005) further argues about cost of capital that it is determined by its capital structure making this a significant part of a company's financial management. The subject of capital structure illuminates the combination of securities and sources of funds for various investment undertakings. Capital structure denotes the manner in which business operations are funded with either by way of equity or/and debt (Brighman, Ehrhardt, Nason, & Gessaroli, 2016). Capital structure decisions are often made with reference to long term investments. The uptake of debt in financing decisions would be influenced by interest rates, tax, and covenant restrictions (Hovakimian, Opler, & Titman, 2012). Flannery and Hankins (2007) contends that high debt

appetite reduces the attractiveness of a firm's shares to investors since it upsurges the probability of financial distress.

Capital Structure refers to the firm's financial framework which consists of the debt and equity used to finance the firm. It's the way a firm finances their assets through the combination of equity, debt, or hybrid securities (Saad, 2010). In short, capital structure is a mixture of company's debts (long term and short term), common equity and preferred equity. Capital structure is essential on how a firm finances its overall operations and growth by using different sources of funds (San & Heng, 2011). In finance, capital structure refers to the way in which an organization is financed, a combination of long term capital (ordinary shares and reserves, preference shares, debentures, bank loans, convertible loan stock and so on) and short term liabilities such as bank overdraft and trade creditors. A firm's capital structure is then the composition of its liabilities (Saad, 2010). A company which has no debt, its capital structure is only equity and different companies have different capital structures (Pouraghajan et al., 2012). In reality, the capital structure of a firm is difficult to determine. Financial managers have difficulties to exactly determine the optimal capital structure. A firm has to issue various securities in a countless mixture to come up with particular combinations that can maximize its overall value which means optimal capital structure (San & Heng, 2011).

According to Malik (2011), profitability is of critical importance to firms as it assures growth in shareholders investments and drives business survival. Highly profitable business engagements has the effect of expanding shareholders' return on investment. According to Pandey (2009), profitability entails the ability of a business to derive positive benefits from shareholders input into the business. Profitability analysis in an enterprise of principal importance as it helps understand how the financing structure could be impacting on ability to grow and survive. Profit is essentially the financial advantage achieved when business revenues surpass the expenses incurred in business undertakings (Boodhoo, 2019). Gross profits are the accounting measure of true economic profitability. The farther down the income statement one goes, the more polluted profitability measures become, and the less related they are to true economic profitability (Ball, Gerakos, Linnainmaa & Nikolaev, 2015). For example, a firm that has both lower production costs and higher sales than its competitors is unambiguously more profitable. Even so, it can easily have lower earnings than its competitors. The Return on Assets ratio (ROA), also called return on investment, is an important profitability ratio because it measures the efficiency with which the company is managing its investment in assets and using them to generate profit. It measures the amount of profit earned relative to the firm's level of investment in total assets. The return on assets ratio is related to the asset management category of financial ratios. The calculation for the return on assets ratio is: Net Income/Total Assets. In MIX definition the return on asset ratio is: (Net Operating Income – Taxes) / Average Assets. The higher the percentage, the better, as a high percentage means that the company is succeeding in using its assets to generate sales (Pandey, 2006). Return on Equity (ROE) is a measure of the profitability of a business in relation to the equity, also known as net assets or assets minus liabilities. ROE is a measure of how well a company uses investments to generate earnings growth.

According to a report by Cytton Investments (2017), insurance companies have over the past half a decade been regular candidates of acute operational inefficiencies which have continued to dilute their profitability. Companies listed at the NSE namely, Liberty Holdings, Kenya Re, Co-operative Insurance Company, Britam Holdings, Sanlam and Jubilee holdings have not been exempted in regard to poor profitability and performance (Cytton Investments, 2018). The average core Earnings per Share (EPS) of the insurance companies listed at NSE declined by 5.6 percent in the first quarter of 2017 as from a growth of 69.4 percent reported in the same quarter in 2016. On the same note, the loss ratio across the sector increased to 72.70 percent in first quarter of 2017, up from 66.50 percent reported in first quarter of 2016. However, there was a slight improvement noted with regard to return on equity with the ration standing at 10.90 percent in first quarter of 2017 compared to 9.00 percent reported in the same period of 2016 (Cytton Investments, 2018).

II.   Statement of the Problem

The profitability of insurance firms has continued to shrink over the past decade, driven principally by poor investment and financing decisions in the insurance industry (Nyongesa, 2017). Cytton Investments (2017) indicates that insurance companies have over the past half a decade been regular candidates of acute operational inefficiencies and diluted profitability. The Insurance Regulatory Authority (2017) that the combined industry profit before tax (PBT) declined from 14.1 billion in 2015 to 12.8 billion in 2016 which represented a decline of 9.21 percent. The poor state of insurance profitability does not exempt firms listed at NSE. According to Cyton Investments (2018), the average core Earnings per Share (EPS) of the insurance companies listed at NSE declined by 5.6 percent in the first quarter of 2017 from a growth of 69.4 percent reported in the same quarter in 2016. On the same note, the loss ratio across the sector increased to 72.70 percent in first quarter of 2017, up from 66.50 percent reported in first quarter of 2016. While capital structure decisions has been fronted as one of the determinants of profitability, there is scarcity of empirical evidence on this subject especially with regard to

the insurance industry. A lot of gaps; empirical, contextual, conceptual and methodological in nature are unveiled justifying the value of the current analysis.

