IMPACT OF CAPITAL STRUCTURE ON FIRM PERFORMANCE A CASE STUDY OF LISTED INSURANCE COMPANIES IN KENYA

Omurwa, John Kebaso*
The Catholic University of Eastern Africa
P. O. Box 62157 – 00200, City Square - Nairobi
Email: kebasojk@gmail.com
+254721277274

Mumbi, Hellen Njoroge
The Cooperative University of Kenya
P. O. Box 24814 – 00502, Karen - Nairobi
Email: hnjoroge2013@gmail.com
+254723484392

*****Corresponding Author

ABSTRACT
The main objective this study was to determine the impact of capital structure on performance of insurance companies in Kenya. The specific objectives of the study were to examine the effect of degree of financial leverage, taxation, growth, asset turnover and size on the performance. The population comprised six listed insurance companies in Kenya. Secondary data for the six companies was collected for the period 2009-2016. Using a longitudinal design and a random effects model a panel least squares regression was done in eviews. Degree of financial leverage, taxation and growth were found to have insignificant effects on performance, asset turnover had positive significant effect, and size had a negative significant on performance of insurance companies in Kenya. The study concluded that for the period under study degree financial leverage, taxation and growth had no effect on performance while asset turnover and size had a positive and negative effect on performance respectively.

Key Words: Capital Structure, Financial leverage, Performance, Taxation, Panel Least Squares

1.0 INTRODUCTION
For any organization to survive in a capitalistic economy, it needs finances. These funds can either be obtained from external or internal sources. According to Jensen (1986), internal sources of funds include retained earnings while external sources include loans from financial institutions, trade credit, issuance of loan stock and issuance of equity shares. According to Margaritis and Psillaki (2010), a firm's ability to take a suitable financing decision will often reflect positively on their performance. López-Iturriaga and Rodríguez-Sanz (2012) posit that capital structure is a mechanism for corporate governance and influences its corporate ability to make strategic decisions. Despite the importance insurance companies in an economy, literature shows that most studies done in the

area of capital structure, particularly in Kenya, have not touched on insurance companies and this study a lot of relevance.

1.1 Insurance Industry in Kenya

According to the Association of Kenya Insurers report (2015), there were 51 insurance companies operating in Kenya as at the end of 2015 with 25 companies writing non-life insurance business, 14 writing life insurance business while 12 were composite (both life and non-life). The history of the development of commercial insurance in Kenya is closely related to the historical liberation of Kenya as a nation. With the conquest of Kenya as a British colony complete, settlers initiated various economic activities, particularly farming, and extraction of agricultural products (Huxley, 1990). These substantial investments needed some form of protection against various risk exposures. British insurers saw an opportunity in this, and established agency offices to service the colony's insurance needs. Prosperity in the colony soon justified expansion of these agencies to branch networks with more autonomy, and expertise to service the growing insurance needs (Huxley, 1990). According to the Central Bank of Kenya (CBK) Financial Sector Stability Report (2015) Kenya's insurance industry is moving towards saturation point where underwriting margins are shrinking and industry players are seeking growth through mergers and acquisitions. The CBK (2015) report further argues that following increased capital requirements introduced by Insurance Regulatory Authority (IRA) in line with best practices coupled with introduction of risk based capital (RBC), more consolidation and restructuring is likely to occur in the medium-term in order to improve capacity, stability and investment return within the industry due to accrued synergies.

1.2 Statement of the Problem

Several studies have been conducted to establish the effect of capital structure on firm's performance and these studies have come up with conflicting conclusions. Kuria (2013) conducted a study on the effect of capital structure on the financial performance of commercial banks in Kenya and established that capital structure does have some effects on the performance of commercial banks in Kenya. Ebaid (2009) did a study on the impact of capital structure on firms performance and found that capital structure has no or has a weak influence on the financial performance of listed firms. Chen, Chunxia and Yujia (2014) study on what determine firm's capital structure in China looked at the impact of the size and growth of the firm on the firms' performance. Another study conducted by Ogebe, Ogebe and Alewi (2013) on the impact of capital structure on firms' performance in Nigeria had financial leverage as the only variable. Most of the studies reviewed are from outside Kenya, mainly cover firms outside the insurance industry and have conflicting findings. Furthermore most of the studies suffer from methodological issues and hence this study.

1.3 Objectives of the Study

This study's main aim was to determine the impact of capital structure on firms' performance with a focus on insurance companies in Kenya. The specific objectives study were,

i) To examine the effect of financial leverage on the firms' performance of listed insurance companies in Kenya.
ii) To establish the effect of taxation on the firms' performance of listed insurance companies in Kenya.
iii) To determine the effect of growth on the firms' performance of listed insurance companies in Kenya.
iv) To ascertain the impact of assets turnover on the firms' performance of listed insurance companies in Kenya.

v) To find out the impact of size of the firm on the firms' performance of listed insurance companies in Kenya.

