EUROPEAN ACADEMIC RESEARCH
Vol. VII, Issue 5/ August 2019

Impact Factor: 3.4546 (UIF)
DRJI Value: 5.9 (B+)

ISSN 2286-4822
www.euacademic.org

Financial Structure and Financial Performance of Quoted Non-Financial Service Firms on Nigerian Stock Exchange (1993 – 2015)

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Abstract

This study ascertained the effect of financial structure on financial performance of quoted non-financial service firms on Nigerian Stock Exchange proxied by return on assets, return on equity, net profit margin and gross revenue growth. The study employed panel unit root, Kao's residual co-integration, Johansen Fisher co-integration, granger causality test, pooled, fixed, and random effect Ordinary Least Square (OLS) estimation technique using a panel data from 1993 to 2015. The results of the analyses revealed that financial structure has no significant effect on financial performance of quoted non-financial service on Nigerian Stock Exchange. Non-financial service firms should fund their operations with more of equity capital

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Keywords: Financial Structure, Return on Assets, Return on Equity, Net Profit Margin, Gross Revenue.

1.INTRODUCTION

The increasing obligations of firms to different stakeholders in developing countries around the world over the last few decades have shifted the focus of researchers to explore the effect of financial structure on financial performance. This development has been influenced by the rising instability in the macroeconomic environments of the developing countries, especially those in Africa. In Nigeria, for instance, increasing interest rates, inflation and fall in the value of the local currency implies that firms' overall costs of borrowing and costs of capital might have risen in reaction. Inflation rate, for example rose from 6.6% as at end of 2007 to 17.6% by July 2016; average lending rates stood at 16.54% in 2015, from a level of 15.48% in 2010; the recent trend in the exchanged value of the Naira witnessed a crash from a level of N155 per US dollar in 2010 to almost N400 per US dollar by the end of July 2016 (CBN, 2015). Amidst this, the cost of operation and production of most firms have also been on the rise. The adverse effect of macroeconomic instability in the country and the negative consequent on firm's access to corporate finance has also been raised as the major challenge against the growing call to diversify the economy. Outside theoretical claims, however, empirical evidence to explain how the changing dynamics in the operating environment has affected the performance of firms in Nigeria seems scanty. One area where this is more pressing is the impact of financial structure on the financial performance of firms, especially non-financial service firms.

Despite several decades of research, there is no generally accepted conclusion about the effect of financial structure on financial performance. The empirical results of Sourmadi and Hayajneh (2015), Hassan, Ahsan, Rahaman and Alan (2014), Akeem et al. (2014), Martis (2013), Osuji and Odita (2012), Pratheepkanth (2011), Manawaduye, Zoysa, Chowdhury and Chandarakumara (2011), Zeitun and Tain (2007), Majumdar and Chhibber (1999) and Pushner (1995) claimed that financial structure have negative effect on financial performance. The findings of these studies provided evidence

in support of the Agency Cost Theory of financial structure. This is confusing as Adesina, Nwidobie and Adesina (2015), Gill, Biger and Mathur (2011), David and Olorunfemi (2010), Margaritis and Psillaki (2010) and Nickell and Nicolitsas (1997) argue that financial structure is positively related to financial performance whereas King and Santor (2008), Weill (2007) and Krishnan and Moyer (1997) reported that financial structure and financial performance is independent. In light of all this differences in the findings of the many research works, this research work aim at adding to the debate and to achieve the objective of determining the effect of financial structure on return on assets, return on equity, net profit margin and gross revenue of quoted non-financial service firms in Nigeria. Furthermore, Nigeria provides an ideal case for examining this interesting phenomenon as it has successfully undergone economic and political changes in recent years, producing various macroeconomic, monetary and fiscal policies affecting business environment.

While the background of the study has been introduced, the remaining parts of this paper is divided as follows: section two reviewed related literature. The methodological approach was explained in section three. Section discussed the results of the data analysis, while section five featured the conclusion, policy implication and limitations of the study.

2. REVIEW OF RELATED LITERATURE

Financial structure is the mix of debt and equity that a company uses to finance its business. It refers to the various means of financing a firm, that is, the proportionate relationship between debt and equity (Pandey, 2010). Memon, Bhutto and Abbas (2012) see financial structure as the combination of different sources of funds which a firm uses to finance its overall operations and growth. Financial structure is a significant managerial decision because it influences the shareholder's return and risk as well as the market value of the share. Financial structure theory as accredited to Modigliani and Miller (1958) concluded that it does not matter how a firm finances its operations and that the value of a firm is independent of its financial structure making financial structure irrelevant (Wakida, 2011). The study was based on the assumption that there were no brokerage

costs, earnings before interest and tax were not affected by the use of debt and that investors could borrow at the same rate as corporations and lastly there was no information asymmetry. The possible preference of a firm's owner to a certain type of financing over others was not overruled, it did affect the irrelevance of the value of the firm to the means of financing it given a perfect market (Fischer, Heinkel & Zechner, 1989). In the finance literature, theories have been developed to explain firm's financial structure prominent among which are the Trade-off Theory and the Pecking Order Theory and they have been subject to argument over the years. The Trade-off Theory, Agency Cost Theory and the Pecking Order Theory are the prominent theories of financial structure that are widely used in the studies. The Trade-off Theory assumes the existence of optimal financial structure. The Pecking Order Theory is believed to be more efficient than Static Trade-off, as in this theory, firm will list all the possible internal financing before seek for external financial which will later bind the company for the prepayment. Although there is no consensus on the preferable theory in determinant of optimal financial structure, it is worthwhile to look at the theories as it will give an idea on the strategy to manage firm financial structure.

2.1Related Empirical Studies

Empirical Studies on Financial Structure and Return on Assets.

The effect of financial structure on the firm performance of the firms from the non-financial sector of Pakistan was assessed by Bokhari and Khan (2013). Short term debt, Long term debt and Leverage of the firm were variables for the financial structure. Controlled variables installed in the study were size of the firm, sales growth, assets growth and assets turnover or efficiency of the firm. The total firms were 441, due to incomplete data it came down to 380 firms. Ordinary Least Square (OLS) method was used to analyse the performance, data were taken from 2005 to 2011 i.e. 7 years. The findings disclosed that short term debt, long term debt and leverage of the firm have negatively affected return on assets. Size of the firm positively affected the performance overall while sales growth has a significantly negative impact on return on assets.

Khanam, Nasreen and Pirzada (2014) evaluated the impact of financial structure on firm's financial performance in food sector. Four independent variables are taken for quantifying the financial structure like debt equity ratio, debt to total assets ratio, short term debt to total assets ratio and long term debt to total assets ratio. Quantitative data were gathered from annual reports of 49 firms in food sector listed on Karachi stock exchange in Pakistan over the six years from 2007-2012. Linear Regression analysis was used to discover the impact of financial structure on financial performance of firms. Results of their study indicated that financial structure has a significant negative impact on firm's return on assets.

Akeem et al. (2014) examined the effect of financial structure on performance of manufacturing companies in Nigeria from 2003 to 2012 with the purpose of providing a critical appraisal of the need and importance of financial structure. Applying a descriptive and regression research technique, the finding suggested that financial structure measures (total debt and debt to equity ratio) have negative effects on firms return on assets.

Zeitun and Tain (2007) assessed the effect which financial structure has had on corporate performance using a panel data sample representing of 167 Jordanian companies during 1989-2003. The results showed that a firm's financial structure had a significantly negative impact on the firm's performance measures, in both the accounting and market's measures. Short term debt to total asset has a negative and significant effect on return on assets.

The impact of financial structure on firm performance of 63 companies listed on Karachi Stock Exchange was analysed by Javed, Younas and Imran (2014). Data comprised 5 years, 2007 to 2011. Balance Sheet Analysis issued by State Bank of Pakistan was used for data collection. Fixed Effects Model was used as pooled regression model and results revealed that financial structure has positive impact on firm return on assets.

