

# Capital Structure and Profitability of Selected Listed Companies in Nigeria

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**Abstract:** Capital structure of firms is a topical issue that propels the sustainability of concerns. The study investigated capital structure and performance of selected listed companies in Nigeria. This study adopted *ex-post facto* research design. Secondary data were sourced from the audited annual reports of the sampled firms. The population comprised 170 listed companies on Nigerian Stock Exchange (NSE) as at December 2019. The sample consisted of 60 selected companies, using purposive sampling technique to cover various sectors. Pre-estimation tests were conducted, using correlation matrix and independent t-test. The post-estimation tests included linearity, heteroskedasticity, Breusch-Godfrey serial correlation Langragian Multiplier and normality test. Data were analyzed using descriptive and inferential statistics. The result shows  $R^2 = 0.199$ ,  $0.527$  and  $Adj. R^2 = 0.752$ . The study revealed that capital structure had significant effect on performance of selected companies in Nigeria. Debt ownership had positive and significant effect on return on capital employed. Equity ownership had positive significant effect on the dividend growth. The study concluded that capital structure affected performance of selected listed companies in Nigeria and therefore recommended that government should formulate a policy that will encourage a balanced capital structure of listed companies so as to enhance performance that creates value for stakeholders and ensure the going concern of the firm

**Keywords:** Capital structure, Dividend growth, Return on Capital Employed, Performance.

## I. INTRODUCTION

According to Nenu, Ventila and Gherghina (2017), capital structure remains a challenge, even if many theorists have tried to explain the debt ratio variation across companies and pioneering studies on capital structure based their hypotheses on perfect capital market conditions that lead to rather theoretical assumptions. Organisations in financing their capital expenditure are usually faced with the decision of financing mode and theoretically there are two broad sources of financing which are equity and debt (Onaolapo, Kajola & Nwidobie, 2015). It is clear that capital structure is a significant management decision as it greatly influences the owner's equity return, his risks as well as the market value of the shares and so it is incumbent on the management of a company to develop an appropriate capital structure, which is most suitable to the company's operation (Salawu, 2009).

Capital structure is the means by which an organization is financed and it is the mix of debt and equity capital maintained by a firm (Chinaemeren & Anthony, 2012). One of the most important tasks of any management of a firm is to find the optimum capital i.e. a balance between equity and debt whereby the cost of capital is minimized and the profitability of the company optimized (Rosario & Chavali, 2019). The optimum capital mix not only helps in generating returns but also helps to survive in a competitive industry and one can expect the growth of a company to be affected and its profitability stunted, if the optimum capital is not achieved by the company (Rosario & Chavali, 2019).

Capital structure has important implications for financial management purposes and the relative ratio of debt to equity in the capital structure is a fundamental factor. Akintoye (2016) describe capital structure as a mix of long term sources of fund comprising debt, equity or hybrid of securities of the firm. Akintoye (2016) further stressed the central objective of capital structure management which is to mix the long term sources of funds used by the firm in a manner that will maximize the firm's composite cost of capital.

Gearing, leverage which are another term for debt represents the amount of long-term debt used to finance a company's assets as distinct from shareholder's equity (Glautier, under down & Morris, 2016). A company with a large ratio of fixed-interest and fixed-dividend bearing capital to ordinary capital is a highly geared firm. Furthermore the importance of gearing is that fluctuations in net income may have disproportionate effects upon the return accruing to ordinary shareholders in the case of a highly geared company and eventually on the pricing of ordinary shares on the stock exchange.

Borrowings are integral part of the policy plans of most firms since it is always not possible to raise all the funds that are required for the smooth running of the business. Most firms with the vision of expansion and recruitment of competent hands will be compelled most times to incur debt so that the goals and objectives of the organization would be realized. Debt may also be termed as long term financing and it normally take the picture of fixed interest loans and preference share capital. The merit is that in so far profit can

be earned, Earnings per share would be enhanced which will in turn increase the share price and the company will be helped to raise new share capital when required.

Also, debt is cheap as the interest payment is an allowable expense for tax purpose. Demerits stem from the legal limit imposed by the article of association. Debt financing is one of the most prominent sources of funding that pertains to both the public and private sector because the economic theory has propounded that wants are numerous but the resources required to pursue them are scarce as such in other that the goals and objectives of firms are actualized they resort into borrowing. One of the essential attachments to borrowing that must be given cognizance is the interest cost of debt so that it is not counterproductive at the end of the deal (Adekola, 2020). Equity is the traditional form of capital for most publicly listed companies and holders of this capital are the real owners of the business who are entitled to all residual earnings after the firm has met all fixed obligations (Akinsulire, 2010).

Equity which may also be referred to as share holdings is one of the most famous capital structures being adopted by many concerns across the world. Ming, David and Hong (2012) tested how equity overvaluation affects corporate financing decisions using an ex ante misvaluation measure that filters firm scale and growth prospects from market price. The authors discovered that equity issuance and total financing increase with equity overvaluation, but only among overvalued stocks, and that equity issuance is more sensitive than debt issuance to misvaluation. Covas and Haan (2011) defined equity issuance based on the change in the book value of equity and discovered equity issuance to be weakly procyclical. If the loan as equity, is re-characterized any interest deduction taken will be disallowed and any interest payment made to the creditor will be treated as an equity distribution, which will be considered as a dividend to the extent of the earnings and profits of the borrower (Antebi & Krauthamer, 2014). Additionally, when an interest deduction is disallowed, the subsidiary could be found to have a higher tax obligation and could be subject to interest and penalties with respect to the possible underpayment of taxes borrower (Antebi & Krauthamer, 2014).

Equity holders are entitled to dividend which is the prerogative of the management of firms to declare. Return on Capital Employed (ROCE) shows the efficiency of management in utilizing the resources placed at its disposal. It is a primary measure of profitability. (ROCE) is an accounting ratio that appears to be widely used by management and investors as a summary indicator of business success and while usually warning readers about its weakness and for such purpose as accounting and financial statement analysis textbooks continue to include it in the financial analyst's battery of ratios (Kwong, Munro, & Peasnell, 1995). Therefore, the study by general objective examined the effect of capital structure on performance of selected listed companies in Nigeria. The statement of the problem is in the

determination of the appropriate debt –equity mix that will significantly drive the return on capital employed cum dividend growth of selected listed companies in Nigeria.