Mwangi, Muathe, and Kosimbei (2014) examined the relationship between capital structure and financial performance of companies listed at Nairobi Securities Exchange, Kenya. Kodongo, Mokoaleli-Mokoteli, and Maina (2015) examined capital structure, profitability and firm value. Study results presented strong evidence that long term debt significantly, and negatively, affects firm profitability. The studies present conceptual gaps on the need to split the analysis to cover separate and collective effects of short term debt, long-term debt, and total debt on profitability. Anyango (2011) investigated adjustment towards capital structure on the firms listed in Nairobi Securities Exchange for 12 years from 1999 to 2010 and found that firm use of long term and short term debt is not only related to profitability but other factors like growth opportunities. Contextual gaps are evident on the need to consider a more recent analysis of the subjects.From the ongoing discussion, it is clear that a lot of gaps remain unresolved on the subject matter, that is, the effect of capital structure on profitability. There are empirical gaps as regards conflicting results and inadequately covered dimensions of capital structure. Methodological gaps are clear on the need to consider other a broad range of indicators of firm profitability and need to split the analysis of equity finance to reflect both internal and external components which could have different relationships with performance. Contextual gaps are identified on the need to replicate the studies locally and the need to consider an updated empirical study. Hence, to address the aforementioned gaps, the study sought to assess the effect of capital structure on profitability of insurance firms listed at NSE, Kenya.

III. Objective of the Study

The study sought to address the following specific objectives:
i. To establish the effect of short term debt capital on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.
ii. To establish the effect of long term debt capital on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.
iii. To determine the effect of internal equity capital on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.
iv. To determine the effect of External equity capital on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.
v. To determine the moderating effect of capital intensity on the relationship between capital structure and profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.

*Null hypotheses were formulated and tested for each specific objective at a significance level of 0.05.

IV. Significance of the Study

The findings of this study will make a contribution to the existing body of knowledge on effect of capital structure on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya. The major contribution of the study is that capital structure predict firm profitability. Some previous studies have evaluated the relationship between capital structure and profitability. However the attributes of the four variables used in those previous studies were different, results contradictory and inconclusive. The theoretical value of the study to empirical literature, finance practice, finance theory relate to the study outcome that indicated that most of the total equity of the listed firms under study comprised of internal equity showing firms' preference of using internal funds in place of external funds thus supporting pecking order theory that postulates that increased use of external capital such as debt and equity influences the firm value negatively and increases the chances of financial distress. According to study outcome listed insurance firms in preference of internal financing sources to highly costly external sources. The findings delivers researchers, theorists, investors, and executives with relevant evidence on capital structure and profitability which will allow them to wholly refocus on the concept and its value to the firm.

The management in insurance sector will find the findings of this study important during decision making with regard to optimal financial mix that will lead to increased profitability and shareholder value maximization. Both future and existing investors in insurance industry will benefit from the study findings since the result will facilitate decision making in an effort to maximize their returns. The results will act as a way of evaluating the performance of the management. Investment advisors such as brokerage companies, investment institutions among others will supplement their understanding in financing choices to arm them much better in recommending their customers to make cautious and prudent decisions that will maximize their returns and reduce related risks.

V. Review of Literature

a. Theoretical Review

This section reviews theories related to capital structure and profitability of firms.

Modigliani and Miller (1963) theoretical perspective is applauded as one of the most profound advances in explanation of optimal capital structure. The theorists attempted to describe the financial decisions that are irrelevant in determination of the value of the firm. The Modigliani and Miller theory of capital structure makes an assumption that the value of a firm is the same irrespective of the financing structure adopted; whether debt or equity. The second proposition is that the WACC remains constant. Additionally, suppositions are made on existence of perfect markets. Further assumptions are made on absence of transaction costs, default risk, and taxation. Additionally, the theorists supposes that both firms and investors are in a position to access funds at same interest rate. Finally, assumptions are made on existence of uniform expectations and identical risk. According to the theory, all users have the same access to relevant information (Ahmeti & Prenaj, 2015). Modigliani and Miller (1958) maiden proposition asserted the independence of firm value from its capital structure. The theory holds that firms that consume more debt are more valuable. The implication is that such firms have a higher market value than those that use lower debt. This theory is relevant to the study because it provides for a non-biased perspective on the effect of capital structure and profitability. By providing that financing decisions are irrelevant to the firm, the theory offers a neutral platform to undertake an incisive empirical analysis of this relationship within the targeted population.

Agency theory was founded by Jensen and Meckling (1976) stating that management and owners have different interests. The theorists present that the lesser the agency costs, the better the firm performance and value. The authors introduced the agency costs dimension to this hypothesis by suggesting that although debt brings forth specific advantages to the firm, it also increases the associated agency costs. The authors suggested that agency costs emanate conflicts between principals and agents. These kind of encounters exist between the debt-holders, shareholders and managers. The theoretical foundation asserts that the managers may not be fully dedicated to maximizing shareholders wealth but rather may serve their own interests; resulting to wastage of the free cash flow through sub-optimal investments (Eisenhardt, 1989). For the current study, the theory is key for assessment as it provides that debt brings forth specific advantages to the firm. The less the agency costs, the better would be the performance and company valuation. By providing that debt financing is another crucial factor that determines how cash flow accessible to management and in so doing allow to control the agency problem.

The pecking order is associated with Donaldson (1961) but most notable developments were done by Myers and Majluf (1984) who introduced the asymmetry in information dimension to the pecking order hypothesis. The proponents of the theory posit that business concerns preferred debt finance to issuance of equity in case the internal cash flow is insufficient for capital expenditure. Thus the use of internal financing is highly preferred to any other source of external finance for capital expenditures. The internal financing option is preferred since it attracts no floatation costs. Additionally, internal financing does not need additional disclosure of financial information jeopardize the firm's competitive advantage. When necessary to consume external funds, the theory gives an order of preferred external fund sources (Watson & Head, 2010). This theory provides for preference to use of internal funds in place of external funds that encapsulate debt and equity in an effort to preserve value and firm stability. The implication is that increased use of external capital such as debt and equity influences the firm value negatively and increases the chances of financial distress (Fischer, Heinkel, & Zechner, 1989). This theory provides that firms prefer internal sources to costly external finance. The pecking order hypothesis therefore holds that firms that consume less debt was more profitable than firms with a big debt appetite.

b. Empirical Review

This section reviews various studies which inform the study relationship, Ahmad, Abdullah, and Roslan (2012) analysed capital structure and performance of Malaysian firms. Performance was indicated by profitability metrics (ROA and return on equity). Targeted were the consumers and industrial sectors of Malaysian equity market. Data from a sample of 58 companies was analysed between years 2005 to 2010. The regression model was the main statistical tool guiding the inferences to the population. Results demonstrated that only STD and TD meaningfully connected with ROA. On the other hand, ROE was established to have a significant association with all debt levels including total debt. Empirical and contextual gaps are identified on the need to focus on an expanded framework in the analysis and need to replicate the study locally.