Mwangi and Birundu (2015) determined the effect of financial structure on the financial performance of small and medium enterprises in Thika sub-county, Kenya. The study was conducted on 40 small and medium enterprises which were in operation for the five years 2009 to 2013, using multiple linear regression. The findings

were that there was no significant effect of financial structure, asset turnover and asset tangibility on the return on assets of small and medium enterprises.

Boroujeni, Noroozi, Nadem and Chadegani (2013) ascertained the effect of financial structure and ownership structure on Firm's performance using sample of 123 companies listed on Tehran Stock Exchange during eight-year period, 2001-2008. They adopted rate of return on assets as a measure of firm's performance. The research results depicts that financial structure and ownership structure have a positive impact on the performance of companies listed on Tehran Stock Exchange.

Zaroki and Rouhi (2015) explored the nexus between financial structure and performance of the listed banks in Tehran Stock Exchange for the 2008 to 2013 period. Three indicators of corporate performance: return on assets, return on equity and earnings per share as measures of bank performance. Their model was estimated with fixed effects method and the result implied that the financial structure has a positive impact on earnings per share and has a negative effect on return on assets, but no significant effect on return on equity.

Manawaduge, Zoysa, Chowdhury and Chandarakumara (2011) tried to verify the impact of financial structure on firm performance in the context of an emerging market—Sri Lanka. The study applied both pooled and panel data regression models for a sample of 155 Sri Lankan-listed firms. The results demonstrates that most of the Sri Lankan firms finance their operations with short-term debt capital as against the long-term debt capital and provide strong evidence that the firm performance via return on assets is negatively affected by the use of debt capital.

Osuji and Odita (2012) looked into the impact of financial structure on financial performance of Nigerian firms using a sample of thirty non-financial firms listed on the Nigerian Stock Exchange during the seven year period, 2004 – 2010. Panel data for the selected firms were generated and analysed using ordinary least squares (OLS) as a method of estimation. The result shows that a firm's financial structure surrogated by debt ratio has a significantly negative impact on the firm's return on asset.

Hassan, Ahsan, Rahaman and Alam (2014) studied the influence of financial structure on firm's performance. This investigation was performed on a sample of 36 Bangladeshi firms listed in Dhaka Stock Exchange during the period 2007–2012. The Researchers used three financial structure ratios; short-term debt, long-term debt and total debt ratios. Using pooling panel data regression method, they found that financial structure has negative impact on firm's return on assets.

Ebrati, Emadi, Balasang and Safari (2013) empirically investigated the impact of financial structure on firm performance. Multiple regression analysis was used in the study in estimating the relationship between the leverage level and firm's performance. A sample of 85 firms listed in Tehran Stock Exchange from 2006 to 2011. The results indicated that financial structure negatively affects firm performance measured by return on assets.

Pouraghajan, Malekian, Emamgholipour, Lotfollahpour and Bagheri (2012) assessed the impact of financial structure on the financial performance of companies listed in the Tehran Stock Exchange. For this purpose, they tested a sample of 400 firm-years among companies Listed in the Tehran Stock Exchange in the form of 12 industrial groups during the years 2006 to 2010. Results suggest that debt ratio significantly influenced return on assets of listed companies.

Soumadi and Hayajneh (2015) examined the effect of financial structure on the performance of the public Jordanian firms listed in Amman stock market. The study used multiple regression model represented by ordinary least squares (OLS) as a technique to examine what is the effect of financial structure on the performance by applying on 76 firms (53 industrial firms and 23 service corporation) for the period (2001-2006).The results of the study concluded that financial structure associated negatively and statistically with firm's return on equity on the study sample generally.

Taani (2013) assessed the impact of financial structure on performance of Jordanian banks. The annual financial statements of 12 commercial banks listed on Amman Stock Exchange were used for

the study which covers a period of five (5) years from 2007-2011. Multiple regressions was applied on return on equity as well as total debt to total funds and total debt to total equity as capital structure variables. The results show that financial structure measured by total debt is found to be insignificant in determining return on equity in the banking industry of Jordan.

Bandt, Camara, Pessarossi and Rose (2014) evaluated the effect of accounting and regulatory capitalization measures on banks' return on equity on a sample of large French banks over the period 1993-2012, controlling for risk-taking as well as a range of variables including the business model. Correcting for a pure accounting effect, they uncovered a positive effect of an increase in capital ratios on the return on equity. The method chosen by a bank to increase capitalization (i.e. raising equity) does not alter the result. Banks that are more constrained by the capital requirement regulation, as measured by a lower capital buffer, appear to experiment the same positive effect as other banks. This effect of capital on the ROE appears to be driven by an increase in bank efficiency.

Tauseef, Lohano and Khan (2015) ascertained the effect of debt financing on firm's financial performance, measured as return on equity, using panel data of 95 textile companies in Pakistan from 2002-03 to 2007-08. Empirical results show a nonlinear relationship between return on equity and debt-to-asset ratio. As the debt-to-asset ratio increases, initially the return on equity increases until an optimal debt level is reached, after that it starts decreasing. The optimal debt-to-asset ratio for Pakistan's textile firms is estimated as 56 percent. They also find that firm's sales growth has positive and significant impact on return on equity whereas the firm size has no significant impact on it.

Oguna (2014) determined the effect of financial structure on financial performance of firms listed under manufacturing, construction and allied sector at the Nairobi Securities Exchange. Return on equity were used as the measure of firm performance while Short term Debt, Long-term Debt and Total Debt represented financial structure indicators. The study covered the firms listed under manufacturing, construction and allied sector at the Nairobi Securities Exchange from 2010 to 2013. The data were then analysed

using linear regression models and the outcome revealed that both current debt and long term debt negatively and significantly affect Return on equity and the thus the firm`s performance.

Arowoshegbe and Emeni (2014) explored the nexus between shareholders' wealth and debt-equity mix of quoted companies in Nigeria. The study was based on a panel data set from 1997 to 2011 comprising sixty non – financial companies. The results of the study conform to their a-priori expectation that debt-equity mix has a significant negative effect on shareholders' wealth of quoted companies in Nigeria.

Fumani and Moghadam (2015) looked into the effects of financial structure on rate of return on equity of listed companies in Tehran Stock Exchange during the years 2010-2014. Due to limitations in total, 55 companies, for example, was selected. The data were obtained through library research and software Rahavard new collection. Financial leverage (debt ratio) was employed as the capital structure variable. In order to test the hypothesis, multiple regression analysis and evaluation of the significance of values and model of 95% of F-statistics and t-test were used, the results suggest that the rate of return on equity has a negative impact significantly on financial leverage.

Moghaddam, Kashkoueyeh, Telezadeh, Aala, Ebrhahim and Tehranypour (2015) tried to verify the link between short-term debts, long-term debt with return on equity. The research was conducted in companies listed in Tehran Stock Exchange. Multiple linear regressions were used to test the hypothesis and sample of the study consisted of 50 participate in a 5-year period of 2008 to 2012. The findings suggest that short-term debt, long term debt and total debt negatively affects returns on equity.

Shubita and Alsawalhah (2012) studied the effect of financial structure on profitability of the industrial companies listed on Amman Stock Exchange during a six-year period (2004-2009). The study sample consisted of 39 companies. Applying correlations and multiple regression analysis, the results reveal significantly negative effect of debt on return on equity. The findings also suggests that profitable firms depend more on equity as their main financing option.

Adesina, Nwibe and Adesina (2015) examined the impact of post consolidation financial structure on the financial performance of Nigeria quoted banks. The study used profit before tax as a dependent variable and two capital structure variables (equity and debt) as independent variables. The sample for the study consisted of ten (10) Nigerian banks quoted on the Nigerian Stock exchange (NSE) and period of eight (8) years from 2005 to 2012. The required data and information for the study were gathered from published annual reports. Ordinary least square regression analysis of secondary data shows that financial structure has a significant positive effect financial performance of Nigeria quoted banks.