### 1.1 Objective of the Study

The specific objectives are:

- i. To examine the effect of debt on return on capital employed of selected listed companies in Nigeria
- ii. To investigate the effect of equity on dividend growth of selected listed companies in Nigeria.
- iii. To examine the moderating effect of age and firm size on the relationship between capital structure and performance of selected listed companies in Nigeria.

## II. LITERATURE/THEORETICAL REVIEW

The literature review comprises three main divisions which are conceptual review, theoretical review and empirical review. The conceptual review described the key variables from the opinions of various authors. The theoretical review was an adoption of four relevant theories to the work while the empirical review was a voyage into the previous works of other authors and researchers.

### 2.1. Conceptual Review

#### 2.1.1. Debt

Financial flexibility, credit rating and tax advantage of debt are the most important factors influencing the debt policy and evidence also supports that the level of interest rate and the share price are important considerations in selecting the timing of the debt (Salawu, 2009). According to Ugwu, Obasuyi and Mbah (2019), the external factors, which are outside the control of the firms, can be classified into political/legal, social, economic and technological, while the internal factors are within the control of the firms and include the determinants of capital structure i.e. size, growth, profitability, tangibility and age. Scapens (1983) in the study “The gearing adjustment: An economic profit perspective” asserts that the intention of the gearing adjustment is to indicate the cost or benefit to shareholders in terms of financing a proportion of net assets through borrowing. The Guidance Notes accompanying (Statement of Standards Accounting Practice) SSAP 16 describes the rationale for this adjustment as follows: "Where such borrowing is fixed in monetary amount, any liability to repay remains unaltered, even when price changes affect the operating assets of the business financed by it i.e. If prices rise, the value to the business of assets exceeds the borrowing that has financed them.

Although the International Financial Reporting Standards (IFRS) is an update of SSAP 16. Scapens (2013) in latter study established that the economic model used in earlier papers implicitly assumed that all operating assets were financed by equity, but in practice many companies use a

combination of debt and equity finance. He posits that a simple modification of the economic model will engender the possibility of using debt finance and that in order to concentrate on the gearing adjustment, other complexities will be avoided. The business is assumed to produce a single output,  $Q$ , utilizing only labour  $L$ , and capital assets,  $K$ . The relevant prices are  $p$ ,  $w$  and  $q$  respectively. The price of capital assets is the same for both acquisitions and disposals, and no adjustment expense was incurred.

### 2.1.2. Equity

Equity enables the firm to obtain funds without incurring debt which means that the fund obtained through equity do not have to be repaid at a particular time and the investors purchase shares in the firm and hope to reclaim their investment out of future profits (Ugwu, Obasuyi & Mbah, 2019). Earnings per share dilution is the most important concern in issuing equity and evidence also supports that the level of interest rate and the share price are important considerations in selecting the timing of the equity issues (Salawu, 2009).

According to Babarinde and Ajibike (2013), equity holders are the providers of the company's risk capital as they stand to lose the most in the event of the company's collapse. The work stressed further that the use of ordinary shares does not put the financial resources of the firm under pressure as the firm does not have to worry about an impending redemption date of the instrument. Equity element in the capital structure has the tendency of engendering the firm's creditworthiness where their weight in the capital structure is higher than the debt. Equity have nominal or face value and the memorandum and articles of association of a company specifies the number of authorized equity a company can issue

Equity holders could take the form preferred holders and deferred or founders' equity holders. Preferred ordinary shares receive a fixed rate of dividend before the ordinary shareholders. They may also be entitled to a further share of profit after their fixed dividend ( Akinsulire, 2010). The researcher further underscores deferred ordinary shares as being the residual recipients after all claims including preferred ordinary shareholders have been settled.

### 2.1.3. Return on Capital Employed as a measure of performance

This is said to be a general measure of a firm's overall financial health over a given period of time and which can be used as basis for comparison between and among similar firms in the same industry ( Adegbe, Nwaobia, Ogundajo & Olunuga, 2020). According to Salawu (2017), Return on Capital Employed (ROCE) shows the efficiency of management in utilizing the resources placed at its disposal. It is a primary measure of profitability. (ROCE) is an accounting ratio that appears to be widely used by management and investors as a summary indicator of business success and while usually warning readers about its weakness and for such

purpose as accounting and financial statement analysis textbooks continue to include it in the financial analyst's battery of ratios ( Kwong, Munro, & Peasnell, 1995). The study was able to establish a significant relationship between ROCE and value added ratio of selected listed companies.

The criterion most commonly employed for assessing the financial performance of investment centres on the ROCE ( Glautier, Underdown & Morris, 2016). The work stressed extensively that ROCE is a comprehensive measure of financial performance which enables comparisons to be made between companies and divisions for the purpose of evaluating the efficiency with which assets are utilized. According to Adegbe, Nwaobia, Ogundajo and Olunuga (2020) financial performance implies general financial wellbeing of an organization over a given timeframe and the essence of assessing the financial health of an organization is often carried out to provide information to various organizational stakeholders. Inefficiencies in financial management practices result in poor financial performance and eventually lead to failure of Small and Medium-Sized Enterprises (Adegbe & Alawode, 2020).

One of the weaknesses of ROCE is that when comparing the performance of similar divisions it requires the measurement of income and capital employed which are free from accounting bias (Garcia, 2016). Another drawback is that in circumstance where factory building, production facilities, office, canteen and other facilities are shared by more than one division the challenge of surfaces of allocating the costs of these facilities and the value of the investment which they represent (Giles, 2016).

The major fallout of ROCE bothers on conceptual weakness that arises from the fact that different investments will have different ROCE percentages. Therefore if the ROCE for the whole organization is 20% some divisions will be above this while some will be below it. ROCE can be expressed in other form apart from the globally accepted standard of computation. Return on Net Assets = Profit Before Interest and Tax / Total Assets less Current Liabilities

Return on Shareholders' equity = Profit After Interest and Tax / Shareholders' equity

ROCE = Profit Before Interest and Tax / Capital Employed \* 100 / 1

Capital Employed could be expressed in the following ways:

- i. Share capital Only
- ii. Share Capital plus Reserves
- iii. Share Capital plus Reserves plus Long term loan
- iv. Share Capital plus Reserves plus Long term loan plus Current Liabilities

### 2.4. AGE

Onaolapo and Kajola (2010) in their study "capital structure and firm performance" investigated the impact of capital structure on firm's financial performance using sample of

thirty (30) non-financial firms listed on the Nigerian Stock Exchange during the seven year period 2001-2007. They also examined the relationship between firm size, age and performance and their result showed that there was a significant relationship between firm size, capital structure and firm's financial performance while there was no significant relationship between firm age and performance. Loderer and waelchli (2009) examined the relationship between age of firm and performance. Tobin's Q was used to assess performance and the result showed that getting older was related with lower profitability.