Mwangi, Muathe, and Kosimbei (2014) focused on capital structure and financial performance. The study specifically targeted a total of 42 non-financial companies listed at NSE, Kenya. Secondary data was gathered from NSE hand books and covered the duration between year 2006 and 2012. Feasible Generalised Least Square (FGLS) regression analysis was used. Findings indicated a negative relationship of LTD with

performance indicated by ROA and ROE. The study presents conceptual gaps on the need to split the analysis of to cover separate and collective effects of debt on profitability.

Anyango (2011) investigated adjustment towards capital structure on the firms listed at NSE for 12 years from 1999 to 2010 and concluded that managers employ targeted behavior that lead to adjustment process in the firm use of debt, a further observation was that firm use of debt is not only connected to profitability but other factors like growth opportunities, level of firm assets among others were found to contribute debt level and affect the financial performance. Contextual gaps are evident on the need to consider a more recent analysis of the subjects.

Kodongo, Mokoaleli-Mokoteli, and Maina (2015) examined capital structure and profitability. Study results presented strong evidence that long term debt significantly, and negatively, affects firm profitability. Leverage was not found to yield significant effect on firm value. Empirical gaps arise on need to consider an analysis that seeks to independently and collectively examine the influence of equity and debt on performance. Contextual gaps are also presented on the need to consider an updated empirical study since a significant number of additional firms have joined the stock exchange listing since then.

Samuel (2016) studied capital structure and financial performance of commercial banks in Kenya. Specifically analysed was the effect of debt, internal equity, external equity, and preference share on financial performance. The target population was made up of 43 commercial banks. Secondary data was gathered from annual reports available at individual bank's websites and from CBK. The review covered a ten year period from 2005 to 2014. Results indicated that debt ratio positively influences profitability of banks. With regard to internal equity, the study indicated that retained earnings positively and significantly influences profitability. The same trend was observed with reference to preference shares (quasi equity) which demonstrated a positive influence on commercial banks' profitability. However, results demonstrated that ordinary shares negatively influences bank's profitability. Methodological gaps arise on need to expand the indicators of profitability to reflect listed firms such as return on equity and return on assets.

Liaqat et al., (2017) analysed capital structure and financial performance targeting the energy and fuel sector in Pakistan. Secondary data for the period from 2006 to 2014 was examined. The findings from the multiple regression analysis confirmed the presence of a significant negative influence of capital structure (debt level, equity level (internal and external) and capital size) on ROE and ROA of firms in fuel & energy sector of Pakistan. Earnings per Share (EPS) was found to be the least driven performance metric by capital structure parameters. Results present contextual gaps on the need to replicate the study locally. The Samuel (2016) study on capital structure on financial performance of banks demonstrated that ordinary shares negatively influences bank's profitability. Methodological gaps were unveiled on the need to use a wide range of indicators of profitability to reflect listed firms such as RPE and ROA.

The Marietta (2012) study examined capital structure and performance through a case study of selected firms listed at the Nairobi Securities Exchange. The study used profitability indicators; ROA and ROE ratios to indicate performance. Results demonstrated that debt finance (both long term and short term) has a significant negative correlation with firm's profitability. Conceptual gaps are evident on the need to have a detailed analysis of the components debt capital. Koech (2013) used regression analysis to evaluate capital structure and profitability of listed financial firms. The study established inverse relationship between capital structure and performance. As such, an upsurge in the level of debt finance (whether short term or long term) would result to a decline in profitability. Empirical gaps are evident on the need to cover more capital structure variables in the analysis other than just debt.

Maina and Ishmail (2014) studied capital structure and financial performance of firms listed at NSE. A census approach was applied on all firms listed at the NSE from year 2002 to 2011. Secondary data was sourced from NSE handbooks and comprised of financial statements of listed firms. A causal research design was employed with panel regression analysis being the main inferential statistics sought. Study results established that equity and debt finance are major predictors of financial performance. Results demonstrated the presence of a positive connection among equity finance (internal and external) and financial performance. Debt finance demonstrated a negative association with financial performance. Methodological gaps emerge on the need to split the components of equity finance in the analysis to reflect both internal and external options. Omai, Memba, and Njeru (2018) studied on the effect of share capital finance on profitability of petroleum marketing firms in Kenya. A sample of 35 petroleum firms' were studied between 2007 and 2016. The study employed descriptive statistics and uni-variate tests (t-test and Pearson correlation) in the analysis. Findings demonstrated that ordinary share capital has a negative but insignificant effect on profitability at 5% level of significance. Conceptual gaps are demonstrated on the need to broaden the analysis of equity finance in the analysis to include other internal sources such as retained earnings. Lee (2010) studied capital intensity and firm performance. The study relied on secondary data to analyse value performance. The period under review was between the years 2000 to 2008. Results indicated that capital intensity demonstrates an adverse influence on

performance. Methodological gaps and empirical gaps are evident on the need to assess the moderating role of capital intensity the association between other capital structure variables and profitability.