Chechet and Olayiwola (2014) assessed the effect of financial structure and profitability of the Nigerian listed firms from the agency cost theory perspective with a sample of seventy (70) out of population of two hundred and forty-five firms listed on the Nigerian Stock Exchange (NSE) for a period of ten (10) years: 2000 - 2009 with the aid of the NSE Factbooks covering the period under review. Panel data for the firms are generated and analysed using fixed-effects, random-effects and Hausman Chi Square estimations. Two independent variables which served as surrogate for financial structure were used in the study: debt ratio, and equity while profitability as the only dependent variable. The result show that debt ratio is negatively related with profitability, the only dependent variable but equity is directly related with profitability.

Rajakumaran and Yogendrarajah (2015) empirically evaluated the impact of financial structure on profitability in trading companies in Sri Lanka. For this purpose the study investigated eight listed trading companies in Colombo Stock Exchange of Sri Lanka the past 5years period from 2008 to 2012. In this study, independent variable that is, financial structure of the company's is measured by leverage ratios of Debt to equity ratio and Debt to Assets ratio. The data were analysed by using descriptive statistics, correlation analysis and regression analysis to find out the association between the variables. The results suggest that 44% of the total assets in the trading companies of Sri Lanka are representing by debt and on the basis of correlation analysis Debt to equity ratio and Debt to total

Assets ratio negatively and moderately correlated with net profit ratio.

Norvaisiene (2012) ascertained the correlation analysis between the indicators of indebtedness level (long-term financial debt ratio, short-term financial debt ratio, financial debt ratio, non-financial debt ratio) and the net profit margin. In order to estimate the strength of the influence of indebtedness on net profit margin of the companies, the multivariate regression analysis was performed. Correlation analysis result revealed that neither financial nor non-financial debt significantly affected profitability of Latvian listed companies during the research period. In Lithuanian companies, financial debt had a negative impact on net profit margin during the period of 2008-2011.

Norvaisiene and Stankeviciene (2012) explored the problem of impact of company's financial structure on its performance. The findings suggested that decisions of financial structure made a significant influence on the performance results of the Lithuanian listed food and beverage sector companies, since a significant link was established between ratios describing financial structure and all net profit margin. The net profit margin was influenced to the highest degree by the financial indebtedness level, which was represented by the debt to assets ratio.

Iavorskyi (2013) hypothesised that financial leverage positively affects firm activity through disciplining managers, tax shield and signalling effects. Using the sample of 16.5 thousand Ukrainian firms over 2001-2010. They found that debt behaviour of Ukrainian enterprises does not follow the free cash flow theory of financial structure. In particular, leverage is found to negatively affect firm performance, measured as operating profit margin, or total factor productivity. The purported relationship between leverage and firm performance remains stable with a different leverage measure, long-term interest bearing debt instead of total interest bearing debt.

Kimondo (2015) utilizing secondary data obtained from the financial statements of five companies in the construction and allied sector listed on the Nairobi Stock Exchange found that total equity has a strong positive effect on gross profit margin while debts have a negative effect on the same gross profit margin.

Oke and Afolabi (2011) determined the impact of financial structure on industrial performance in Nigeria taking five quoted firms into account with debt financing equity financing and debt/equity financing as proxies for capital structure while profit efficiency a surrogate for performance. They found that for equity and debt equity finances exert positive on performance but debt financing exert negative effect and performance.

Yogendrarajah and Thanabalasingam (2010) evaluated the effect of financial structure on profit margins of listed manufacturing companies on Colombo Stock Exchange. The results indicated that company's profit margin was strongly related to financial structure. The finding affirmed that in manufacturing firms of Sri Lanka, profit margin of the companies was not significant in bringing about any changes in their financial structure. The financial structure of the companies was established by other factors such as equity financing, working capital and debt capital. The findings also showed that most companies that finance their investment activities by retained earnings are more profitable than those that finance their activities through borrowed capital.

3. METHODOLOGY AND DATA

This research adopted a longitudinal approach in the choice of its timeframe. The data used in this research were extracted from the financial statements of 103 non-financial service firms quoted on the Nigerian Stock Exchange and have operated on the exchange for a least period of ten years. The data which were on annual basis were collected from the Nigerian Stock Exchange's factsbook from 1993 to 2015.

3.1Population and Sample Size

From the population of 194 firms quoted on the Nigerian Stock Exchange (NSE) market website, www.nse.com.ng, a sample of 103 non-financial service firms from 10 sectors were studied. The study excluded financial institutions and other financial service firms because financial institutions and other financial service firms are regulated differently especially with regards to their capital adequacy

requirements. Their leverage standard are substantially different from those of other firms. Non-financial service firms which have not operated on the Nigerian Stock Exchange for at least a period of ten years were excluded. As a result, the final sample set consisted of a balanced panel of one hundred and three (103) non-financial service firms out of a total one hundred and thirty four (134) non-financial service firms quoted in ten (10) sectors of Nigerian Stock Exchange over a period of twenty three years. The one hundred and three (103) non-financial service firms represents 76.87% of the total non-financial service firms quoted on Nigerian Stock Exchange. Table 1 shows the sample distribution by sector classification.

Table 1: Sample Distribution of Firms by Sector Classification

S/N	Sectors	No. of Firms	Percentage of Firm
1	Agriculture	5	4.85
2	Conglomerates	5	4.85
3	Construction and Real Estate	7	6.80
4	Consumer Goods	23	22.33
5	Healthcare	10	9.71
6	Information and Com. Technology	3	2.91
7	Industrial Goods	18	17.49
8	Natural Resources	5	4.85
9	Oil and Gas	10	9.71
10	Services	17	16.50
	Total	103	100

Source: Researcher Computation based on www.nse.com.ng

Model Specification and Description of Variables

To examine the effect of financial structure on return on assets, return on equity, net profit margin as well as gross revenue of quoted non-financial service firms, the multivariate model below was estimated.

$$Y = \beta_0 + \beta_1 D_1 + \beta_2 Z_2 + E_{it} \quad \text{----------} \quad (1)$$

Specifically, the model is adopted to incorporate the four financial performance measures (return on assets, return on equity, net profit margin and gross revenue) and the three financial structure proxies (total debt to total assets, total debt to total equities and short term debt to total assets) and taking into consideration that financial performance measures was regressed on the financial structure variables, equation 3.1 was re-casted as:

Model 1

$$ROA_{it} = \beta_0 + \beta_1 TDTA_{it} + \beta_2 TDTE_{it} + \beta_3 STDTA_{it} + \beta_4 TANG_{it} + \beta_5 FMS_{it} + \beta_6 GRT_{it} + \beta_7 RISK_{it} + \beta_8 TAX_{it} + E_{it} \quad -----(2)$$

Model 2

$$ROE_{it} = \beta_0 + \beta_1 TDTA_{it} + \beta_2 TDTE_{it} + \beta_3 STDTA_{it} + \beta_4 TANG_{it} + \beta_5 FMS_{it} + \beta_6 GRT_{it} + \beta_7 RISK_{it} + \beta_8 TAX_{it} + E_{it} \quad -----(3)$$

Model 3

$$NPM_{it} = \beta_0 + \beta_1 TDTA_{it} + \beta_2 TDTE_{it} + \beta_3 STDTA_{it} + \beta_4 TANG_{it} + \beta_5 FMS_{it} + \beta_6 GRT_{it} + \beta_7 RISK_{it} + \beta_8 TAX_{it} + E_{it} \quad -----(4)$$

Model 4

$$GRV_{it} = \beta_0 + \beta_1 TDTA_{it} + \beta_2 TDTE_{it} + \beta_3 STDTA_{it} + \beta_4 TANG_{it} + \beta_5 FMS_{it} + \beta_6 GRT_{it} + \beta_7 RISK_{it} + \beta_8 TAX_{it} + E_{it} \quad -----(5)$$

Where:

ROA is return on assets; ROE is return on equity; NPM is net profit margin; GRV is gross revenue growth; TDTA is the ratio of total debt to total assets; TDTE is the ratio of total debt to total equity; STDTA is the ratio of short term debt to total assets; TANG is tangibility; FMS is firm size; GRT is growth opportunities; RISK is firm risk; TAX is tax; β_1 to β_8 are the coefficient of the explanatory and control variables and E_{it} is the error term. It has a zero means, constant variance and non-auto correlated

4. EMPIRICAL RESULTS AND INTERPRETATIONS

Diagnostic/Sensitivity Analysis

Arellano-Bond Serial Correlation Test

The result of the Arellano-Bond serial correlation test in Table 2 reveals that the p-values of the second order statistic are insignificant which is what is expect if the model error terms are serial uncorrelated in levels, hence the error terms of the variables in the panel models are not serially correlated.