According to Memon, Chen and Samo (2019) in the study "Corporate Governance, Firm Age and Leverage: Empirical evidence from China, investigated the moderating effect of firm age on the association between corporate governance and leverage. The study provided findings that revealed statistically significant role in determining the leverage levels for concerns but that the positive effect of board commissions established on leverage decreases as the firm ages, Board size, board independence and supervisory boards influence the leverage levels for concerns.

### 2.5. Firm Size

Abor (2008) posits that lenders to larger firms were more likely to get repaid than lenders to smaller firms, reducing the agency cost associated with debt. Therefore, larger firms will have higher debts. Static Trade Off theory expects a positive signal from this variable (Onalapo, Kajola, & Nwidobie, 2015). In the Literature most of the scholars found that a positive relationship between firm's size and firm's profitability (Dogan, 2013). Dalbor and Upnega (2002) found a positive relationship between size and debt for publicly traded company.

According to Bjuggren, Eklund and Wiberg (2016) in their study "Institutional Ownership and Performance of Publicly Listed Companies" posited that as a product of their size, institutions may have the possibility of exercising greater control over companies in which they invest. The study hypothesizes that institutional investors use the influence that comes with ownership shares in a value-increasing manner and three hypotheses were formulated. The study concluded that all foreign investors were assumed to be institutional owners as many are known to be financial institutions.

## 2.2. Theoretical Review

Theory is a body of principle arguments or facts about the state of reality or nature for which further proof is required but appears plausible or researchable

### 2.2.1. Pecking order theory

Pecking order theory was developed by Myers (1994). It states that organizations prioritize their sources of financing according to the law of least effort or of least resistance preferring to raise equity as a financing means "of last resort". To this end internal funds are used first and when that is fully

utilized, debt is issued and when it is not sensible to issue any more debt, equity is issued. This theory maintains that businesses adhere to a hierarchy of financing sources and prefer internal financing when available and debt is preferred over equity if external financing is required.

The Pecking Order Theory (POT) propounded by Myers (1984) and Myers and Majluf (1984) admit that firms follow a hierarchy of financial decisions when establishing its capital structure. Initially, firms prefer internal financing and if this is not sufficient they then go for external financing. The sequence of external financing will be the issuing of debt and convertible debt, before opting for issuing equity shares. The POT holds that firms that are more lucrative are naturally less indebted since they can finance their new capital projects without the need to issue debt or equity. The reluctance in issuing new equity apart from the transactional cost involved, according to Myers and Majluf (1984) is due to asymmetric information between the management and the new shareholders

The relevance of pecking order theory to this work is that the proportion of debt to equity cum capital structure that organizations should adopt will not pose a threat to the going concern concept of such concern but rather it would enable firms to prioritize whether more of borrowings to equity should be employed to run the business or to have more equity holders than debt to run the business. The business may also decide on equal proportion of debt and equity that will be to the betterment of all stakeholders.

### 2.2.2. Agency Theory

Ross and Mitnick (1970) propounded the agency theory. According to this theory, a reputable auditor (an auditor who is perceived to meet expectations) is appointed not only in the interest of third parties, but also in the interest of management. Some form of contract exists between several groups in a company who make some kind of contributions to the company, given a certain price. Company management tries to get these contributions under optimum conditions for management: low interest rates from lenders, high share prices for investors and low wages for employees.

In these relationships, management is the agent while the contributors (lenders, shareholders and employees) are principals. This agency relationship has costs which include monitoring costs (costs of monitoring the agent), bonding costs (costs of insuring that the agents will not take adverse actions against the principals) and residual loss (effective loss that results despite the monitoring and bonding costs incurred).

Complexities arise in the agency relationship, major among which is the fact that management has more information about the company than the principals (information asymmetry). However, management ultimately depends on the principals for the financial structuring of the business that management supervises. So, they need the approval of the principals. This



therefore creates an incentive for both managers and outside investors to engage the audit market (auditors).

The agency theory is also used to explain the supply side of the audit market. Where the auditors fail to meet the expectation of the principals (especially in detecting and reporting irregularities and errors, even against the wish of the auditee), he suffers reputation damage/loss which may lead to a decline in their market share. The capital structure will to the best of our knowledge go a long way in reducing agency losses or cost because if we consider equity ownership as a case study and their interest in the firm, they would strive to ascertain the liquidity, buoyancy and financial sustainability via total quality management, adherence to corporate governance and an uphold to ethics and professionalism.

### 2.3. Empirical Review

Many studies have been carried out on capital structure and performance. For instance Muradoglu, Bakke and Vernes (2005) in their study investigated the predictive ability of gearing in the long term of firms. Their study considered a long term investment strategy based on gearing ratios. The robustness of the output was tested for using frequently used proportions such as book to market, price earnings and size ratios. Firms may utilize the results by identifying the debt to equity proportion that would maximize shareholders value. Salawu, (2007) examined the considerable factors in deciding on the appropriate amount of equity and debt in the Nigerian banking industry and the factors influencing banks' capital structure, the work revealed that ownership structure and management control, growth and opportunity, profitability, issuing cost, and tax economics associated with debt are the major factors influencing bank's capital structure.

Pratheepkanth (2011) carried out an investigation on capital structure and financial performance of some selected companies on the Stock Exchange between 2005 – 2009. Capital structure was surrogated by debt while performance was proxy by gross profit, net profit, Return on Investment, Return on Capital Employed, and Return on Asset. The results showed that the relationship between capital and financial performance is negative. Ong and Teh (2011) investigated capital structure and performance of construction companies for a period of four years, 2005 – 2008 in Malaysia. Long term debt to capital, debt to capital, debt to asset, debt to equity market value, debt to common equity, long term debt to common were used as proxies and independent variables while return on capital, return on equity, earnings per share, operating profit margin were used to surrogate corporate performance. The output showed that there is relationship between capital structure and corporate performance.