1.4 Research Hypotheses

The study was guided by the following five null hypotheses:

H_{01}: Financial leverage has no significant impact on performance of listed insurance companies in Kenya

H_{02}: Taxation has no significant impact on performance of listed insurance companies in Kenya

H_{03}: Growth has no significant impact on performance of listed insurance companies in Kenya

H_{04}: Asset turnover has no significant impact on performance of listed insurance companies in Kenya

H_{05}: Size has no significant effect on performance of listed insurance companies in Kenya

2.0 LITERATURE REVIEW

2.1 Theoretical Review

One of the first theories of capital structure was the 'Irrelevance' theory developed by Modigliani and Miller (MM) in 1958 (cited in Ahmeti and Prenaj, 2015) who indicated that the value of a firm is independent of its financial structure. They further argue that it does not matter if the firm's capital is raised by issuing or selling debt. Neither does it matter that what the firm's dividend policy is. Modigliani and Miller (cited in Ahmeti and Prenaj, 2015) conclude that a firm cannot increase its value by using debt as part of its permanent capital structure. A second theory of capital structure is the static trade-off theory. This theory came to be when Modigliani and Miller (1963) added corporation tax to the original irrelevance theory, a benefit for debt was created. At this point when corporate taxes are introduced, the value of the levered firm exceeds that of the unlevered firm by the amount of value of the tax shield. Since the gain from leverage increases as debt increases, this implies that a firm's value is maximized at 100% debt financing (Brigham & Ehrhardt, 2008). The third theory reviewed is the agency Costs Based Theory. This theory evolved from the agency theory that was formulated by Jensen and Meckling (1976) in an attempt to identify the possible conflict between shareholders and managers interests because of the manager's share of less than 100 percent in the firm. This theory suggests that the capital structure of firms is determined by agency cost which includes the costs for both debt and equity. According to Niu (2008) the costs related to equity issue may include: i) the monitoring expenses of the principal (the equity holders); ii) the bonding expenses of the agent (the manager); iii) reduced welfare for principal due to the divergence of agent's decisions from those which maximize the welfare of the principal. The Pecking Order Theory was developed by Myers and Majluf (1984) who argue that if investors are less informed than the firm insiders about the value of the firm, then equity may be mispriced by the market. The investors believe the manager thinks that the firm is overvalued and managers are taking advantage of this over-valuation and will therefore place a lower value to the new equity issuance. This means that when firms need to finance new investments, underpricing may be so severe that new investors capture more than the net present value (NPV) of the project resulting in a reduction of value to the existing investors. The Market Timing Theory was developed by Baker & Wurgler in (2002). It states that capital structure evolves as the cumulative outcome of past attempts to time the equity market by issuing new stock when the stock price is perceived to be overvalued and buying back own shares when there is undervaluation. There are two versions of equity market timing that lead to similar capital structure dynamics. The first is a

dynamic form of Myers and Majluf (1984) with rational managers and investors and adverse selection costs that vary across firms or across time and the second version involves irrational investors and time varying mispricing (Baker and Wurgler, 2002).

2.2 Empirical Review

2.2.1 Degree of Financial Leverage and Firm Performance

Financial leverage is a measure of a firm's exposure to the financial risk. According to Franklin & Muthusamy (2011) financial leverage is essential for achieving the ideal capital structure. Studies on the effect of financial leverage on firm performance have mixed results. Wainaina (2014) did a study on the relationship between capital structure and financial performance. The independent variables included the financial leverage, growth, age, log on tangible assets and inflation while the dependent variable was the return on assets measured using the multiple regression technique. The study concluded that capital structure do have a relationship with financial performance of the insurance industry although the effect is minimal. Raheel and Shah (2016) carried a study on the relationship between the financial leverage and firms' profitability using Oil and Gas Companies of Pakistan Listed in KSE and found no significant relationship between degree of financial leverage and earnings per share. Akhtar, Javed, Maryam and Sadia (2012) in their study on relationship between financial leverage and financial performance using the Fuel & Energy Sector of Pakistan found a positive relationship between the financial leverage and the financial performance of the companies. Ahmad, Salman and Shamsi (2015) studied the impact of financial leverage on firms' profitability in Pakistan Cement Sector and found that financial leverage had a statistically significant inverse impact on profitability. Rajkuma (2014) carried study on the impact of financial leverage on financial performance with special reference to John Keells Holdings plc in Sri Lanka. The findings of the study show a significant negative relationship between the financial leverage and the financial performance of the John Keells Holdings plc. Gichovi (2014) examined the relationship between capital structure and profitability of non-financial companies listed in the NSE from the year 2008-2012. The researcher used return on assets and debt/equity ratios to analyze the secondary data from audited reports. The findings indicate that there exists a negative relationship between capital structure and the financial performance of listed firms in the Nairobi Security Exchange. A study by Ogebe et al (2013) on the impact of capital structure on firm's performance in Nigeria used regression analysis and descriptive statistics had the following finding. That there is a negative relationship established between leverage and performance, the study concluded the leverage in both highly and lowly geared firms is statistically significant and is an important determinant of firm's performance. Martis(2013) did a paper that examined the impact of capital structure on firm performance based on the constituents of the S&P 500. Different models were used such as the Return on Assets, Return on Equity and firm's Tobin's Q, to proxy firm's performance. The study found a negative link between leverage ratios and return on assets. There was no relationship between leverage and return on equity.