Table 2: Arellano-Bond Serial Correlation Test

Models	Test order	m-Statistic	rho	SE(rho)	Prob.
Model 1	AR(2)	0.997464	2237223041.55	2242911130.34	0.3185
Model 2	AR(2)	-0.742311	-1728587.973363	2328656.86	0.4579
Model 3	AR(2)	-0.053853	-317.751942	5900.315187	0.9571
Model 4	AR(2)	-1.673992	-14058709269595584	8398315615675660.0	0.0941

Source: Computer output data using E-views 9.0

Breusch-Pagan Test for Heteroskedasticity

The probability of the Chq. statistic for the models is insignificant at 5% level of significance, suggesting that there is no existence of heteroskedasticity in all the model. This is in line with econometric assumption that a model should be free from problem of heteroskedasticity. Table 3 presents the Breusch-Pagan test of heteroscedascticity for the models.

Table 3: Breusch-Pagan Heteroskedasticity

Models	Test statistic	Probability
Model 1	4.422050	0.817180
Model 2	0.393910	0.999946
Model 3	0.448276	0.999912
Model 4	0.533533	0.102569

Source: Computer Output data using Gretl

Ramsey RESET Test

The p-values as depicted T-statistic in Table 4 are insignificant at 5% level of significance. The alternate hypothesis that the models are well specified could not be rejected.

Table 4: Ramsey RESET Test

Model	Test- Statistic	df	P-value
Model 1	1.455669	(2,2349)	0.233
Model 2	0.121272	(2,2349)	0.886
Model 3	2.210395	(2,2349)	0.110
Model 4	0.238691	(2,2349)	0.370

Source: Computer output data using Gretl

Panel Unit Root Test

Levin, Lin and Chu (LLC) Test

The LLC test was performed at level and first difference at individual intercept and individual intercept and trend. The result of the LLC test in Tables 5 and 6 performed in level form at individual intercept and individual intercept and trend disclose that all the variables have no unit root except gross revenue, firm's size and growth opportunity. This is expected due to the nature of secondary data generation by relevant agencies involved.

Table 5: LLC Test Result at Level: Individual Intercept

Variables	LLC Test Statistic	Pooled Coefficient	Pooled t-Stat.	Remark
ROA	-15.0545 (0.00)*	-0.52871	-29.351	Stationary
ROE	-16.4412 (0.00)*	-0.52943	-28.453	Stationary
NPM	-24.2145 (0.00)*	-0.71487	-37.861	Stationary
GRV	0.27385 (0.39)	-0.18127	-11.734	Not Stationary
TDTA	-7.86309 (0.00)*	-0.32023	-19.673	Stationary
TDTE	-9.54319 (0.00)*	-0.36606	-20.962	Stationary
STDTA	-8.45228 (0.00)*	-0.37437	-20.362	Stationary
TANG	-7.35178 (0.00)*	-0.30419	-19.616	Stationary
FMS	10.3661 (1.00)	0.00438	0.506	Not Stationary
GRT	-0.52843 (0.30)	-0.07814	-7.813	Not Stationary
RISK	-15.8537 (0.00)*	-0.53379	-27.996	Stationary
TAX	-3.20068 (0.00)*	-0.30297	-16.479	Stationary

Source: Computer Output using E-view 9.0.

Note: The optimal lag for LLC test is selected based on the Schwarz Info Criteria (SIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Table 6: LLC Test Result at Level: Individual Intercept and Trend

Variables	LLC Test Statistic	Pooled Coefficient	Pooled t-Stat.	Remark
ROA	-14.8577 (0.00)*	-0.73650	-36.527	Stationary
ROE	-16.7562 (0.00)*	-0.74548	-35.707	Stationary
NPM	-7.42513 (0.00)*	-0.72128	-29.691	Stationary
GRV	-2.03973 (0.02)*	-0.57408	-24.869	Stationary
TDTA	-8.52675 (0.00)*	-0.55523	-27.831	Stationary
TDTE	-11.9024 (0.00)*	-0.60750	-30.243	Stationary
STDTA	-11.0683 (0.00)*	-0.59737	-28.874	Stationary
TANG	-8.63250 (0.00)*	-0.51385	-27.635	Stationary
FMS	2.32262 (0.98)	-0.28244	-16.997	Not Stationary
GRT	-7.05310 (0.00)*	-0.45218	-24.879	Stationary
RISK	-13.9361 (0.00)*	-0.70255	-33.761	Stationary
TAX	-0.67117 (0.25)	-0.55112	-22.171	Not Stationary

Source: Computer Output using E-view 9.0.

Note: The optimal lag for LLC test is selected based on the Schwarz Info Criteria (SIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

The LLC unit root result in Tables 7 and 8 at individual intercept and individual intercept and trend of first difference shows that the p-values of LLC test statistic for all the variables were significant at 5% level of significance. The null hypothesis that the variables have unit root at first difference is accepted. Hence, all the variables are stationary at first difference at the 5% level of significance and integrated of order one i.e. 1(1).

Table 7: LLC Test Result at First Difference: Individual Intercept

Variables	LLC Test Statistic	Pooled Coefficient	Pooled t-Stat.	Remark
ROA	-50.0287 (0.00)*	-1.38504	-64.877	Stationary
ROE	-29048.5 (0.00)*	-0.99997	-26701.546	Stationary
NPM	-37.5943 (0.00)*	-1.44710	-53.219	Stationary
GRV	-26.5752 (0.00)*	-1.36503	-44.585	Stationary
TDTA	-47.6654 (0.00)*	-1.33655	-57.790	Stationary
TDTE	-382.599 (0.00)*	-1.00610	-359.237	Stationary
STDTA	-30.0883 (0.00)*	-1.33407	-57.962	Stationary
TANG	-45.3571 (0.00)*	-1.23605	-55.030	Stationary
FMS	-25.4081 (0.00)*	-1.04472	-38.787	Stationary
GRT	-31.6436 (0.00)*	-1.23740	-46.412	Stationary
RISK	-45.9039 (0.00)*	-1.41585	-58.991	Stationary
TAX	-31.9131 (0.00)*	-1.29027	-45.275	Stationary

Source: Computer Output using E-view 9.0.

Note: The optimal lag for LLC test is selected based on the Schwarz Info Criteria (SIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

Table 8: LLC Test Result at First Difference: Individual Intercept and Trend

Variables	LLC Test Statistic	Pooled Coefficient	Pooled t-Stat.	Remark
ROA	-39.0542 (0.00)*	-1.43194	-63.920	Stationary
ROE	-44.6040 (0.00)*	-1.51386	-65.286	Stationary
NPM	-29.4463 (0.00)*	-1.49693	-52.939	Stationary
GRV	-17.3117 (0.00)*	-1.45284	-43.383	Stationary
TDTA	-38.7848 (0.00)*	-1.38763	-57.329	Stationary
TDTE	-284.195 (0.00)*	-1.00871	-295.456	Stationary
STDTA	-10.3997 (0.00)*	-1.39599	-55.613	Stationary
TANG	-36.1661 (0.00)*	-1.29122	-54.310	Stationary
FMS	-19.6232 (0.00)*	-1.22700	-41.039	Stationary
GRT	-26.7884 (0.00)*	-1.37461	-49.073	Stationary
RISK	-38.9343 (0.00)*	-1.52874	-61.652	Stationary
TAX	-23.9693 (0.00)*	-1.34798	-44.747	Stationary

Source: Computer Output using E-view 9.0.