Rio and Garry (2008) in their study "The impact of unsecured debt on financial pressure among British households" interrogated the factors which determine whether debt is considered a problem and whether the importance of those factors changes over time. Their focus was on problems with unsecured debt, consisting mainly of overdrafts, credit cards

and personal loans. While the majority of household debt in the UK is in the form of mortgages, the majority of debt problems are associated with unsecured debt, fundamentally because it not backed by an asset that can be sold or re-mortgaged when difficulties arise.

Rosario and Chavali, 2019, in the study investigated the financial data of 22 companies in hotel industry in India in order to establish the relationship between the capital employed and profitability, the analysis was done with the aid of descriptive statistics and correlation analysis, in order to establish the association among variables. It was observed that nearly 58% of the assets of the industry were funded by debt, indicating that the industry was not highly geared. The correlation analysis indicated positive relationship between debt variable and profit but slightly negative correlation among other variables

According to Enekwe, Nweze and Agu (2020) the issue of dividend payout is a very important matter in the current business environment and more especially on the performance evaluation of firms, the dividend payment decisions of firms are the primary element of any corporate policy which is basically the benefit of shareholders in return for investing their money in the organization. Al-malkawi, Rafferty and Pillai (2010) in their study on dividend policy provided readers with a comprehensive understanding of dividends and dividend policy by reviewing the main theories and explanations of dividend policy including dividend irrelevance hypothesis of Miller and Modigliani (1958), bird-in-the-hand, tax-preference, clientele effects, signaling and agency costs hypotheses. The study also presented the main empirical studies on corporate dividend policy. The paper concluded with the famous statement of Fisher Black about dividend policy in that "the harder we look at the dividends picture, the more it seems like a puzzle with pieces that just do not fit together"

They used attitudinal evidence from the British Household Panel Survey (BHPS) on the extent to which households consider unsecured debt to be a burden as a measure of financial pressure and use an ordered-logit approach to assess how this is affected by the amount of outstanding unsecured debt and other possible determinants. The study concluded by asserting that ordered-logit model of the probability of reporting debt problems suggests that the main determinant of debt problems is the unsecured debt income ratio. Other than the unsecured debt-income ratio, the most important factors affecting the likelihood of a household reporting debt to be somewhat of a burden in year 2000 are the level of mortgage income gearing, the level of financial wealth of the household, their health, ethnicity and marital status.

According to Salawu (2009), corporate studies in Nigeria have been clustered around estimation of corporate cost of capital (Akintola, Bello and Adedipe, 1983; Inanga, 1987 and Adelegan, 2001), determinants of dividend policy (Inanga,

1975.) and financing decision (Salami, 2000 and Adenikinju, 2001).

III. METHODOLOGY

This research design for this study was an *ex post facto* design considering that secondary source of data was explored. In line with Torabi, Eshraghi and Nagheti (2017), the *ex post facto* research design was adopted as it was found sufficient in achieving the research objectives of the study. The study exploited secondary data collected from the audited annual report and accounts of selected quoted companies sampled for the study and to examine relationships among the relevant variables of the study. The population comprised 170 listed companies on Nigerian Stock Exchange (NSE) as at December 2019. The sample consisted of 60 selected companies, using purposive sampling technique to cover various sectors.

Model Specification

Panel data adopted for this study propelled a more robust reportage than the time series and cross sectional data. Particularly we built our panel model before forging ahead to develop the panel dynamic OLS model as this took care of

infinitesimal sample bias and endogeneity bias that may be as a result of simultaneous causality or other related factors.

Model one

$$ROCE_{it} = \beta_0 + \beta_1 DBT_{it} + \mu_{it}$$

Where, ROCE = Return on Capital Employed, DBT=Debt

Model two

$$DG_{it} = \beta_0 + \beta_1 EQT_{it} + \mu_{it}$$

Where DG = Dividend Growth, EQT = Equity

Model three

$$CS_{it} = \beta_0 + \beta_1 DBT_{it} + \beta_2 EQT_{it} + \beta_3 AGE_{it} + \beta_4 FSZ_{it} + \mu_{it}$$

Where CS = Capital Structure

Age (AGE) = the number of years since the inception of the Firm to the observation date

Firm Size (FSZ) = Natural logarithm of total assets

IV. RESULTS AND DISCUSSION OF FINDINGS

Table 1: Descriptive Statistics for Dependent Variables

Var	N	Mean	Median	Sd	Min	Max	skewness	Kurtosis
Financial Sector								
ROCE	150	3.75	7.38	40.72	-394.30	122.70	-6.47	64.31
DG	150	13.75	0.00	105.60	-100.00	697.90	4.03	23.24
Non-Financial Sector								
ROCE	450	30.78	13.93	360.80	-870.00	7545.00	20.09	420.20
DG	450	97.80	0.00	1552.00	-100.00	32767.00	20.82	438.70
Full Sample								
ROCE	600	24.02	12.21	313.20	-870.00	7545.00	23.07	556.10
DG	600	76.79	0.00	1345.00	-100.00	32767.00	24.00	583.80

Note: ROCE= Return on capital employed, DG= Dividend Growth  
Source: Authors’ Computation, 2019

From the Table 1, the summary statistics of Return on Capital Employed (ROCE), Dividend Growth (DG), as the selected measures of performance for this study for financial, non-financial sectors and full sample are presented. According to the result in the Table 4.1.1, there are 150 observations for the financial sector and 450 observations for the non-financial sector and 600 observations for full sample. The results show that for financial sector, Return on Capital Employed (ROCE) ranges from -394.30 to 122.70 and for non-financial sector it ranges from -870 to 7545. In addition, the average Return on Capital Employed for financial service sector is 3.75 with a standard deviation of 40.72. For non-financial sector, the average value is 30.78 with a standard deviation of 360.80. These indicate that the average portions of the financial and non –financial firms’ return on capital invested are 3.75% and

30.78% respectively. The implication of these is that some firms were performing better than the other in terms of financial stability. A quick review of ROCE, Dividend Growth for full sample shows that they have mean ratios of 24.02%, 76.79% and 84.31% respectively. This implies that majority of the firms as per the full sample experience reasonable level of financial stability.