Gamlath and Yogendrarajah (2013) studied capital intensity in the Sri Lankan plantation industry. Financial performance was indicated by Net Profit Margin, Return on Assets, and Return on Capital Employed. Debt financing was indicated using the debt to equity financing ratio. Using a sample of 9 plantation companies in Sri Lanka over the period of 2007 to 2011, the results indicated that capital intensity along other variables assessed influenced debt financing. Contextual gaps are presented on the need to replicate the study locally. Mohamed (2010) analysed the influence of financial leverage on financial performance of manufacturing and allied firms at NSE, Kenya. A descriptive survey approach was used on a population of 10 manufacturing and allied firms listed at the NSE as at 2016. Secondary data was reviewed as from 2012 to 2016. Descriptive statistics as well as inferential statistics were utilised. The findings exhibited a negative but insignificant relationship between capital intensity and profitability as indicated by return on assets. Methodological gaps are presented on the need to analyse capital intensity as a moderating variable.

VI. Research Methodology

The target population of this study comprised of all the 6 listed insurance firms in Kenyan Securities Exchange for the 8-year period from 2011 to 2018. The choice of this period for analysis is the wide disparities reported with regard to profitability of insurance firms during the review period. A census was carried out due to the small number of insurance firms listed in NSE, Kenya. The causal or explanatory research design was utilized as a result of the nature of problem and data availability to determine and explain already existing relationships, if any, between capital structure and profitability of insurance firms listed at NSE in Kenya. Moreover, the research approach allows conclusions and inferences to be made to the larger population.

Data collected were cleaned and then categorized in line with the research. Diagnostic tests were carried out to determine and ascertain that the data sets meet the general assumptions for regression analysis. Data analysis was effected by descriptive analysis (means and standard deviation), Pearson Correlation Analysis and multiple linear regression analysis. The multiple regression analysis and Pearson correlation analysis were the main inferential statics guiding the generalizations.

VII. Results and Findings

The section presents results and relevant interpretations as well as discussion in the form of comparing and contrasting the study findings with other studies.

a. Descriptive Analysis

This section highlights the descriptive statistical analysis of the collected data for every variable under study, it indicates the means, standard deviation, and the least possible and maximum figures.

Table 1: Descriptive

Variable	Obs	Mean	Std.Dev	Min	Max
Return on assets	48	0.344	0.038	0.27	0.422
Return on equity	48	0.361	0.035	0.297	0.454
Total debt	48	0.463	0.256	0.009	1.591
Short term debt	48	0.318	0.027	0.227	0.335
Long term debt	48	0.290	0.049	0.229	0.451
Total Equity	48	0.432	0.121	-0.021	0.931
External equity	48	0.369	0.038	0.282	0.446
Internal equity	48	0.498	0.087	0.332	0.669
Capital intensity	48	0.423	0.082	0.257	0.603

Source: Research data, 2019

Table 1 indicates that for the periods under study (2011-2018), the return on assets of the listed insurance firms in Kenya had a mean return on assets for the eight years that indicated that the firms were efficient at converting their investments into profits. Also, the mean value of the firms' return on equity indicated that every Ksh of common shareholders' equity earned about Kshs 3.61 and deviated by Kshs 3.50 in the period under study.

Table 1 further show that the capital structure adopted by listed insurance firms comprised of 31.8% long-term debt and 36.9% external equity. This finding is in agreement with the findings of the study by Mwangi *et al.* (2014) who found that firms listed in Kenya employ more equity than debt to finance their assets. The author attributed this preference for equity to high cost of debt in Kenya that discourages the corporate sector from borrowing from commercial banks. The finding however conflicted that by Kodongo *et al.* (2014) who observed that firms listed in NSE employ more debt than equity. The authors attributed this trend to the fact

that commercial bank loan is easier to arrange and acquire than equity that requires approval by the regulator (CMA).

The corresponding high standard deviation of 25.6% supported by the wide range between minimum and maximum observations (0.009 – 1.591) on total debt utilization show significant dispersion on borrowing levels among listed insurance firms. The findings implies that in spite of some firms being highly indebted, majority were modestly geared. A similar pattern applies on equity financing whose maximum of 0.931 indicated that some firms were almost entirely funded by equity and a minimum of -0.021 signifying that some companies were technically drifting towards insolvency.

It can also be deduced from the results that approximately 31.8% of total debt comprises of short term borrowing (repayable within 12 months of balance sheet date) as opposed to long term debt that constitute 29%. This empirical observation signifies preference for short-term debt over long term debt by firms to finance their assets. This disparity may be attributed to the perceived cost of long-term borrowing as well as inaccessibility for long-term credit from lenders as a result of high collateral requirements in terms of security (Bitok *et al.*, 2011). Another reason could be as a result of the fact that the Kenyan long-term debt market is still developing and hence not readily accessible by insurance firms (Maina & Ishmail, 2014). The high variability in borrowing levels as evidenced by the high standard deviation show the non-uniformity in the borrowing levels among listed insurance firms during the analysis period.

The results output displayed in Table 1 denote that the greatest proportion of the firms' equity capital was derived from internal sources (retained earnings and reserves) at approximately 49.8% as opposed to external equity that approximated 36.9% of the total equity component. The observation signifies that during the period of analysis, listed insurance firms employed the pecking order hypothesis of capital structure; which opine that firms normally prefer to utilize internally generated funds as opposed to externally acquired capital to finance their assets. The results further show a high dispersion on usage levels of each component of equity capital as signified by the standard deviation. Regarding capital intensity, the results showed that the firms on average invested Ksh 0.423 to produce one shilling of revenue during the study period.

B. Correlation Analysis
To examine relationship between variables, the study employed Pearson's simple correlation analysis. A correlation coefficient measures the extent to which two variables tend to change together; correlations indicate the nature and strength of relationship between two variables under study (Abor, 2005). The coefficient describes both the strength and the direction of the relationship-it ranges between -1 and 1 that indicates how strongly two variables are linearly related.

B1. Long term debt and profitability
Pairwise correlation coefficient was utilized to gauge the relationship between Long term debt and profitability.