Note: The optimal lag for LLC test is selected based on the Schwarz Info Criteria (SIC), p-values are in parentheses where (*) and (**) denote significance at 1% and 5% respectively.

5.Panel Co-integration Test

Kao Residual Co-integration Test

Kao panel Co-integration test is an Engle-Granger based. Kao (1999) noted that the null hypothesis of no co-integration for panel data exists in two test. The first is a Dickey-Fuller types test while the other is an Argumented Dickey-Fuller type test. Table 9 reports the Kao's co-integration test for financial structure and financial performance of quoted firms in Nigeria, which rejected the null hypothesis of no co-integration for firms' financial structure and

financial performance variables at the 1% significance level, so that there is existence of co-integration/long run relationship between return on assets, return on equity, net profit margin, gross revenue and financial structure of quoted firms in Nigeria stock exchange.

Table 9: Kao Residual Co-integration Test

Models	Argumented Dickey-Fuller	
	t-Statistic	Prob.
Model 1	-3.341248*	0.0004
Model 2	-20.43601*	0.0000
Model 3	-17.23634*	0.0000
Model 4	-1.982620**	0.0237

Source: Computer output data using E-views 9.0

Notes: The ADF is the residual-based ADF statistic. The null hypothesis is no co-integration. (*) and (**) indicate that the estimated parameters are significant at the 1% and 5% level respectively.

6. Panel OLS Analysis of Financial Structure and Financial Performance of Quoted Firms in Nigeria Stock Exchange.

In this section the panel OLS relationship between financial structure and financial performance surrogates of one hundred and three (103) firms cutting across the ten (10) sectors of Nigeria Stock Exchange was analysed. The estimation was carried in pooled OLS, fixed and random effect approach. The fixed and random effect estimations, the cross-sectional fixed and random effect specification was utilized. This is because, all the firms are quoted in Nigeria Stock Exchange and operate in the same country but differs in industry attributed specific conditions and ratios.

Return on Assets and Financial Structure

The hausman test in Table 10 suggest the random effect estimation is preferred to fixed effect due to insignificant p-value of the Chi-square. The result reveals that all financial structure surrogated by total debt to total assets, total debt to total equity and short term debt to total assets has negative but insignificant relationship with return on assets of firms quoted on Nigeria Stock Exchange. Tangibility and size of firms is negatively related with return on assets while growth opportunity, risk and tax positively relate with return on assets. The coefficient of the constant 22.67207 indicates that if financial structure variables incorporated with tangibility, firm size, growth

opportunity, risk and tax are held constant, quoted firms' return on assets would be 22.67%. A unit increase in total debt to total assets, total debt to total equity and short term debt to total assets would result in a corresponding decrease in return on assets by 0.06%, 0.01% and 0.03% respectively. A percentage increase in the ratio of fixed assets to total assets results to 0.02% decline in return on equity. The size of the firm affects its performance as a unit decrease in firms total assets would lead to reduction in return on assets by a factor of 1.86. In a similar manner, a unit rise in growth opportunity, risk of bankruptcy and taxation increase return on assets by a magnitude of 1.79, 53.16 and 1.19 respectively.

Table 10: Return on Assets and Financial Structure

Variables	Pooled OLS		Fixed Effect		Random Effect	
	Coefficient	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
C	22.35261	0.5548	23.83896	0.5404	22.67207	0.6406
TDTA	-0.000988	0.9384	-0.000165	0.9898	-0.000642	0.9598
TDTE	-0.000150	0.9801	-2.23E-05	0.9971	-0.000108	0.9856
STDTA	-0.000385	0.9744	-0.000143	0.9908	-0.000307	0.9797
TANG	-0.000397	0.9756	-0.000139	0.9917	-0.000299	0.9817
FMS	-2.00E-06	0.3247	-1.58E-06	0.4907	-1.86E-06	0.3804
GRT	2.04E-06	0.0993	1.25E-06	0.4340	1.79E-06	0.1823
RISK	51.24141	0.4463	55.75743	0.4258	53.15721	0.4334
TAX	1.18E-05	0.7107	1.29E-05	0.7508	1.19E-05	0.7307
R-squared	0.001474		0.070131		0.001100	
Adjusted R-squared	-0.001924		0.024650		-0.002299	
S.E. of regression	1721.612		1698.627		1695.852	
Sum squared resid	6.97E+09		6.49E+09		6.76E+09	
Log likelihood	-20928.58		-20844.53			
F-statistic	0.433701		1.541995		0.323640	
Prob(F-statistic)	0.901392		0.000347		0.957353	
Durbin-Watson stat	2.007881		2.162740		2.069705	
Hausman Specification Test						
	Chi-Sq. Statistic		0.4708			
	Probability		0.9999			

Source: Computer output data using E-views 9.0

Note: Periods included: 23, Cross-sections included: 103, Total Number of Observations: 2369

The adjusted R-square value of -0.002299 shows that the explanatory variables jointly accounted for -0.23% variations in return on assets of quoted firms within the period of the study. Put differently, financial structure has not in any way impacted positively on return on assets of quoted firms. The F-statistic which determine the overall

significance joint effect of the independent variables shows that financial structure variables controlled with tangibility, firm size, growth opportunity, risk and tax did not significantly explained the variations in return on assets as the p-value is insignificant at 5% level. The Durbin Watson statistic which is the traditional test of autocorrelation in a model met the bench mark of 2.0 suggesting that the variables in the model are not serially correlated.

Return on Equity and Financial Structure

Relative Utility of the Model

From the hausman test in Table 11, the fixed effect is favoured as the p-value of the Chi-square is significant at 5% level. The result discloses also financial structure reflected by total debt to total assets, total debt to total equity and short term debt to total assets has negative relationship with return on equity of quoted firms. Among firm's specific controlled variables, only firms' size was found to relate positively with shareholders wealth. According to the constant coefficient of 42.49692, keeping total debt to total assets, total debt to total equity, short term debt to total assets, tangibility, firm size, growth opportunity, risk and tax constant, return on shareholders wealth would be 42.50%. Increasing the ratio of total debt to total assets by a unit leads to 0.06% depreciation in shareholders wealth. Subsequently, increasing the total debt to total equity and short term debt to total assets by one percent, return on equity would be down by factor of 4.55 and 2.05 respectively. High risk of bankruptcy, taxation, fixed assets to total assets ratio and growth opportunity lowers firms return on equity by 3.05, 7.01, 0.0004 and 3.21 respectively. However, the size of the firms positively influence shareholders wealth as a unit increase in firms total assets would result to 1.43 factor appreciation in return on equity.

Table 11: Return on Equity and Financial Structure

Variables	Pooled OLS		Fixed Effect		Random Effect	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	17.17657	0.3466	42.49692	0.0248	17.17657	0.3439
TDTA	-0.000357	0.9538	-0.000574	0.9269	-0.000357	0.9535
TDTE	-0.000120	0.9670	-4.55E-05	0.9877	-0.000120	0.9668
STDTA	-0.000214	0.9704	-2.05E-05	0.9973	-0.000214	0.9703
TANG	-0.000262	0.9666	-0.000352	0.9566	-0.000262	0.9664
FMS	-2.27E-07	0.8168	1.43E-07	0.8980	-2.27E-07	0.8158
GRT	2.86E-07	0.6310	-3.21E-06	0.0000	2.86E-07	0.6291

RISK	3.712767	0.9089	-3.050281	0.9286	3.712767	0.9084
TAX	-4.43E-07	0.9770	-7.01E-06	0.7225	-4.43E-07	0.9769
R-squared	0.000112		0.053993		0.000112	
Adjusted R-squared	-0.003291		0.007723		-0.003291	
S.E. of regression	830.0869		825.5183		830.0869	
Sum squared resid	1.62E+09		1.53E+09		1.62E+09	
Log likelihood	-19207.00		-19141.63			
F-statistic	0.032872		1.166907		0.032872	
Prob(F-statistic)	0.999989		0.117943		0.999989	
Durbin-Watson stat	2.007176		2.129172		2.007176	
Hausman Specification Test						
	Chi-Sq. Statistic		55.8702			
	Probability		0.0000			

Source: Computer output data using E-views 9.0
Note: Periods included: 23, Cross-sections included: 103, Total Number of Observations: 2369

The F-statistic values of 1.166907 with a p-value of 0.11 show that the financial structure variables jointly and insignificant explained the changes in return on equity of quoted firms. Going by the adjusted R-squared of 0.007723, it is crystal clear that the explanatory variables accounted for only 0.77% changes in return on equity. It is also observe from the Durbin Watson statistic that the variables in the model are free from autocorrelation problem and inference deduced is reliable in statistical terms. Nevertheless, the Arellano-Bond serial correlation test in Table 8 also depicts that the dependent and independent variables in the model are not serially correlated.