Furthermore, the Skeweness value of ROCE for the financial sector is -6.47 which depicts that the series is negatively skewed and not normally distributed (less than 0), similarly, the kurtosis value of 64.3101 implying that the series is leptokurtic and that the series is not normally distributed (greater than 3). However, this non-normality of the series can be safely ignored. Regarding the non-financial sector, The

Skewness value of ROCE is 20.09 which depicts that the series is positively skewed and not normally distributed (greater than 0), consolidating the non-normality of the Skewness result is the kurtosis value of 420.20 implying that the series is leptokurtic and that the series is not normally distributed (greater than 3). However, this non-normality of the series can be safely ignored as there is no adverse effect to the series.

Furthermore, on average; the Dividend Growth (DG) of financial sector hovers around -3.87 and 1.26 (This signals that dividend growth rate varies amongst selected firms) with a mean value of 13.75, median value of 0 and standard deviation of 105.60; this figures reflects asymmetry in firms divided growth, whereas that of non-financial sector ranges from -100 to 32767 with an average value of 97.80 and standard deviation of 1552. However, the Skewness value of

Dividend Growth (DG) for the financial sector is 4.03 which depicts that the series is positively skewed and not normally distributed (greater than 0), similarly, the kurtosis value of 23.24 implying that the series is leptokurtic and that the series is not normally distributed (greater than 3). Regarding the non-financial sector, The Skewness value of is 20.82 which depicts that the series is positively skewed and not normally distributed (greater than 0), the non-normality of the series is further confirmed by the kurtosis value of 438.70 implying that the series is leptokurtic and that the series is not normally distributed (greater than 3).

Focusing on the full sampled period, the average values of Return on Capital Employed (ROCE), Dividend Growth (DG), are 24.02 and 76.79. These means that firms; regardless of sector generated about 24.04% return from their capital employed and recorded 76.79% dividend growth,

Table 2: Descriptive Statistics for Independent Variables

Var	N	Mean	Median	Sd	Min	max	skewness	Kurtosis
Financial Sector								
DT	150	17.45	16.44	2.71	13.02	22.24	0.48	1.78
EQ	150	96316.00	7847.00	165070.00	-45838.00	678192.00	1.76	5.02
Non-Financial Sector								
DT	450	15.89	16.00	1.84	10.26	19.86	-0.32	2.91
EQ	450	17170.00	5608.00	30756.00	-9694.00	248953.00	3.60	19.37
Full Sample								
DT	600	16.28	16.07	2.19	10.26	22.24	0.44	3.44
EQ	600	36957.00	6491.00	93077.00	-45838.00	678192.00	4.04	20.58

Note: Researcher’s computation (2018). CS = Capital Structure DT=Debt, EQ=Equity  
Source: Authors’ Computation, 2019

Table 2 showed the summary statistics of Debt (DT), Equity (EQ). The mean value of the Debt (DT) for financial sector hovers around 13.02 and 22.24 (This signals that Debt rate varies amongst selected firms financial sector varies to a sense) with a mean value of 17.45, median value of 16.44 and standard deviation of 2.71; this figures reflects asymmetry in firms financial sector’s Debt ratio, whereas that of non-financial sector ranges from 10.26 to 19.86 with an average value of 15.89 and standard deviation of 1.84. However, the Skewness value of Debt (DT) for the financial sector is 0.48 which depicts that the series is positively skewed and not normally distributed (approximately greater than 0), similarly, the kurtosis value of 1.78 implying that the series is platykurtic and that the series is not normally distributed (less than 3). Regarding the non-financial sector, The Skewness value of is -0.32 which depicts that the series is normally distributed (approximately 0), the normality of the series is further confirmed by the kurtosis value of 2.91 implying that the series is mesokurtic (approximately 3).

Equity (EQ) ranges from -45838 to 678192 for financial service sectors with an average value of 96316, a median and

standard deviation value of 7847 and 165070 respectively. Similarly, the Equity (EQ) of non – financial sector takes values between -9694 and 678192 with an average value of 17170 with median and standard deviation of 5608 and 30756 respectively. Be that as it may, the Skewness value of Equity (EQ) for the financial sector is 1.76 which depicts that the series is positively skewed and not normally distributed (approximately greater than 0), similarly, the kurtosis value of 5.02; implying that the series is that the series is leptokurtic. That is, the series is not normally distributed (approximately greater than 3). However, this non-normality of the series can be safely ignored. For the non-financial sector, the Skewness value is 3.60 which depicts that the series is positively skewed and not normally distributed (greater than 0), the kurtosis test equally reveals the series as not normally distributed with the kurtosis value of 19.37 implying that the series is leptokurtic (greater than 3). Focusing on the full sampled period, the average values of Debt (DT) and Equity (EQ) are 16.28 and 36957.00 respectively.

Table 3. Descriptive Statistics for Control Variable

Var	N	Mean	Median	Sd	Min	Max	Skewness	Kurtosis
Financial Sector								
FZ	150	17.98	16.92	2.37	13.79	22.38	0.62	1.87
FA	150	39.50	42.00	14.33	13.00	72.00	0.06	2.19
Non-Financial Sector								
FZ	450	16.49	16.42	1.71	11.33	20.17	-0.32	3.01
FA	450	48.92	50.00	17.47	3.00	94.00	-0.07	3.41
Full Sample								
FZ	600	16.86	16.56	2.00	11.33	22.38	0.43	3.59
FA	600	46.57	48.00	17.22	3.00	94.00	0.04	3.19

Note: F Z= Firm Size, FA=Firm Age  
 Source: Authors’ Computation, 2019

From the Table 3, the summary statistics of Returns for Firm Size (FZ) and Firm Age (FA) for this study for financial, non-financial sectors and full sample are presented. The average value of the Firms’ Size (FZ) for financial sector is 17.98 with the minimum and maximum values of 13.79 and 22.38 respectively. Nevertheless, going by standard deviation value of 2.37 and the median value of 16.92, it is can be inferred that there is no intense disparity between the sizes of the financial sectors. As for the non-financial sector, average value is at 16.49 with the minimum and maximum values of 11.33 and 20.17, median and standard deviation value of 16.42 and 1.71 respectively. Furthermore, the Skeweness value of the series for the financial sector is 0.62. This depicts that the series is positively skewed and that it is not normal distributed (approximately greater than 0). The Kurtosis value is 1.87 implying that the series is platykurtic and that the series is not normally distributed (less than 3). Conversely, the Skeweness value of the series for the non-financial sector is -0.32. This depicts that the series is positively normally distributed (approximately equal to 0). The Kurtosis value is