Table 2: Long term debt and Profitability

	Return on assets	Return on equity
Long term debt	0.4519	0.4902
Sig	0.0142	0.0422
N	48	48

The results indicated that there was a moderate, positive and significant relationship between Long term debt and ROE, also there was a positive and significant relationship between Long term debt and return on assets. This implies that during the study period 2013 - 2017 an increase in Long term debt led to an increase in profitability.

The findings concur with findings by Ahmad, Abdullah, and Roslan (2012) findings that demonstrated that long term debt (TD) were meaningfully related with return on assets. On the other hand, return on equity was established to have a significant relationship with all debt levels including total debt. However the findings deviate from those of Mwangi, Muathe, and Kosimbei (2014) who found a positive relationship between long term debt and performance as was measured in terms of return on assets and return on equity.

B2. Short Term Debt and Profitability
Pairwise correlation coefficient was utilized to measure the relationship between short term debt and profitability.

Table 3: Short term debt and Profitability

	Return on assets	Return on equity
Short term debt	0.4952	0.4442
Sig	0.0417	0.0280
N	48	48

The results indicated that there was a positive and substantial relationship between Short term debt and ROA, also there was a positive and substantial relationship between short term debt and ROE. This implies that during the study period 2011 - 2018 an increase in Short term debt led to an increase in profitability. The results vary with findings by Kubai (2016) who found that short-term debt had a negative relationship with profitability (return on equity). Chinaemerem and Anthony (2012) results indicated that short-term debt had a negative, statistically significant impact on firm's performance. Financial performance was indicated through profitability metrics namely return on assets and return on equity.

B3. Internal Equity and Profitability
Pairwise correlation coefficient was utilized to measure the relationship concerning profitability and equity.

Table 4: Internal Equity and Profitability

	return on assets	return on equity
Internal equity	0.5231	0.4312
Sig	0.0001	0.0138
N	48	48

The results indicated that there was a substantial positive relationship concerning internal equity and return on equity, there was also a significant positive relationship between internal equity and return on assets. This implies that during the study period 2011 - 2018 an increase in internal equity led to an increase in profitability.

The results concur with Samuel (2016) results that indicated debt ratio positively influences profitability of banks. With regard to internal equity, the study indicated that retained earnings positively and significantly affects profitability. Raude, Wesonga, and Wawire (2015) results indicated that a strong relationship between internal equity financing and performance. Njagi, Kimani, and Kariuki (2017) results demonstrated that equity finance has a positive relationship with financial performance of the SMEs.

B4: External Equity and Profitability
Pairwise correlation coefficient was utilized to measure the relationship between external equity and profitability.

Table 5: External Equity and Profitability

	Return on Assets	Return on Equity
External equity	0.3255	0.4037
Sig	0.0240	0.0101
N	48	48

The results indicated that there was a significant positive relationship concerning external equity and return on equity, there was also a significant positive relationship concerning external equity and return on assets. This implies that during the study period 2011 - 2018 an increase in external equity led to an increase in profitability.

The results concur with Maina and Ishmail (2014) findings that demonstrated the existence of a positive relationship between equity finance (internal and external) and financial performance. Debt finance demonstrated a negative relationship with financial performance. Marietta (2012) also found that internal and external equity finance had a significant positive correlation with firm's profitability. However, the results varies with Omai, Memba, and Njeru (2018) findings that indicated ordinary share capital had a negative but insignificant effect on profitability at 5% level of significance.

b. Regression Analysis
The study carried out panel regression analysis to establish the relation among study variables. Specifically the study used fixed effect and random effect model.

C1. Long term debt and profitability
The research sought to establish the effect of Long term debt on profitability of listed insurance firms in Kenya (See Table 6).

Table 6: Long term debt and Profitability

	Long term debt	Coefficient	Std. Err.	z	P>|z|	Model
Model 1a	Return on assets	0.419	0.193	2.17	0.030	RE
	_cons	0.223	0.056	3.95	0.000	
Model 1b	Return on equity	0.365	0.177	2.06	0.015	RE
	_cons	0.358	0.052	6.86	0.000	
Statistics	**Model 1a**	**Model1b**				
Wald chi2(1)	4.72	0.00				

Prob> chi2	0.0298	0.9546
R-Squared	0.4351	0.4906

As shown in Table 6, R-squared was 0.4351 indicating that long term debt explained 43.51 percent of change in return on assets in insurance firms listed at NSE. Also R-squared was 0.4906 indicating that long term debt explained 49.06 percent of change in return on equity in insurance firms listed at NSE.

The results indicated that holding other factors constant, a unit increase in long term debt led to 0.419 units increase in return on assets. The P-value was less than the significance level of 0.05 indicating that the relationship was statistically significant. Holding other factors constant, a unit increase in Long term debt led to 0.365 units increase in return on equity; the P-value was less than the level of significance of 0.05 hence an indication that the relationship was statistically significant. The study therefore rejected the null hypotheses and found that long term debt capital have a significant effect on profitability of Insurance firms listed at Nairobi Securities Exchange, Kenya.

From the findings in Table 6 two models were presented.

Return on assets   = 0.223 + 0.419 Long term debt
Return on equity   = 0.358 + 0.365 Long term debt

C2. Short term debt and profitability
The research sought to establish the effect of Short term debt on profitability of insurance firms in Kenya. The results are shown in Table 7.

Table 7: Short term debt as Independent Variable-Random Effects Models

	Short term debt	Coefficient	Std. Err.	z	P>|z|	Model
Model 1a	Return on assets	0.446	0.124	3.60	0.010	RE
	_cons	0.407	0.040	10.10	0.000	
Model 1b	Return on equity	0.698	0.115	6.07	0.001	RE
	_cons	0.364	0.038	9.63	0.000	
Statistics	**Model 1a**	**Model1b**				
Wald chi2(1)	2.55	0.00				
Prob> chi2	0.110	0.946				
R-Squared	0.4201	0.4321				

In view of Table 7, R-squared was 0.4201 indicating that short term debt explained 42.0 percent of change in return on assets in insurance firms listed at NSE. Also R-squared was 0.4321 indicating that short term debt explained 43.21 percent of change in return on equity in insurance firms listed at NSE.