2.2.2 Taxation and Firm Performance

Belotti, Porto & Santoni (2016) carried out a study on the effect of local taxes on firm performance using evidence from geo referenced data and found that property taxation exerts a negative impact on firms' employment, capital and sales to such an extent as to significantly affect total factor productivity.

Masso, Meriküll and Vahter (2011) did a paper on "Gross Profit Taxation versus Distributed Proft Taxation and Firm Performance: Effects of Estonia's Corporate Income Tax Reform". The results show that the corporate tax reform had resulted in increased holdings of liquid assets and lower use of debt financing. Masso et al (2011) further argue that these developments had contributed positively to firms' survival during the recent global economic crisis. In this study a positive effect on investment and labour productivity has also been found. Ocheni and Gemade (2015) studied the effects of multiple taxation on the performance of Small and Medium Scale Business Enterprises in Benue State in Nigeria. Their findings reveal that multiple taxation has negative effect on SMEs' survival and the relationship between SMEs' size and its ability to pay taxes is significant.

2.2.3 Growth Rate and Firm Performance

Empirically, there is much controversy about the relationship between growth rate and earnings per share/dividend policy. According to Barclay, Smith and Watts (1995) agency costs for growing firms are expected to be higher as these firms have more flexibility with regard to future investments. The reason is that shareholders and bondholders fear that such firms may go for risky projects in future as they have more choice of selection between risky and safe investment opportunities. Because of that bondholders will impose higher costs at lending to growing firms and shareholders will opt to float their shares and venture to other projects. Growing firms, thus, facing higher cost of debt will use less debt and more equity. Rajan and Zingales (1995) find a negative relationship between growth and earnings per share. Hartono and Utami (2016) carried a study on the comparison of sustainable growth rate, firm's performance and value among the firms in Sri Kehati Index and Idx30 Index In in Indonesia Stock Exchange. The findings show that sustainable growth rate have positive and significant effect on return on asset and current ratio, sustainable growth rate has negative and significant effect on price earnings ratio. Cooper, Gulen and Schill (2008) for firm-level asset investment effects in returns by examining the cross-sectional relation between firm asset growth and subsequent stock returns. They find that asset growth rates are economically and statistically significant predictors of the cross-section of U.S stock returns

2.2.4 Asset Turnover and Firm Performance

Asset turnover ratios indicate of how efficiently the firm utilizes its assets. They sometimes are referred to as efficiency ratios, asset utilization ratios, or asset management ratios. Oliech (2002) studied the relationship between assets turnover and earnings per share at the Nairobi Securities Exchange of common stock for all listed companies from 1996 – 2000. The result could not confirm the earlier findings of Fama and French (1993), that is, asset turnover for companies quoted on the NSE have no relationship with the EPS and the ratio of book-to-market values has no relationship to return of the company. Low levels of significance were achieved in his study and this shows that return for companies quoted at the NSE are determined by factors other than frequency of the asset turnover. Warrad and Omari (2015) studied the impact of turnover ratios on Jordanian Services Sectors' performance. The findings show that there is no significant impact of turnover ratios on Jordanian services sectors' profitability, and by testing the main and sub hypotheses, the study revealed that there is no significant impact of turnover ratios on Jordanian services sectors' return on assets and no significant impact of turnover ratios on Jordanian services sectors' return on equity. Pouraghajan and Malekian (2012) studied relationship between Capital Structure and Firm Performance Evaluation Measures using companies listed on Tehran Stock Exchange. The results suggest that there is a significant negative relationship between debt ratio and financial performance of

companies, and a significant positive relationship between asset turnover, firm size, asset tangibility ratio, and growth opportunities with financial performance measures.