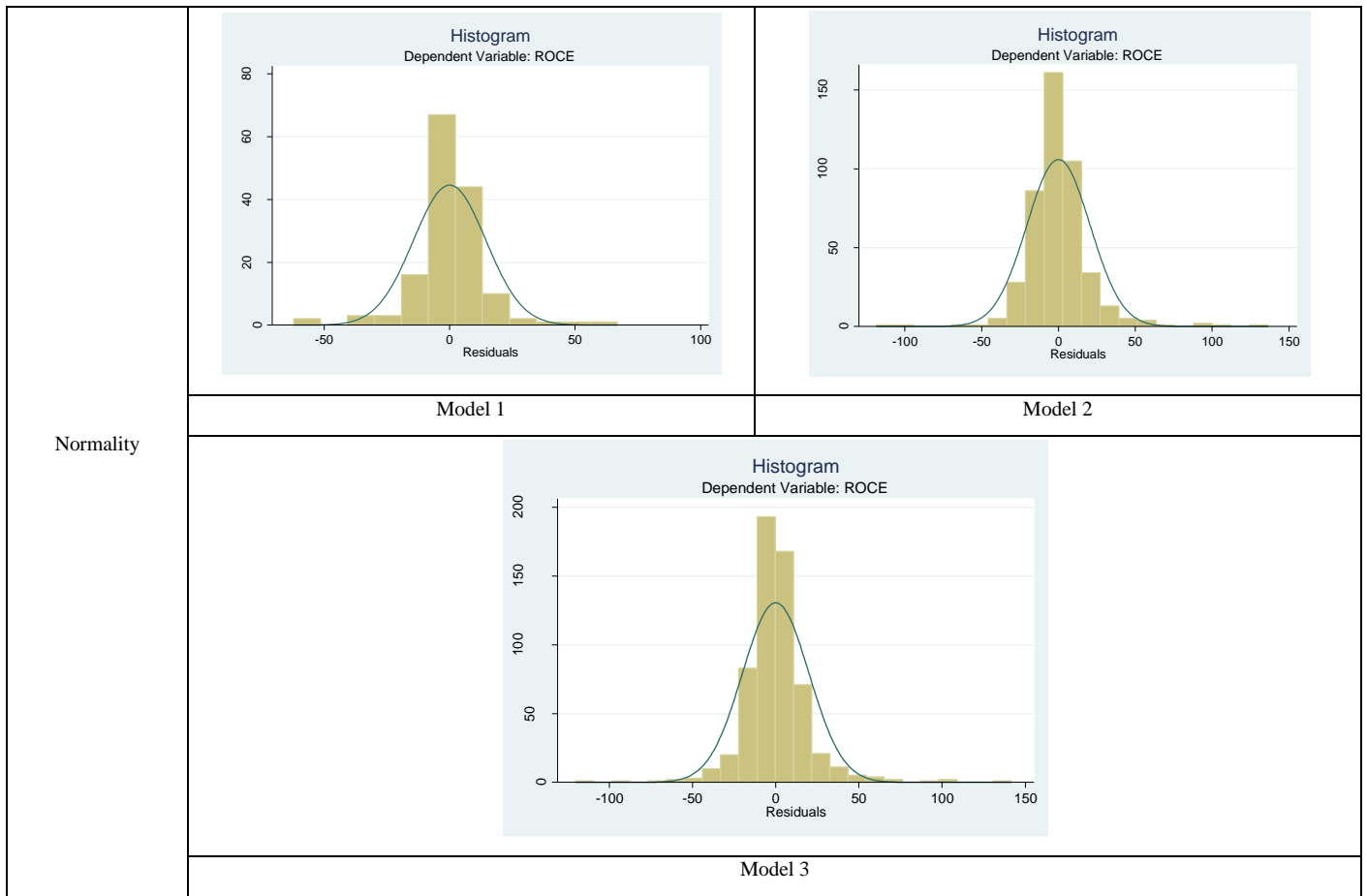
3.59 implying that the series is leptokurtic and that the series is not normally distributed (approximately greater than 3)

Moving to firms' age (FA), the results show that ages firms under financial sector ranges around 13 and 72 years with a mean value of 40 years whereas that of non-financial sector ranges from 3 to 94 years with an average value of approximately 49 years. These mean that the average age of the selected firms under financial and non-financial sectors are approximately 40 and 49 years respectively. Furthermore, the Skeweness value of firms' age (FA) for the financial sector is 0.06 which depicts that the series is normally distributed (approximately equal to 0), the kurtosis value of 2.19 implies that the series is platykurtic and that the series is not normally distributed (less than 3). Regarding the non-financial sector, The Skeweness value of is -0.07 which depicts that the series is normally distributed (approximately 0), while the kurtosis value of 3.41 implies that the series is mesokurtic (approximately 3). The full sampled period for the control variable reveals that the average values of Firm Size (FZ) and Firm Age (FA) are 16.86 and 46.57 respectively

Table 4: Heteroskedasticity and Normality Tests for Debt and Return on Capital Employed Models

Test	Model	Breusch-Pagan / Cook-Weisberg test	
		Chi2	P – Value
Heteroskedasticity	Model 1	39.46	0.0000
	Model 2	35.45	0.0000
	Model 3	48.66	0.0000





Source: Author’s Computation, underlying data from annual reports of firms listed on NSE