The outcomes further specified that while holding other factors constant, a unit increase in Short term debt led to 0.446 units increase in return on assets. The P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant. Holding other factors constant, a unit increase in Short term debt led to 0.698 units increase in return on equity; the P-value was less than the level of significance of 0.05 hence an indication that the relationship was statistically significant. The study therefore rejected the null hypotheses and confirmed that short term debt capital have a significant effect on profitability of Insurance firms listed at Nairobi Securities Exchange, Kenya.

The results are in line with previous studies that found a significant association between Short term debt and profitability (Rechner & Dalton, 1991; Brown & Caylor, 2004; Naushad & Malik; 2015). However, the results were inconsistent with past studies that found no significant relationship between Short term debt and profitability (Aluchna, 2009; Klein et al., 2005) and those that established a negative association between Short term debt and profitability (Beltratti & Stulz, 2012; Erkens, et al., 2012).

Profitability was measured in terms of return on assets and return on equity. From the findings in Table 3 two models were presented.

Return on assets   = 0.407 + 0.446 Short term debt
Return on equity   = 0.364 + 0.698 Short term debt

C3. Internal Equity and Profitability
The research sought to establish the effect of internal equity on profitability of listed insurance firms in Kenya (See Table 8).

Table 8: Internal Equity and Profitability

	Internal equity	Coefficient	Std. Err.	z	t	P>|z|	Model
Model 1a	Return on assets	0.419	0.131		3.21	0.003	FE
	_cons	0.190	0.048		3.93	0.000	
Model 1b	Return on equity	0.577	0.120	4.81		0.071	RE
	_cons	0.441	0.045	9.76		0.000	
Statistics	**Model 1a**	**Model1b**					

F(1,41)	10.33	
Prob> F	0.0026	
Wald chi2(1)		3.26
Prob> chi2		0.0710
R-Squared	0.6841	0.5421

In view of Table 8, R-squared was 0.6841 indicating that internal equity explained 68.41 percent of change in return on assets in insurance firms listed at NSE. Also R-squared was 0.5421 indicating that internal equity explained 54.21 percent of change in return on equity in insurance firms listed at NSE.

The outcomes further specified that holding other factors constant return on assets would be 0.190, a unit increase in internal equity led to 0.419 units increase in return on assets. The P-value was less than the level of significance of 0.05 signifying that the relationship was statistically significant. Holding other factors constant, return on equity would be 0.441, a unit increase in internal equity led to 0.577 units increase in return on equity; the P-value was lesser than the level of significance of 0.05 signifying that the relationship was statistically significant. The study therefore had the null hypotheses rejected and confirmed that internal equity have a significant effect on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.

The outcomes vary with previous studies that established a significant association between internal equity and profitability (Naushad & Malik; 2015). Also the results were inconsistent with past studies that found no significant relationship between internal equity and profitability (Aluchna, 2009; Klein et al., 2005) and concurred with those that found an insignificant relationship between internal equity and profitability (Erkens et al., 2012).

Profitability was measured in terms of return on assets and return on equity. From the findings in Table 4 two models were presented.

Return on assets   = 0.190 + 0.419 Internal equity
Return on equity   = 0.441 + 0.577 Internal equity

C4. External equity and Profitability of insurance firms

The research sought to establish the effect of external equity on profitability of insurance firms in Kenya. The results are shown in Table 9.

Table 9: External Equity and Profitability

	External equity	Coefficient	Std. Err.	z	P>|z|	Model
Model 1a	Return on assets	.122	.064	1.91	0.046	RE
	_cons	.284	.032	8.81	0.000	
Model 1b	Return on equity	0.221	.060	3.69	0.041	RE
	_cons	.382	.031	12.29	0.000	
Statistics	**Model 1a**	**Model1b**				
F(1,131)						
Prob> F						
Wald chi2(1)	3.66	0.47				
Prob> chi2	0.0558	0.491				
R-Squared	0.478	0.573				
Rho						

As shown in Table 9, R-squared was 0.478 indicating that external equity explained 47.8 percent of change in return on assets in insurance firms listed at NSE. Also R-squared was 0.573 indicating that external equity explained 57.3 percent of change in return on equity in insurance firms listed at NSE.

The outcomes further specified that holding other factors constant return on assets would be 0.284, a unit increase in external equity led to 0.122 units increase in return on assets. The P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant. Holding other factors constant, return on equity would be 0.382, a unit increase in external equity led to 0.041 units decrease in return on equity; the P-value was less than the level of significance of 0.05 signifying that the relationship was statistically significant. The study therefore had the null hypotheses rejected and found that external equity have a significant effect on profitability of insurance firms listed at Nairobi Securities Exchange, Kenya.

The results concur with previous studies that found a significant relationship between external equity and profitability (Brown & Caylor, 2004; Naushad & Malik; 2015). Also the results were inconsistent with past studies that found no significant relationship between external equity and profitability (Aluchna, 2009; Klein et al., 2005) and concurred with those that found an insignificant relationship between external equity and profitability (Erkens,et al., 2012).

Profitability was measured in terms of return on assets and return on equity. From the findings in Table 5 two models were presented.

Return on assets   = .284 + 0.122 External equity
Return on equity   = .382 + 0.221 External equity

C5. Capital structure and profitability of insurance firms

The research sought to establish the effect of capital structure on profitability of insurance firms listed at NSE in Kenya. The results are shown in Table 10.