Net Profit Margin and Financial Structure

The hausman test in Table 12 suggest the acceptability of the fixed effect estimation as a result of significant p-value of the Chi-square. The result discloses that two financial structure variables: total debt to total equity and short term debt to total assets have positive but insignificant relationship with net profit margin of firms quoted on Nigeria Stock Exchange while total debt to total assets reveals a negative relationship. Tangibility is positively related with net profit margin as growth opportunity, risk, size of firms and tax are positively related with net profit margin. The coefficient of the constant -0.319870 means that if financial structure variables incorporated with tangibility, firm size, growth opportunity, risk and tax are held constant, quoted firms' net profit margin would decline by 0.32%. A unit increase in total debt to total equity and short term debt to total assets would result in a corresponding increase in net profit margin by a factor of 2.74 and 6.21 respectively. On the other hand,

increasing the total debt to total assets ratio by a unit would result in 1.14 factor depreciation in net profit margin. A percentage increase in the ratio of fixed assets to total assets results to 5.50 factor fall in net profit margin. A unit increase in firm's total assets would lead to upsurge in net profit margin by a factor of 1.86. In a similar manner, a unit rise in growth opportunity, risk of bankruptcy and taxation increase return on assets by a magnitude of 1.79, 53.16 and 1.19 respectively.

The adjusted R-square value of 0.060281 shows that the explanatory variables jointly accounted for only 6.03% variations in net profit margin of quoted firms within the period of the study. The F-statistic which determine the overall significance joint effect of the independent variables shows that financial structure variables controlled with tangibility, firm size, growth opportunity, risk and tax significantly explained the variations in net profit margin as the p-value of F-statistic is significant at 5% level.

Table 12: Net Profit Margin and Financial Structure

Variables	**Pooled OLS**		**Fixed Effect**		**Random Effect**	
	Coefficient	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
C	-0.330685	0.0134	-0.319870	0.0206	-0.330685	0.0123
TDTA	3.77E-06	0.9319	-1.14E-06	0.9795	3.77E-06	0.9310
TDTE	2.36E-06	0.9092	2.74E-07	0.9895	2.36E-06	0.9080
STDTA	4.61E-06	0.9114	6.21E-06	0.8842	4.61E-06	0.9102
TANG	4.19E-06	0.9344	-5.50E-07	0.9917	4.19E-06	0.9335
FMS	2.80E-09	0.6903	1.54E-10	0.9846	2.80E-09	0.6864
GRT	1.56E-09	0.7141	2.46E-09	0.6622	1.56E-09	0.7105
RISK	0.457934	0.0491	0.312693	0.1971	0.457934	0.0462
TAX	1.35E-08	0.9026	1.19E-09	0.9933	1.35E-08	0.9013
R-squared	0.039093		0.106517		0.039093	
Adjusted R-squared	0.035244		0.060281		0.035244	
S.E. of regression	5.933181		5.855688		5.933181	
Sum squared resid	79100.33		73550.09		79100.33	
Log likelihood	-7216.258		-7134.160			
F-statistic	10.15726		2.303755		10.15726	
Prob(F-statistic)	0.000000		0.000000		0.000000	
Durbin-Watson stat	2.125110		2.102066		2.125110	
Hausman Specification Test						
	Chi-Sq. Statistic		159.9146			
	Probability		0.0000			

Source: Computer output data using E-views 9.0

Note: Periods included: 23, Cross-sections included: 103, Total Number of Observations: 2369

Gross Revenue and Financial Structure

From the hausman test in Table 13, the fixed effect is favoured as the p-value of the Chi-square is significant at 5% level. The result discloses that total debt to total equity and short term debt to total assets have positive but insignificant relationship with gross revenue of firms quoted on Nigeria Stock Exchange while total debt to total assets reveals a negative relationship. Tangibility and firms' size are negatively related with gross revenue while growth opportunity, risk and tax are positively related with gross revenue. The coefficient of the constant 470588.0 unveils that if financial structure variables incorporated with tangibility, firm size, growth opportunity, risk and tax are held constant, quoted firms' gross revenue would decline by N470588.0. A unit increase in total debt to total equity and short term debt to total equity would result in a corresponding increase in gross revenue by a factor of 56.52 and 0.34 respectively. Furthermore, increasing the total debt to total assets ratio by a unit would lead to 4.7 factor depreciation in gross revenue. A percentage increase in the ratio of fixed assets to total assets results to 5.50 factor fall in net profit margin. A unit increase in firm's total assets would decrease gross revenue by a factor of 1.56. Similarly, a unit rise in growth opportunity, risk of bankruptcy and taxation increase gross revenue by a magnitude of 0.008, 410077.2 and 0.62 respectively.

The F-statistic values of 104.2279 with a p-value of 0.00 show that the financial structure variables jointly and significant explained the changes in gross revenue of quoted firms. Judging by the adjusted R-squared of 0.835866, it is crystal clear that the explanatory variables accounted for only 83.59% changes in gross revenue. It is also observe from the Durbin Watson statistic of 1.97 that the variables in the model are free from autocorrelation problem and inference deduced is reliable in statistical terms.

Table 13: Gross Revenue and Financial Structure

Variables	Pooled OLS		Fixed Effect		Random Effect	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	275886.0	0.2560	470588.0	0.0594	275886.0	0.2464
TDTA	0.923694	0.9908	-4.780253	0.9524	0.923694	0.9906
TDTE	22.56467	0.5522	56.52498	0.1384	22.56467	0.5441
STDTA	-1.161611	0.9876	0.340851	0.9965	-1.161611	0.9874
TANG	-6.302250	0.9456	-1.562733	0.9868	-6.302250	0.9445

FMS	-0.010742	0.4003	-0.004951	0.7312	-0.010742	0.3907
GRT	-0.001252	0.8719	0.008102	0.4238	-0.001252	0.8693
RISK	498644.0	0.2371	410077.2	0.3472	498644.0	0.2276
TAX	0.326516	0.1023	0.617662	0.0161	0.326516	0.0955
R-squared	0.829743		0.843963		0.829743	
Adjusted R-squared	0.829059		0.835866		0.829059	
S.E. of regression	10755876		10539553		10755876	
Sum squared resid	2.59E+17		2.38E+17		2.59E+17	
Log likelihood	-39634.88		-39536.71			
F-statistic	1213.492		104.2279		1213.492	
Prob(F-statistic)	0.000000		0.000000		0.000000	
Durbin-Watson stat	2.080508		1.968793		2.080508	
Hausman Specification Test						
	Chi-Sq. Statistic		193.0880			
	Probability		0.0000			

Source: Computer output data using E-views 9.0
Note: Periods included: 23, Cross-sections included: 103, Total Number of Observations: 2369

Granger Causality Effect Result

To examine the effect of financial structure on financial performance of firms quoted on Nigeria Stock Exchange visa viz: return on assets, return on equity, net profit margin and gross revenue, this study applied the granger causality test. The essence of choosing the granger causality over ordinary least square regression is based on the fact that it takes into consideration the dynamic nature of variables. Furthermore, for a variable to have effect on another it must cause it move or granger cause it and it is only the granger causality test that offers such tool of effect assessment. The lag length selected was one on the premises that the data applied were gotten financial statement of firms which on yearly/annual bases.