2.2.5 Firm Size and Performance

Yermack (1996) investigated the relationship between size of the firm and financial performance using a sample of 452 large US industrial corporations between the year 1984 and 1991. He measured the size of the firm using the board size as a parameter. He found an inverse relationship between firm size and earnings per share. Majumdar (1997) conducted a study of 1020 Indian firms to investigate the impact of firm size and firm age on earnings per share and profitability by running a two multivariate regression using data from the year 1988 to 1994. He found that firm size had positive effect on profitability but negative effect on earnings per share. With regards to firm age, Majumdar (1997) found that it was positively related to profitability but was negatively related to earnings per share. Serrasqueiro & Sequeira (2009) in their study investigating 75 Portuguese service oriented companies to see the effect of firm size on earnings per share and introducing several control variables in the study such as growth, debt (leverage), liquidity and asset structure (tangibility) was using both static panel models and dynamic estimators, found positive and statistically significant relations between the size and earnings per share. As for the control variables, they found a positive effect of growth and liquidity on earnings per share but a negative effect of firm leverage and asset structure (tangibility) on firm earnings per share. Ondiek (2010) investigated the relationship between capital structure and financial performance of firms listed at the NSE using data obtained from the NSE as at June 2010 for all the listed companies. She used multivariate regression analysis where she regressed ROE as measured by EBIT over equity as her performance measure proxy against short term debt/ total capital, long term debt/ total capital, total debt/ total capital, firm size (log of sales) and sales growth. In all the models she found that firm size and sales growth were positively related to earnings per share and short term debt/ total capital was positively related to firm EPS significantly. Mousud (2013) found a small positive effect of firm size on firm earnings per share which was not statistically significant.

2.3 Knowledge Gap

Most of the studies reviewed were carried out on different points in time and for different variables and durations. Most studies have only considered short periods of study which have limitations on the findings and the extent to which the findings can be generalized. A longer duration of the study would have captured periods of various economic significances such as booms and recessions. This study extends the period of study to seven years. Furthermore most of the studies reviewed have mixed results. Most studies reviewed in developing countries were found to have concentrated on banking industry, agricultural industry and the micro-finance institutions.

3.0 RESEARCH METHODOLOGY

The study adopted a panel econometric (Longitudinal) research design. A Longitudinal study follows the same sample over time and makes repeated observations (Forgues, Bernard and Vandangeon-Derumez, 2011). Hsiao (2003) defines longitudinal, or panel, data set as one that follows a given sample of individuals over time, and thus provides multiple observations on each individual in the sample. The target population for this study comprised of companies listed under the insurance segment at the NSE as at 31st December 2016. As at the time of the study there were 6 insurance companies listed in the NSE. These companies were Jubilee Holdings Ltd, Pan-African Insurance Holdings Ltd, Kenya Re-Insurance Corporation Ltd, Liberty Kenya Holding Ltd, British-

American Investments Company (Kenya) Ltd and CIC Insurance Group Ltd. The population period was the period between the incorporation of the oldest company and 31st December 2016. Since the population was only 6 companies the study used a census sampling approach. Thus the sample size was six companies. The sample period was the period 2009 to 2016. The researcher collected secondary data for all the variables under study from the annual financial reports of the insurance companies. Some variables were constructed by use of formulae from the data collected. Diagnostic and specification tests including normality, stationarity, cross-section dependence and multicollinearity were carried and the presence of any one of these problems treated appropriately. Treated data was analyzed using a panel least squares regression model with aid of eviews software.

3.1 Analytical Model

The following analytical model was used;

$$ROA_{it} = \beta_0 + \beta_1(DFL_{it}) + \beta_2(Taxation_{it}) + \beta_3(Growth_{it}) + \beta_4(ATO_{it}) + \beta_5(Size_{it}) + \varepsilon$$

Where;

ROA_{it} = Return on assets for insurance company i at time t

DFL_{it} = Degree of financial leverage of insurance company i at time t

$Taxation_{it}$ = Taxation of insurance company i at time t

$Growth_{it}$ = Growth of insurance company i at time t

ATO_{it} = Asset turnover ratio for insurance company i at time t

$Size_{it}$ = Logarithm of total assets of insurance company i at time t

$\beta_0 ... \beta_5$ = Regression coefficients

ε = Error term

3.2 Operationalization and Measurement of Variables

Return on assets

$$ROA_{it} = \frac{EBIT_{it}}{TA_{it}}$$

Where: $EBIT_{it}$ = Earnings before interest and taxes of insurance company i at time t