Table 10: Capital structure on Profitability

	return on assets	Coefficient	Std. Error	Z	P>|z|	Model
Model 1a	Long term debt	-0.299	0.301	-0.99	0.321	RE
	Short term debt	-0.165	0.113	-1.47	0.142	
	Internal equity	0.904	0.236	3.83	0.000	
	External equity	-0.188	0.095	-1.99	0.047	
	-Cons	.244	.070	3.51	0.000	
	Return on equity	**Coefficient**	**Std. Error**	**Z**	**P>|z|**	**Model**
Model 1b	Long term debt	0.744	0.289	2.58	0.010	RE
	Short term debt	-0.033	0.111	-0.29	0.768	
	Internal equity	-0.737	0.227	-3.24	0.001	
	External equity	0.052	0.091	0.57	0.569	
	-Cons	0.402	0.066	6.04	0.000	
Statistics	**Model 1a**	**Model1b**				
Wald chi2(4)	22.11	11.73				
Prob> chi2	0.0002	0.0395				
R-Squared	0.4470	0.7062				

In view of Table 10 results on the effect of capital structure on return on assets show that capital structure explains up to 44.7% of variations in return on assets of listed insurance firms in Kenya. This is based on the resultant determinant coefficient (R^2) value equivalent to 0.4470. This indicates a relatively fair measure of fit for the variables included in the model. Further, the corresponding Prob>chi2 – value of 0.0002 signify that the coefficients of the four variables are jointly statistically different from zero at 95% confidence level.

The results indicated that holding other factors constant, return on assets would be 0.244, a unit increase in Long term debt led to 0.299 units decrease in return on assets. P-value was greater than the level of significance of 0.05 indicating that the relationship was statistically insignificant, a unit increase in short term debt led to 0.165 decrease in return on assets; the P-value was greater than the level of significance of 0.05 indicating that the relationship was statistically insignificant. A unit increase in internal equity led to 0.904 increase in return on assets; the P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant. And lastly, a unit increase in external equity led to 0.188 decrease in return on assets. The P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant.

The results indicated that holding other factors constant, return on equity would be 0.402, a unit increase in Long term debt led to 0.744 units increase in return on equity; the P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant, a unit increase in Short term debt led to -0.033 increase in return on equity; the P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant. A unit increase in internal equity led to -0.737 decrease in return on equity; the P-value was less than the level of significance of 0.05 indicating that the relationship was statistically significant. And lastly, a unit increase in external equity led to 0.052 increase in return on equity. The P-value was greater than the level of significance of 0.05 indicating that the relationship was statistically insignificant.

Therefore, the capital structure and profitability models can now be presented as follows:

Return on equity = 0.402 + 0.052 External equity + -.0737 Internal equity + -.033 Short term debt + - 0.744 Long term debt

Return on assets = 0.244 + -0.188 External equity + 0.904 Internal equity + -0.165 Short term debt + -0.299 Long term debt

C6. Capital Structure and Profitability of insurance firms –with moderation

The research sought to establish the moderating effect of capital intensity on the effect of capital structure on profitability of insurance firms listed at NSE in Kenya. The results are shown in Table 11.

Table 11: Capital structure and Profitability

	Return on Equity	Coefficient	Std. Error	t	P>|z|	Model
Model 1a	Long term debt*capital intensity	0.475	0.659	0.72	0.110	FE
	Short term debt*capital intensity	0.104	0.225	0.46	0.646	
	Internal equity*capital intensity	-1.290	0.551	-2.34	0.024	
	External equity*capital intensity	0.005	0.228	0.02	0.982	
	_cons	0.327	0.025	13.30	0.000	
	Return on assets	**Coefficient**	**Std. Error**	**Z**	**P>|z|**	**Model**
Model 1b	Long term debt*capital intensity	-1.078	0.646	-1.67	0.195	RE
	Short term debt*capital intensity	-0.177	0.219	-0.81	0.105	
	Internal equity*capital intensity	0.517	0.544	0.95	0.120	
	External equity*capital intensity	-0.304	0.224	-1.36	0.218	
	_cons	0.336	0.026	12.69	0.000	

Statistics	Model 1a	Model1b
F(4,38)	2.81	
Prob> F	0.0390	
Wald chi2(4)		22.65
Prob> chi2		0.0001
R-Squared	0.3039	0.3571

As shown in Table 11 above, the interaction terms were statistically insignificant (p < 0.05). The results indicated that there was no moderation effect, therefore the study failed to reject the null hypothesis and found that capital intensity does not have a significant moderating effect of capital structure on profitability of insurance firms listed at NSE, Kenya.

VIII. Discussion
The section presents key findings on each specific objective and subsequently links the findings with other studies and literature. The study found a significant relation between Long term debt and profitability; this indicates that Long term debt is a significant predictor of return on assets and return on equity. It has a positive coefficient indicating that increase in Long term debt increases the return on assets and return on equity. The findings concur with Abor (2005) findings concerning short term debt association with return on equity, the result contradict findings on long term debt because the study established an inverse relationship.

Studies by Kariuki and Kamau (2004) conclude that the more profitable a firm is the higher the level of debt is likely to have in its capital structure. While Yegon (2013) reveals a non-significant relationship where he concluded that the profitability of a firm is not affected by the mix of debt and equity. Mwangi and Burundu (2015) conclude non-existent of relationship. Thus, it is evident an area that requires further studies locally as a result the inconsistencies in the literature reviewed.

The study finds a significant relation between short term debt and profitability this indicates that short term debt is a significant predictor of profitability among insurance firms in Kenya. The results vary with those of Kuria (2010) who concluded that short term debt does not have any effect on the profitability of insurance firms in Israel. These results are also backed by Mwangi and Bulundu (2014) who concluded an insignificant relationship between short term debt and profitability of insurance firms in Uganda. Ebaid (2009) that capital structure has an insignificant influence on profitability among insurance firms in Egypt. Nevertheless, the results controvert those of Abdul (2012) that confirmed that short term debt is positively related to profitability among firms in Pakistan. These findings were similar with a study done by Rajan (2008) who found that short term debt affect firm profitability.