Table 14 shows that there is no unidirectional or bidirectional causal relationship between financial structure variables and return on assets of quoted firms. Causality does not flow from total debt to total assets ratio, total debt to total equity ratio and short term debt to total assets ratio to return on assets neither does it flow from return on assets to financial structure variables at 5% level of significance. From the inference in Table 14, financial structure has no significant effect on return on assets of quoted firms on Nigerian Stock Exchange. Firms specific factors expressed as control variables: tangibility, size of firms, risk of bankruptcy, growth opportunity and taxation exert any significant influence on firms' return on assets.

From Table 15, it observed that the p-values of financial structure surrogates: total debt to total assets ratio, total debt to total equity ratio and short term debt to total assets ratio are insignificant at 5% level of significance. This is an indication that no one or two way relationship between financial structure and return on equity of firms quoted on Nigeria Stock Exchange as causality does not flow from financial structure variables to return on equity neither does it flow from return on equity to financial structure surrogates. Thus, financial structure has no significant effect on quoted firms return on equity. Firm's oriented factors capable of affecting its financial performance were found to have not significantly influenced return on shareholder wealth.

Table 14: Granger Causality Result for ROA and Financial Structure

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause ROA	2266	0.00176	0.9965	No Causality
ROA does not Granger Cause TDTA		0.00180	0.9661	No Causality
TDTE does not Granger Cause ROA	2266	0.00187	0.9655	No Causality
ROA does not Granger Cause TDTE		0.00194	0.9648	No Causality
STDTA does not Granger Cause ROA	2266	0.00105	0.9742	No Causality
ROA does not Granger Cause STDTA		0.00107	0.9739	No Causality
TANG does not Granger Cause ROA	2266	0.00099	0.9749	No Causality
ROA does not Granger Cause TANG		0.00019	0.9889	No Causality
FMS does not Granger Cause ROA	2266	0.03649	0.8485	No Causality
ROA does not Granger Cause FMS		0.05566	0.8135	No Causality
GRT does not Granger Cause ROA	2266	1.45111	0.2285	No Causality
ROA does not Granger Cause GRT		0.92459	0.3364	No Causality
RISK does not Granger Cause ROA	2266	0.36084	0.5481	No Causality
ROA does not Granger Cause RISK		0.07220	0.7882	No Causality
TAX does not Granger Cause ROA	2266	0.01766	0.8943	No Causality
ROA does not Granger Cause TAX		0.11007	0.7401	No Causality

Source: Computer analysis using E-views 9.0.

Table 15: Granger Causality Result for ROE and Financial Structure

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause ROE	2266	0.00230	0.9617	No Causality
ROE does not Granger Cause TDTA		0.00260	0.9594	No Causality
TDTE does not Granger Cause ROE	2266	0.00271	0.9585	No Causality
ROE does not Granger Cause TDTE		0.00274	0.9583	No Causality
STDTA does not Granger Cause ROE	2266	0.00140	0.9701	No Causality
ROE does not Granger Cause STDTA		0.00155	0.9686	No Causality
TANG does not Granger Cause ROE	2266	0.00149	0.9692	No Causality
ROE does not Granger Cause TANG		0.00029	0.9864	No Causality
FMS does not Granger Cause ROE	2266	0.05729	0.8108	No Causality
ROE does not Granger Cause FMS		2.04532	0.1528	No Causality

GRT does not Granger Cause ROE	2266	0.06075	0.8053	No Causality
ROE does not Granger Cause GRT		1.72125	0.1897	No Causality
RISK does not Granger Cause ROE	2266	0.11764	0.7316	No Causality
ROE does not Granger Cause RISK		0.00401	0.9495	No Causality
TAX does not Granger Cause ROE	2266	0.00211	0.9633	No Causality
ROE does not Granger Cause TAX		0.07379	0.7859	No Causality

Source: Computer analysis using E-views 9.0.

The granger causality result in Table 16 shows evidence that there is causality flowing from financial structure variables: total debt to total assets ratio, total debt to total equity ratio and short term debt to total assets ratio to net profit margin at 5% level of significance. This suggests that financial structure has no significant effect on net profit margin of quoted firms on Nigeria Stock Exchange as the p-values of all the financial structure proxies are insignificant at 5% level of significance. It is also observe that firms' related operational factor represented by control variables have no significant impact on their net profit margin within the period studied.

From Table 17, there is evidence of a unidirectional relationship between gross revenue of firms and a financial structure proxy: total debt to total equity. Causality flows from gross revenue to total debt to total equity as 5% level of significance on the basis of the p-value (0.0000) of the F-statistic (60.6796). This result entails that it is gross revenue of quoted firms that affects or impacts total debt to total equity. In other words, financial structure has no significant effect on gross revenue but gross revenue significantly affect or impact on firm's financial structure expressed via total debt to total equity. This is against the expectation that financial structure should affect performance. It is also observed from Table 84 that firms' growth opportunity has significant effect on gross revenue as evidenced by the unidirectional relationship between firm's growth opportunities and gross revenue.

Table 16: Granger Causality Result for NPM and Financial Structure

Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**	**Remarks**
TDTA does not Granger Cause NPM	2266	0.01465	0.9037	No Causality
NPM does not Granger Cause TDTA		0.00011	0.9517	No Causality
TDTE does not Granger Cause NPM	2266	0.01913	0.8900	No Causality
NPM does not Granger Cause TDTE		0.01964	0.8886	No Causality
STDTA does not Granger Cause NPM	2266	2.34185	0.1216	No Causality
NPM does not Granger Cause STDTA		0.01116	0.9159	No Causality

TANG does not Granger Cause NPM	2266	0.01271	0.9102	No Causality
NPM does not Granger Cause TANG		0.03673	0.8480	No Causality
FMS does not Granger Cause NPM	2266	0.61572	0.4327	No Causality
NPM does not Granger Cause FMS		0.04984	0.8234	No Causality
GRT does not Granger Cause NPM	2266	0.19753	0.6568	No Causality
NPM does not Granger Cause GRT		0.03882	0.8438	No Causality
RISK does not Granger Cause NPM	2266	3.04147	0.0813	No Causality
NPM does not Granger Cause RISK		1.47510	0.2247	No Causality
TAX does not Granger Cause NPM	2266	0.67872	0.4101	No Causality
NPM does not Granger Cause TAX		0.03348	0.8548	No Causality

Source: Computer analysis using E-views 9.0.

Table 17: Granger Causality Result for GRV and Financial Structure

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause GRV	2266	0.02530	0.8736	No Causality
GRV does not Granger Cause TDTA		0.02761	0.8681	No Causality
TDTE does not Granger Cause GRV	2266	0.45088	0.5020	No Causality
GRV does not Granger Cause TDTE		60.6796	0.0000	Causality
STDTA does not Granger Cause GRV	2266	6.6E-06	0.9975	No Causality
GRV does not Granger Cause STDTA		0.05556	0.8137	No Causality
TANG does not Granger Cause GRV	2266	0.00051	0.9820	No Causality
GRV does not Granger Cause TANG		0.00304	0.9560	No Causality
FMS does not Granger Cause GRV	2266	0.45279	0.5011	No Causality
GRV does not Granger Cause FMS		3.15669	0.0758	No Causality
GRT does not Granger Cause GRV	2266	5.21731	0.0225	Causality
GRV does not Granger Cause GRT		0.18458	0.6675	No Causality
RISK does not Granger Cause GRV	2266	0.66951	0.4133	No Causality
GRV does not Granger Cause RISK		0.63703	0.4249	No Causality
TAX does not Granger Cause GRV	2266	0.59779	0.4395	No Causality
GRV does not Granger Cause TAX		0.17186	0.6785	No Causality

Source: Computer analysis using E-views 9.0.