Degree of Financial leverage

$$DFL_{it} = \frac{TL_{it}}{TA_{it}}$$

Where: TL_{it} = Total liabilities of insurance company i at time t

Taxation

$Taxation_{it}$ = Corporate tax x profit before tax

Where: PAT_{it} = Profit after tax of insurance company i at time t

Growth

$$Growth = TA_{it} - TL_{it}$$

Asset turnover ratio

$$ATO_{it} = \frac{NS_{it}}{ATA_{it}}$$

Where: NS_{it} = Net sales of insurance company i at time t

ATA_{it} = Average total assets of insurance company i at time t

Size

Size was given by the natural logarithm of total assets

$TA_{it} = Ln(TA_{it})$

Where: $Ln(TA_{it})$ = Natural logarithms of insurance company i at time t

4.0 DATA ANALYSIS AND PRESENTATION

4.1 Descriptive Statistics

Table 4.1: Group Descriptive Statistics

	ROA	DFL	TAXATION	GROWTH	ATO	SIZE
Mean	0.087910	0.715616	-298348.0	7831730.	0.329227	7.294195
Median	0.055047	0.782542	-202292.5	5867277.	0.268453	7.381283
Maximum	1.454720	0.973316	185480.0	24133297	1.503460	7.956974
Minimum	-0.067244	0.364963	-1758929.	28565.00	0.004402	5.625199
Std. Dev.	0.203694	0.171930	342173.3	6397527.	0.227297	0.454507
Skewness	5.861073	-0.910736	-2.031211	0.963091	2.806327	-1.831915
Kurtosis	39.27971	2.753493	7.872880	2.963349	14.38873	7.790757
Jarque-Bera	3270.659	7.601682	90.55853	8.350915	362.7114	81.84375
Probability	0.000000	0.022352	0.000000	0.015368	0.000000	0.000000
Sum	4.747135	38.64327	-16110794	4.23E+08	17.77827	393.8865
Sum Sq. Dev.	2.199033	1.566685	6.21E+12	2.17E+15	2.738191	10.94854
Observations	54	54	54	54	54	54

The Jarque-Bera test tests the null hypothesis of normality against the alternate of non-normality. From Table 4.1 the p-values for ROA, Taxation, Growth, ATO and Size are all less than 0.05 (5% significance level) indicating that the Jarque- Bera values are significant at 5% level of significance and therefore we reject the null and conclude that ROA, DFL, Taxation, Growth, ATO and Size are not normally distributed. The skewness values for ROA, GROWTH and ATO indicate that the variables have a positive skewness. The skewness values for DFL, TAXATION, and SIZE indicate that they are negatively skewed. Thus we conclude that all the variables under study are not normally distributed.

4.2 Hausman Test

Table 4.2: Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

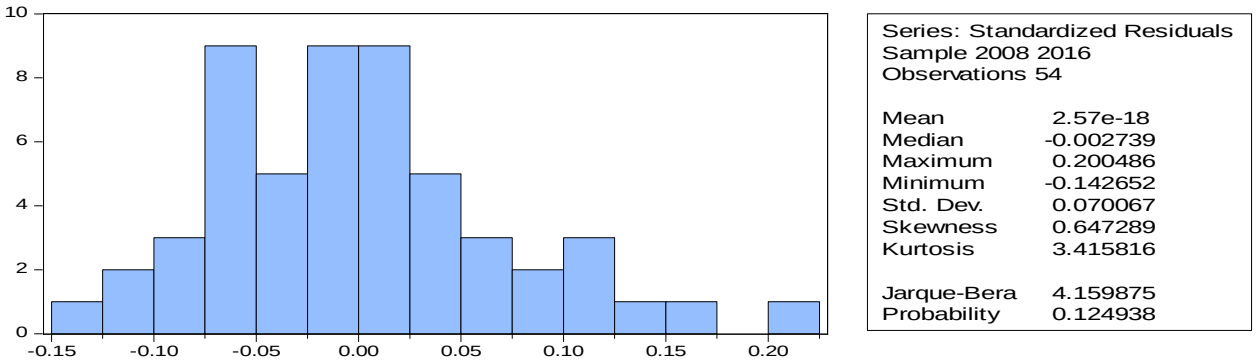
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	83.341390	5	0.0000

The Hausman tests on whether the fixed or random effects model is suitable for the panel. Table 4.2 shows that the Chi-Square value of 83.34 is significant at all levels of significance and there we reject the null of the use of a random model in favour of the alternate of fixed effects model.

4.3 Normality Test

The normality test of the residues from a fixed effect regression model was run on eviews for all the variables. From figure 4.1 it can be seen the Jarque-bera test statistic value of 4.159875 had a p-value of 0.124938 and this means that the Jarque-bera test statistic was not significant at all levels of significant less than 12.49 % and therefore the residuals were normally distributed.

Figure 4.1: Normality Test Results



4.4 Stationarity Tests

Tests for stationarity were conducted by the using unit root test suggested by the Levin, Lin & Chu t* in eviews software. All the unit root tests were done at 5% significance level.

Table 4.3: ROA Unit Root Test

Panel unit root test: Summary
Series: ROA

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.67957	0.0000	6	42

From Table 4.3 the Levin, Lin & Chu t* of -4.67957 has a p-value of 0.0000. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in ROA panel in favour of the alternative that the panel is stationary at level.

Table 4.4: DFL Unit Root Test

Panel unit root test: Summary
Series: D(DFL)

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.24602	0.0000	6	36

From Table 4.3 the Levin, Lin & Chu t* of -5.24602 has a p-value of 0.0000. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in DFL panel in favour of the alternative that the panel is stationary at first difference.