**Diagnostics**

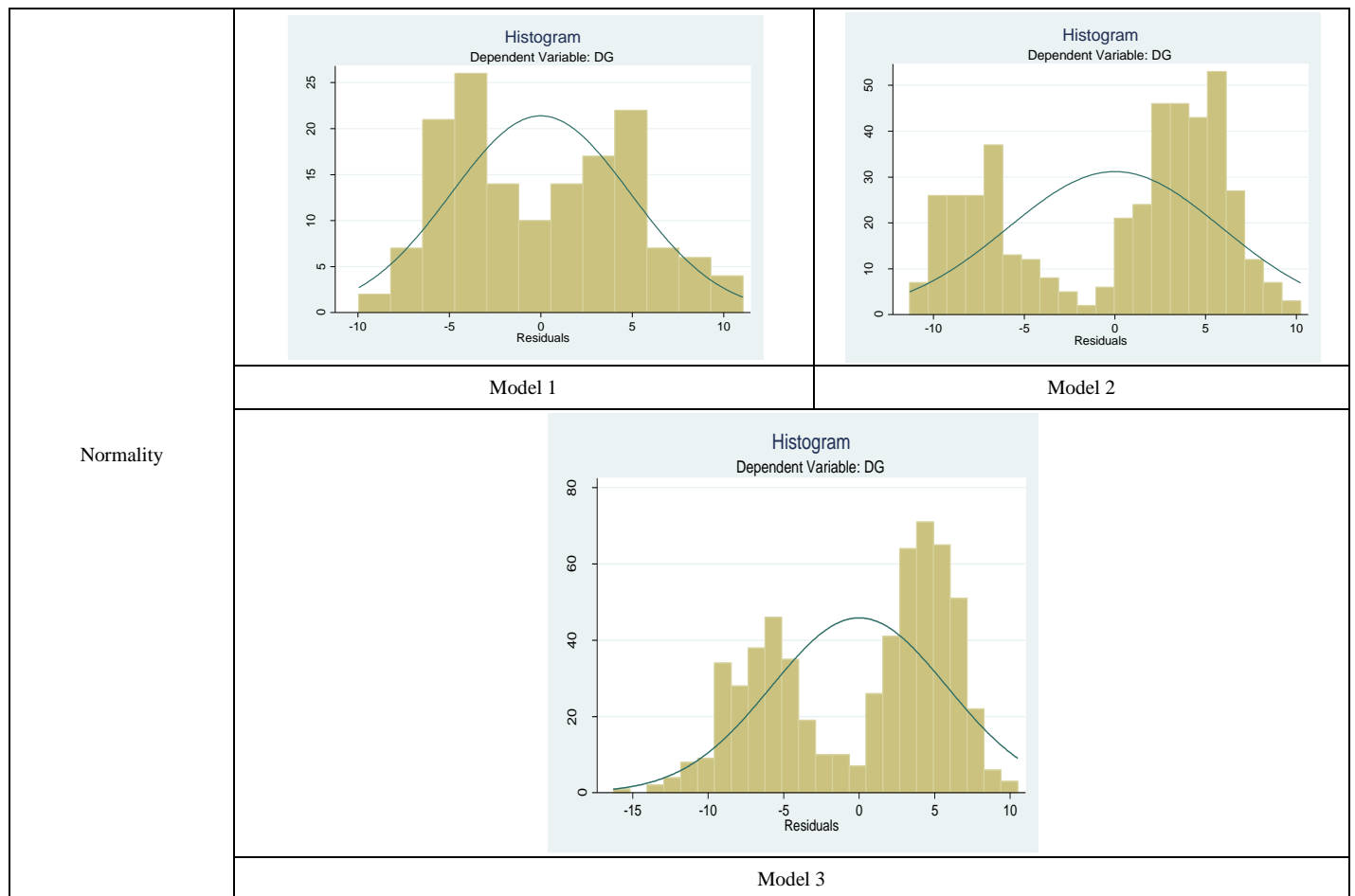
*Heteroskedasticity and Normality Tests for Debt and Return on Capital Employed Models*

Table 4 reveals the results of the *Heteroskedasticity* and *Normality Tests* for Capital Structure and Return on Capital Employed Models presented in Table 4.6.3 the Breusch-Pagan test result values of 39.46 ( $p = 0.000$ ), 35.45 ( $p = 0.000$ ) and 48.66 ( $p = 0.000$ ) for models 1, 2 and 3

respectively failed to accept the null hypothesis of equal variance. Thus the study concludes that the models suffer from heteroskedasticity problem. As a result of this, panel robust standard error was employed to control for heteroscedasticity. In addition, the result of the normality tests on the residual of the model shows that the residual of the model seems to be approximately normal. This is because the shape of the histogram follows the shape of a typical normal distribution curve.

Table 5: Heteroskedasticity and Normality Tests for Equity and Dividend Growth

Test	Model	Breusch-Pagan / Cook-Weisberg test	
		Chi2	P – Value
Heteroskedasticity	Model 1	1.16	0.2821
	Model 2	0.08	0.7825
	Model 3	4.55	0.0329



Source: Author’s Computation, underlying data from annual reports of firms listed on NSE

*Diagnostics*

*Heteroskedasticity and Normality Tests for Equity and Dividend Growth Models*

Table 5 shows the Breusch–Pagan/Cook–Wesberg test that is used to assess the variance in the error terms (residuals) of the regression models that involve Capital Structure, Dividend Growth Models indicators, and others explanatory variables are presented in Table 5. Given the Breusch-Pagan test values of 1.16 (p = 0.2821), 0.08 (p = 0.7825) and 4.55 (p = 0.0329) for models 1, 2 and 3 respectively, the study concludes that the models do not suffer from heteroskedasticity problem. However, the histograms show that the residuals of the models do not appear to meet the assumptions of normality since the shapes of histograms are not closer to the shape of the normal curve. Since lack of a normal distribution in the residuals does not affect coefficients or standard error of estimate as argued by various authors the non-normality of the residuals are ignored.

*Result of the Panel Regression Analysis*

This section discusses the panel regression results for the Fixed Effect, Random Effect, Normality and Heteroscedasticity estimation models for each for each of the models for the period spanning 2008 to 2017. The essence of the Hausman test is to ascertain the model that is more preferable. If the Hausman test is significant the study will adopt the Fixed Effect but where the Hausman test is not significant this study will make use of random effect model.

*Test of Hypothesis One (H0<sub>1</sub>)*

Research Objective 1: Evaluate the effect of Debt on Return on Capital Employed (ROCE) of selected listed companies in Nigeria

Research Question 1: How does Debt affect Return on Capital Employed of selected listed companies in Nigeria?

Research Hypothesis 1: Debt does not have significant effect on Return on Capital Employed of selected listed companies in Nigeria?