Discussion of Findings

On the analysis of the entire selected firms quoted on Nigerian Stock Exchange, total debt to total assets has negative relationship with firms return on assets, return on equity, gross revenue and net profit margin. Total debt to total equity has negative relationship with return on assets and return on equity but a positive relationship with net profit margin and gross revenue growth. Short term debt to total assets also has negative relationship with return on assets and return on equity but a positive relationship with net profit margin and gross revenue growth. The negative relationship that exists between return on assets and financial structure surrogates infers that increase in total debt to total assets, total debt to total equity and short term debt to total assets would decrease return on assets. This suggests that firm's with high level of debt in their financial structure tend to have

lower return on assets. This supports the work of Zeitun and Tain (2007), Manawaduge, Zoysa, Chowdhury and Chandarakumara (2011), Khanam, Nasreen and Pirzada (2014) and Hassan, Ahsan, Rahaman and Alam (2014) on the negative influence of financial structure on firm's return on assets in Jordan, Sri Lanka, Pakistan and Senegal respectively. It is also in agreement with the empirical findings of studies conducted in Nigeria by Akeem et al. (2014) and Osuji and Odita (2012). However, it refutes the results of Javed, Younas and Imram (2014), Mwangi and Birundi (2015) and Boroujeni, Noroozi, Nadem and Chadegani (2013) on the positive relationship between return on assets and financial structure in the context of Iran, Kenya and Pakistan respectively.

The negative relationship between return on equity and total debt to total assets, total debt to total equity and short term debt to total assets is also an indication that acquiring much debt does not improve the wealth of shareholders. This is because debt creates financial obligation on firms to periodically pay interest and charges to creditors, hence affecting negatively the wealth of shareholders. This is attributed by widely held notion that debts are relatively more expensive than equity, hence acquisition of debt in high proportion relative to equity could lead to low profitability. In addition, negative relationship between financial structure and return on equity gives credence to the idea that profitable firms rely tremendously on equity as their main financing option in consonance with pecking order theory. This finding is in unison with study of Sormadi and Hayajneh (2015), Tauseef, Lohano and Khan (2015), Mwangi, Makau and Kosimbei (2014), Arowoshegbe and Emeni (2014), Shubita and Alsawalhah (2012) and Moghaddam, Kashkoueyeh, Talezadeh, Aala, Ebrahimpour and Tehranypour (2015) on negative association between financial structure and return on equity of firms in Amman, Pakistan, Kenya, Nigeria, Iran and Jordan respectively.

On the positive relationship between net profit margin and two financial structure variables: total debt to total equity and short term debt to total assets suggests that a unit increase in these variable would increase the net profit margin of firms. This infers that firm's with high short term debt in their financial structure tend to have higher net profit margin. This findings suggests that short term

debt does not expose Nigeria quoted firms to the risk of refinancing as it positively related with net profit margin. This findings confirms the result of Adesina, Nwibe and Adesina (2015) and Oke and Afolabi (2011) on the positive relationship of the two financial structure variables and net profit margin of selected firms in Nigeria and Kimondo (2015) for Kenya. On the other hand, it disagrees with the works of Rakakumaran and Yogendrarajah (2015), Iavorskyi (2013), Norvaisiene and Stankeiciene (2012) and Chechet and Olayiwola (2014) that these financial structure variables negatively associate with net profit margin of selected firms in Sri Lanka, Ukraine, Lithuania and Nigeria respectively.

The positive relationship between gross revenue and two financial structure variables: total debt to total equity and short term debt to total assets shows that increase in these ratios would improve gross revenue of quoted firms not minding the negative association between firms total debt to total assets ratio. This finding infers firms managers prefer to acquire debt to increase their gross revenue especially, when there is growth opportunities rather than bear the tax burden associated with equity capital. It could also be deduce from this result that most quoted firms in Nigeria Stock Exchange prefer to take risk regarding bankruptcy to boost revenue but reluctant to bear tax cost. This is compatible with the work of San and Heng (2011) and Pratheepkanth (2011) for Malaysia and Sri Lanka firms respectively but conflicts outcome of Zeitun and Tain (2007) and Javed, Younas and Imram (2014) for selected firms in Jordan and Pakistan correspondingly.

Tangibility has negative relationship with financial performance of firms. This is indication that quoted firms investment in fixed assets are not in proportion that would improve performance or perhaps quoted firms under utilize their fixed assets as it does not influence their performance as it ought to be. The positive relationship of growth with most financial indicators implies that firms' with higher growth ratio tends to have higher returns on investment arguably attributed to diversification in investments. Beside, high growth rates lowers cost of capital and enhances performance. Risk of bankruptcy was also found to be positively related with most performance variable. The implication is that firms

with higher variability in net income tend to have higher return which is consistent with the risk-return trade off postulations. The significant correlation between tax and gross revenue, return on assets and net profit margin tends to supports the argument firms that pays high tax have higher profit due to investment diversification to cater for the tax burden.

The granger causality effect assessment result reveals that financial structure reflected by total debt to total assets, total debt to total equity and short term debt to total assets has no significant effect on financial performance of quoted non-financial service firms in Nigeria as expressed by return on assets, return on equity, net profit margin and gross revenue. However, gross revenue was found to significantly affect or impact on firm's financial structure surrogated as total debt to total equity. Firms oriented factor: growth opportunity has significant effect on gross revenue as evidenced by the unidirectional relationship between firm's growth opportunities and gross revenue.

7.CONCLUSION, POICY IMPLICATION, CONTRIBUTION TO KNOWLEDGE AND LIMITIONS

In this study, we examined the effect of financial structure on financial performance of non-financial service firms quoted on the Nigerian Stock Exchange by specifically ascertaining the effect of financial structure on return on assets, return on equity, net profit margin and gross revenue for a period of twenty three (23) years i.e. 1993 to 2015. The overall findings of this study suggests that financial structure has no significant effect on financial performance of quoted non-financial service firms quoted on the Nigerian Stock Exchange. Furthermore, quoted firms are more aligned to Pecking Order Theory compared to Trade-off Theory suggesting that majority of the firms prefer internal financing to external financing. However, if they require external financing they will issue the safest security first. Financial structure plays a critical role in financial performance of firms, hence financial structure decision remain one of the mainstream in firms management practice capable of affecting firms performance positively or negatively. This study established that financial performance of quoted non-financial service firms in

Nigerian Stock Exchange are not significantly affected by financial structure decisions. To this effect, the findings of this study should not be viewed as conclusive empirical evidence, but rather an additional motivation for which scholars can develop new idea for further research on the nexus between financial structure and corporate performance of firms. On the whole, the findings validated positive and negative effects of financial structure but lays credence and consistent with major scholarly view that firms financial structure decision are more aligned to Pecking Order Theory compared to other theories of financial structure.

Although optimal financial structure has not been established, however, it is very crucial for firm's management to establish a debt-equity mix capable of improving return on assets notwithstanding the financial structure measure adopted, which according to the result of the study, negatively relates with return on assets of non-financial service firms quoted on the Nigeria Stock Exchange. To increase return on equity, quoted non-financial service firms should fund their operations with more of equity capital as debt financing negatively influence shareholder wealth. This could be from sale of firm's share to the public or right offering. Inevitably, firms performance in Nigeria have been adversely affected by the macroeconomic instability and current economic recession and as such, borrowing from commercial banks, financial markets and other sources of external financing should be minimize due to high interest rates associated with such facilities. Firms' management should consider the use of more short term debt relative to equity capital in preference to long term debt in their financial structure mix to increase net profit margin and gross revenue as this will reduce the overall cost of capital as a result of its tax advantage. The implication of tangibility negatively relating to financial performance is that firms should increase their investment in fixed assets visa viz: production/manufacturing assets to improve gross revenue, under investment in fixed assets should be discontinued and effective and efficient utilization of fixed assets vehemently upheld.

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