Table 4.5: Taxation Unit Root Test

Panel unit root test: Summary
Series: TAXATION

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.84982	0.0022	6	42

From Table 4.5 the Levin, Lin & Chu t* of -2.84982 has a p-value of 0.0022. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in TAXATION panel in favour of the alternative that the panel is stationary at level.

Table 4.6: Growth Unit Root Test

Panel unit root test: Summary
Series: GROWTH

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.25331	0.0000	6	42

From Table 4.6 the Levin, Lin & Chu t* of -4.25331 has a p-value of 0.0000. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in GROWTH panel in favour of the alternative that the panel is stationary at level.

Table 4.7: ATO Unit Root Test

Panel unit root test: Summary
Series: D(ATO,2)

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.72079	0.0426	6	30

From Table 4.7 the Levin, Lin & Chu t* of -1.72079 has a p-value of 0.0426. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in ATO panel in favour of the alternative that the panel is stationary at second deference level.

Table 4.8: Size Unit Root Test

Panel unit root test: Summary
Series: SIZE

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.58434	0.0000	6	42

From Table 4.7 the Levin, Lin & Chu t* of -6.58434 has a p-value of 0.0000. This means that this Levin, Lin & Chu t* value is significantly less than zero ($p<0.05$) and therefore we reject the null hypothesis of a unit root in SIZE panel in favour of the alternative that the panel is stationary at second deference level.

4.5 Panel Cointegration Test

Table: 4.9: panel Cointegration Test

Pedroni Residual Cointegration Test
Series: ROA DFL TAXATION GROWTH ATO SIZE
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel ADF-Statistic	-2.552298	0.0054	-3.705940	0.0001

The ADF test tests the null of a unit root in the panel against an alternate of no unit root in process. Form Table 4.9 the p-value of 0.0054 is less the critical value of 0.05 at 5% significance level and therefore the value -2.552298 is significant. We thus reject the null of no cointegration and no deterministic trend assumption in favour of cointegration and a deterministic trend in the panels.

4.6 Multicollinearity Test

Multicollinearity was tested by using the variance inflation vector (VIF) given by the formula;

$$VIF = \frac{1}{1-R^2}$$

Where R^2 is the adjusted R-squared when equations are obtained by running a regression model of each of the independent variables on all the other independent variables. The critical value of VIF is usually taken to be 4.00. Any calculated values of VIF that are more than 4.0 imply the presence of multicollinearity with that particular variable. The problem of multicollinearity will be treated by changing the form of the offending variables.

Table 4.10: DFL Multicollinearity Test

Dependent Variable: DFL
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-46.35218	27.05313	-1.713376	0.0937
TAXATION	-1.67E-05	3.59E-06	-4.637694	0.0000
GROWTH	-2.21E-06	1.50E-07	-14.68967	0.0000
ATO	2.772184	6.285548	0.441041	0.6613
SIZE	8.044302	3.830539	2.100044	0.0415
Effects Specification				
Cross-section fixed (dummy variables)				
Adjusted R-squared	0.869939	S.D. dependent var		19.90128

From Table 4.10;

$$VIF = \frac{1}{1-R^2} = \frac{1}{1-0.869939} = 7.625$$

The figure of 7.625 points to the presence of multicollinearity by the variable DFL. The variable DFL was treated of the problem of multicollinearity by converting it to exponential form.

Table 4.11: Taxation Multicollinearity Test

Dependent Variable: TAXATION
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	36665.00	960747.2	0.038163	0.9697
DFL	-19702.80	4248.404	-4.637694	0.0000
GROWTH	-0.046817	0.010404	-4.500037	0.0000
ATO	128654.7	215738.0	0.596347	0.5540
SIZE	446.8282	138157.9	0.003234	0.9974
Adjusted R-squared	0.479809	S.D. dependent var		342173.3

From Table 4.11;

$$VIF = \frac{1}{1-R^2} = \frac{1}{1-0.479809} = 1.922$$

The value of 1.922 shows that the variable TAXATION does not suffer from the problem of multicollinearity

Table 4.12: Growth Multicollinearity Test

Dependent Variable: GROWTH
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-39507980	12632991	-3.127365	0.0030
DFL	-386185.2	34761.36	-11.10961	0.0000
TAXATION	-9.159300	2.000681	-4.578092	0.0000
ATO	198231.9	2589069.	0.076565	0.9393
SIZE	6131122.	1744928.	3.513681	0.0010
Adjusted R-squared	0.869813	S.D. dependent var		11373021

From Table 4.12;

$$VIF = \frac{1}{1-R^2} = \frac{1}{1-0.869813} = 7.68$$

The figure of 7.625 points to the presence of multicollinearity by the variable GROWTH. The variable GROWTH was treated of the problem of multicollinearity by taking the logarithm of the data variables.