The study confirmed that there is significant association between internal equity and profitability this indicates that internal equity is a significant predictor of profitability. It has a positive coefficient indicating that increase in internal equity increases the profitability. These study results vary with that of Wen (2010) that indicated that there was an insignificant relationship between profitability of insurance firms and internal equity. Overall, the return on assets model findings concur with Abor (2007) who established an inverse effect of capital structure.

The study finds a significant relation between external equity and profitability this indicates that external equity is a significant predictor of return on assets and return on equity. The findings concur with Ibrahim (2009) that external equity had a close to no effect on the performance of a firm. The study conducted in Egypt utilized multiple regression in defining the relationship for the period; 1997 to 2005. Hence, the conclusion is that the capital structure is an irrelevant determinant of the financial performance of a firm.

IX. Conclusion and Recommendations

a. Conclusion

The study found that listed insurance firms total debt comprised of about 32 percent of long-term debt. It was also found that there was a moderate, positive and significant association between long-term debt and return on equity. It was found that there was a positive and significant association between long-term debt and return on assets. Long term debt explained 43.51 percent of change in return on assets in insurance firms listed at Nairobi Securities Exchange, Kenya and 49.06 percent of change in return on equity in insurance firms listed at NSE, Kenya. The study concludes that a third of total debt among insurance firms was made up of long-term debt. Also, the study concludes that long-term debt affect profitability and an increase in long-term debt increases the profitability of the listed insurance firm in Kenya. The study found that the total debt of listed insurance firms comprised of about 31.8 percent of short term debt. There was a positive and significant association between short term debt and return on assets, also there was a positive and significant association between short term debt and return on equity. Short term debt explained 42.0 percent of change in return on assets in insurance firms listed at NSE, Kenya and also explained 43.21 percent of change in return on equity in insurance firms listed at NSE, Kenya. The study concludes that short-term debt affect profitability and an increase in short term debt leads to an increase in profitability among insurance firms listed at NSE, Kenya.

The study found that total equity comprised of about 50 percent internal equity, there was a significant positive association between internal equity and return on equity, there was also a significant positive association between internal equity and return on assets. Internal equity explained 54.21 percent of change in return on assets in insurance firms listed at NSE, Kenya. Internal equity explained 68.41 percent of change in return on equity in insurance firms listed at NSE, Kenya. The study concludes that internal equity affect profitability and an increase in internal equity leads to an increase in profitability among listed insurance firms in Kenya. The study found that total equity of listed insurance firms comprised of 36 percent external equity capital, there was a significant positive association between external equity and return on equity, there was also a significant positive association between external equity and return on assets. External equity explained 47.8 percent of change in return on assets in insurance firms listed at NSE, Kenya and also explained 57.3 percent of change in return on equity in insurance firms listed at NSE, Kenya. The study concludes that a third of total equity of listed insurance firms in Kenya was made up of external equity. Also, the study concludes that external equity affect profitability and that an increase in external equity increases the profitability of the listed insurance firm in Kenya. Regarding capital intensity, the study found that the firms on average invested Ksh 0.423 to produce one shilling of revenue during the study period and that capital intensity did not have a significant moderating effect on effect of capital structure on profitability of insurance firms listed at NSE, Kenya. The study concludes that capital intensity does not affect the relationship between capital structure and profitability of insurance firms listed at NSE, Kenya.

b. Recommendations

In line with the findings and conclusions from this study, the study makes the following recommendations; In order for listed insurance firms to improve there is need to increase various aspects; such as debt financing and equity financing. Recommendations derived from findings: include the need for insurance firms' policies that give greater importance to the determination and monitoring of their capital structure. The further recommendations for listed insurance firms to remain profitable is that they should have good financial management which helps in making decisions about financing mix and policy, matching sources of finance to objectives. The study recommends that shareholders in listed insurance firms in Kenya should take into account the issues related to financing mix. The study will be useful to the policy makers in their effort to revamp their insurance firms in Kenya through understanding the effect of shareholding structure on profitability and also regarding capital base, financial strength and other regulatory requirements of the insurance companies.

From the conclusions, it is suggested that companies had better make use of shareholders' funds as much as practical before they result to borrowing so as to reduce the risks related to debt financing. This risks that include huge interest payments on the debt to erode the returns, restrictive debt covenants, are likely to lead the firms to financial distress and eventual collapse. Firm managers must therefore be encouraged to raise equity by listing at the securities exchanges.

It is also recommended that if firms have to borrow from financial institutions, they should borrow in the short term first before long term since it was concluded that much of firms' assets are financed by short term debts. To this end, the regulators are encouraged to create more short term financial instruments to offer many alternatives that may even help to reduce borrowing cost due to competition. Moving forward however, it is crucial that the governments of EA countries be able to creatively, without compromise to demand and supply forces, regulate the financial market in an attempt to reduce the cost of long term debt to enhance its uptake by firms. If this was to happen, the appetite for long term borrowing would be high since repayments would have spread over time thereby granting businesses enough time to make returns against their borrowings and even to

absorb short term financial shocks. This research confirmed that in separation, capital structure financing sources significantly predicted firms' profitability but in combination, their contribution was insignificant. It is recommended that companies should combine financing sources that contribute positively towards profitability.

x. Contributions to Knowledge

The findings of this study make a contribution to the existing body of knowledge on capital structure and profitability. The major contribution of the study is that capital structure predict profitability. Some previous studies have evaluated the relationships among capital structure and profitability. However, the attributes of the four variables used in these previous studies were different, results contradictory and inconclusive. A second major contribution of the study was to evaluate the moderation effect of capital intensity on the relationship between capital structure and profitability. The findings of these previous studies have been not only contradictory but also inconclusive. The study established that capital intensity did not have any significant effect on the relationship between capital structure and profitability of listed insurance firms in Kenya. This study sheds light by evaluating the moderating effect of capital intensity on the relationship between capital structure and profitability. Given that the Baron and Kenny approach was used in the analysis, both the direct moderation effects were evaluated.

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