Table 4.13: ATO Multicollinearity Test

Dependent Variable: ATO
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.184855	0.668094	0.276690	0.7833
DFL	0.001588	0.003600	0.441041	0.6613
TAXATION	6.23E-08	1.05E-07	0.596347	0.5540
GROWTH	5.64E-09	8.71E-09	0.647655	0.5206
SIZE	0.016424	0.096124	0.170861	0.8651
Adjusted R-squared	0.428962	S.D. dependent var		0.227297

From Table 4.13;

$$VIF = \frac{1}{1-R^2} = \frac{1}{1-0.428962} = 1.75$$

The value of 1.75 shows that the variable ATO does not suffer from the problem of multicollinearity

Table 4.14: Size Multicollinearity Test

Dependent Variable: SIZE
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.917408	0.107545	64.32097	0.0000
DFL	0.011325	0.005393	2.100044	0.0415
TAXATION	5.32E-10	1.65E-07	0.003234	0.9974
GROWTH	4.86E-08	1.16E-08	4.185874	0.0001
ATO	0.040371	0.236281	0.170861	0.8651
Adjusted R-squared	0.648949	S.D. dependent var		0.454507

From Table 4.14;

$$VIF = \frac{1}{1-R^2} = \frac{1}{1-0.648949} = 2.85$$

The value of 1.75 shows that the variable ATO does not suffer from the problem of multicollinearity

4.7 Cross-Section Dependence Test

Table 4.15: Cross-section Dependence Test

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in residuals

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	23.62605	15	0.0717

From table 4.17 the Breush-Pagan test statistic of 23.62605 is not significant and therefore we fail to reject the null hypothesis of no cross-section dependence and conclude that the panels don't suffer from the problems of cross-section dependence

4.8 Research Findings and Discussion of Results

After the diagnostic and specifications tests and the subsequent adjustments and transformations in the data and the model, the following output was obtained by using eveiws software.

Table 4.16: Panel Least Squares Output

Dependent Variable: ROA
Method: Panel Least Squares
Sample (adjusted): 2010 2016
Total panel (balanced) observations: 42

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.346017	0.629022	0.550087	0.5857
EXP(D(DFL))	-0.536001	0.480189	-1.116229	0.2717
TAXATION	8.22E-08	6.95E-08	1.182913	0.2446
LOG(GROWTH)	0.018885	0.019080	0.989742	0.3289
D(ATO,2)	1.199216	0.145613	8.235617	0.0000
D(SIZE,2)	-0.156906	0.057794	-2.714891	0.0101
R-squared	0.660863			
Adjusted R-squared	0.613760			
F-statistic	14.03033			
Prob(F-statistic)	0.000000			
Durbin-Watson stat	2.228032			

In this study, the hypothesis testing is non-directional and therefore a two tail test of hypothesis is done. The study adopted 0.05 significance level in interpreting the results. From the results (Table 4.16) the constant (C) was insignificant (p>0.05) 5% significance level. The rest of the coefficients are explained below according to the study objectives.

4.8.1 Effect of Degree of financial leverage on performance by insurance companies in Kenya

The first objective of the study sought to determine the effect of degree of financial leverage on performance by insurance companies in Kenya. From the findings the t-test statistic of -1.116229 for DFL had a probability (p) value of 0.2717 (> 0.05) and therefore not significant at 5% significance level. Thus the study found a negative non-significant relationship between DFL and insurance company performance in Kenya. This result differs with that of Raheel and Shah (2016) who found a positive relationship between the financial leverage and the financial performance but fully or partially agrees with Ahmad, Salman and Shamsi (2015), Rajkuma (2014), Ogebe et al (2013), Gichovi (2014) and Martis (2013) who found a statistically significant inverse impact of financial leverage on performance.

4.8.2 Effect of taxation on performance of insurance companies in Kenya

The second objective of the study sought to determine the effect taxation on performance of insurance companies in Kenya. From the findings the t-test statistic of 1.182913 for TAXATION had a probability (p) value of 0.2446 which is insignificant at 5% (p>0.05) significant level. Thus the study found a positive insignificant relationship between TAXATION and performance of insurance companies in Kenya. This finding differs from those of Belotti, Porto & Santoni (2016) and Ocheni and Gemade (2015) who found that taxation have negative effect on performance of firms.

4.8.3 Effect growth on performance of insurance companies in Kenya

The third objective sought to determine the effect of growth on performance of insurance companies in Kenya. From the findings the t-test statistic of 0.989742 for GROWTH is insignificant at 5% (p>0.05) significant level since it has a p-value of 0.3289. Thus the study found a positive and insignificant relationship between GROWTH and performance of insurance companies in Kenya. This finding agrees with that of Hartono and Utami (2016); Cooper, Gulen and Schill (2008) who

find a positive relation between growth and firm performance but disagrees with Rajan and Zingales (1995) find a negative relationship between growth and performance

4.8.4 Effect of asset turn over on performance of insurance companies in Kenya

The fourth objective of the study sought to determine the effect of asset turn over on performance of insurance companies in Kenya. From the findings the t-test statistic of 8.235617 for ATO is significant at 5% ($p<0.05$) significant level since it has a p-value of 0. Thus the study found a positive significant relationship between ATO and performance of insurance companies in Kenya. This result agrees with that of Pouraghajan and Malekian (2012) who found a significant positive relationship between asset turnover, firm size, asset tangibility ratio, and growth opportunities with financial performance measures but disagrees with those of Oliech (2002); Warrad and Omari (2015) who found no significant impact of turnover ratios on financial performance.

4.8.5 Effect of firm size on performance of insurance companies in Kenya

The fifty and last objective of the study sought to determine the effect of firm size on performance of insurance companies in Kenya. From the findings the t-test statistic of -2.714891 for SIZE is significant at 5% ($p<0.05$) significant level since it has a p-value of 0.0101. Thus the study found a negative significant relationship between SIZE and performance of insurance companies in Kenya. This result agrees with that of Yermack (1996) who found an inverse relationship between firm size and earnings per share but partly agrees with that of Majumdar (1997) who found that firm size had positive effect on profitability but negative effect on earnings per share. The results differ with that of Serrasqueiro & Sequeira (2009); Ondiek (2010), Mousud (2013) who found positive and statistically significant relations between the size and performance.

4.8.6 The Overall Model

The model had an adjusted R^2 off 61.3760%. The interpretation of this is that 61.3760% of the variation in the performance of insurance companies in Kenya can be explained by the variables under study. The rest of the variation can only be explained by other factors. The adjusted R-squared value of 61.3760 shows that the model had a good predictive power in using the independent variables to explain the dependent variable under this study. The F-statistic for the model was 14.03033 with a p(F-statistic) of 0.0000 (less than 0.05) shows that the F-statistic was significant and therefore the model as a whole was significant in predicting the performance of insurance companies in Kenya. The DW test statistic of 2.228032 was very close to 2.000 indicating that the data and model did suffer from the problems of serial correlation.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The main objective this study was to find the impact of capital structure on firms' performance focusing on insurance companies in Kenya. The specific objectives of the study were to examine the effect of financial leverage, taxation, growth, asset turnover and firm size on the performance of listed insurance companies in Kenya. Relevant theoretical and empirical literature was reviewed and gaps identified to inform the study. The population of the study was the six licensed insurance companies in Kenya as at December 2016. All the six insurance companies were included in the sample. Secondary data for the construction of the variables under study was collected from the company financial statements was collected the sample period. Data was diagnosed for and treated, where necessary, of the problems of panel regression. Using a longitudinal study design and a

random effects model specification a Panel Least Squares regression was done on the data using eviews software. Adopting a 5% non-directional test of hypothesis, the study found an insignificant impact of DFL on performance, a positive insignificant impact of TAXATION, a positive and insignificant impact of GROWTH, a positive significant impact of ATO and a negative significant impact of SIZE on performance of insurance companies in Kenya.

5.2 Conclusions

Concerning the first hypothesis, H_{01}: *Financial leverage has no significant impact on performance of listed insurance companies in Kenya*, the study failed to reject the null hypothesis and concluded that, at 5% significance level, degree financial leverage has statistically no significant effect on insurance company performance in Kenya. On the second hypothesis, H_{02}: *Taxation has no significant impact on performance of listed insurance companies in Kenya,* the study failed to reject the null hypothesis and concluded that, at 5% significance level TAXATION has statistically no significant effect on insurance companies' performance in Kenya. For the third hypothesis H_{03}: *Growth has no significant impact on performance of listed insurance companies in Kenya*, the study rejected the null in favour of the alternate hypothesis and concluded that, at 5% significance level, GROWTH has statistically positive significant effect on performance of insurance companies in Kenya. On the fourth hypothesis, H_{04}: *Asset turnover has no significant impact on performance of listed insurance companies in Kenya,* the study rejected the null in favour of the alternate hypothesis and concluded that there is a positive significant relationship between ATO and performance of insurance companies in Kenya. On the fifth hypothesis, H_{05}: *Size has no significant effect on performance of listed insurance companies in Kenya*, the study rejected the null in favour of the alternate and concluded that, at 5% significance level, SIZE has a negative and statistically significant effect on performance of insurance companies in Kenya

5.3 Recommendations and Policy Implications

From the findings, the study recommends that insurance company management shouldn't be worried much about the degree of financial leverage, taxation and growth as these were found to have no effect on performance. However asset turnover had a positive effect and therefore the study recommends that insurance companies maintain a high turnover ratio. Size of insurance was found to have a negative effect on performance of insurance companies in Kenya and therefore the study recommends that Kenya insurance companies don't keep a lot of assets on their balance sheets but instead only keep optimal amount of assets.

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