Regression Estimate for Objective 1: Table 6

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	POOLED	REM	FEM	POOLED	REM	FEM	POOLED	REM	FEM
DT	-23.3792*** (8.8683)	-16.9864 (15.1835)	-14.4958 (15.0675)	-24.0978*** (4.1833)	-23.7993*** (5.8572)	-23.5485*** (6.2727)	-22.9364*** (3.4509)	-20.6941*** (5.2036)	-19.2670*** (5.4611)
EQ_	-0.0223 (0.0143)	-0.0073 (0.0123)	0.0004 (0.0198)	0.0627* (0.0331)	0.0141 (0.0588)	0.0003 (0.0643)	0.0080 (0.0066)	0.0060 (0.0088)	0.0132 (0.0119)
FZ	26.5911** (10.2612)	19.0336 (17.0179)	13.4542 (22.4395)	23.4388*** (4.6507)	22.8501*** (6.3928)	25.4071*** (8.1253)	23.0098*** (3.7718)	20.6097*** (5.6139)	21.7692*** (7.2114)
FA	0.0994 (0.0909)	0.1057 (0.1288)	0.3117 (1.1612)	-0.1569*** (0.0593)	-0.3243*** (0.1221)	-1.1113** (0.4732)	-0.0686 (0.0498)	-0.1844* (0.1039)	-0.9715** (0.4689)
Constant	-62.9517** (30.1951)	-44.9410 (43.0883)	-0.2364 (182.1849)	12.3095 (14.2236)	27.8978 (22.9716)	21.7230 (60.9397)	-2.6591 (10.9908)	5.8903 (20.2897)	-1.3872 (62.0508)
Observations	150	150	150	450	450	450	600	600	600
R-squared	0.199	0.102	0.110	0.237	0.160	0.1711	0.2014	0.117	0.1286
F-test	1.712		9.788	16.10		6.813	12.18		3.268
Prob > F	0.111		0.000	0.000		0.000	0.000		0.005
Wald-chi2		30.76			48.13			27.75	
Prob > chi2		0.000			0.000			0.000	
LM		33.23 [0.000]			327.46 [0.000]			444.61 [0.000]	
Hausman		6.77 [0.453]			9.69 [0.207]			11.60 0.1144	

Dependent variable is the Return on Capital Employed (ROCE). Explanatory variables are; Debt (DT), Equity (EQ)  
Source: Author's Computation, 2019

### Interpretation of Result

Table 6 shows that Random effect model is appropriate in panels 1, 2 and 3 of Table 4.6.2. Specifically, the LM and Hausman test statistics in the lower portion of the Table 6 which are 33.23 ( $p = 0.000$ ) and 6.77 ( $p = 0.453$ ), 327.46 ( $p=0.000$ ) and 9.69 ( $p=0.207$ ) and 444.61 ( $p=0.000$ ) and 11.60 ( $p=0.114$ ) for panel 1, 2 and 3 respectively show preference for Random effect model. These confirm the applicability of Random effect model used in this study. This is because  $p$ -value is greater than 0.05 as evident in the result. To investigate and identify the effect of other variables on the ROCE for the financial, non-financial and the full sample, we estimate three models. The first model examines the relationship between ROCE and the selected explanatory variables for the financial sector, the second model examines the relationship between ROCE and other variables for the non-financial sector and the third model examines the relationship between the ROCE and other explanatory variables for the full sample. These mean that ROCE is the dependent variable in Models 1, 2 and 3 whereas Debt (DT), Equity (EQ), Firm Size (FZ) and Firm Age (FA) are the explanatory variables.

Interpreting the selected Random effect models in the Columns (2), (5) and (8) of the Table 4.5. The Wald-Chi2-statistics values of 30.76 ( $p = 0.000$ ), 48.13 ( $p=0.000$ ) and 27.75 ( $p=0.000$ ) indicate that the DT indicator and other explanatory variables are jointly statistically significant in explaining variations in ROCE. Also, the R-squared values of 0.102, 0.160 and 0.117 indicate that the Debt (DT) and other explanatory variables jointly explain about 10.2%, 16% and 11.7% of change in ROCE.

The result of the regression analysis shows that Debt (DT) exhibit a negative and statistically insignificant relationship with a coefficient of -16.9864 within 1% and 10% conventional level of significance for the financial as in column (2). This indicates that DT is not enough to explain the changes in the ROCE as at the time of this study. Also, DT in the non-financial as in column (5) is negative and statistically significant at 1% alpha level with coefficient of -23.7993 and in the full sample, it is also negative and statistically significant at 1% alpha level with coefficient of -20.6941 which jointly implies for column (5) and (8) that a unit change in DT will reduce ROCE by 23.7993 and 20.6941 respectively for the non-financial sector and full sample.

In the Equity (EQ), it is seen to be negative and statistically insignificant within 1% and 10% conventional alpha level for column (2) and positively insignificant for column (5) and (9) with coefficient of -0.0073, 0.0141 and 0.0060 respectively. This implies that a unit change in the Equity (EQ) will not affect ROCE as at the time of this study.

In the variable FZ, it is seen that there is a positive and statistically insignificant relationship between the explanatory variable FZ and the dependent variable ROCE within 1% and 10% conventional alpha level with a coefficient of 19.0336. This implies that FZ cannot explain the changes that occur in the ROCE as at the time of this study for the financial sector. In disagreement to the financial sector, FZ shows a positive and statistically significant relationship with the ROCE at 1% level of significance with coefficient of 22.8501 and 20.6097 respectively for the non-financial sector and full sample. This jointly implies that a unit change in the FZ will cause ROCE to increase by 22.8501 and 20.6097 respectively across the two panels (non-financial sector and full sample).

A positive and statistically insignificant relationship is shown

between the variable FA and ROCE for the financial sector within 1% and 10% alpha level with a coefficient of 0.1057. This infers that Firm Age (FA) doesn't affect or cause a change in the ROCE for the financial sector. In contrary to that, FA shows a negative and statistically significant relationship with the ROCE at 1% and 10% alpha level with coefficient of -0.3243 and -0.1844 respectively for the non-financial sector and full sample. These mean that a unit change in the FA will cause the ROCE to reduce by 0.3243 and 0.1844 for the non-financial and the full sample respectively.

*Test of Hypothesis Two (H0<sub>2</sub>)*

Research Objective 2: To investigate the impact of Equity on Dividend Growth of selected listed companies in Nigeria

Research Question 2: What is the impact of Equity on Dividend Growth of selected listed companies in Nigeria?

Research Hypothesis 2: There is no significant impact of Equity on Dividend Growth of selected listed Companies in Nigeria

Regression Estimate for Objective 2; Table 7

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	POOLED	REM	FEM	POOLED	REM	FEM	POOLED	REM	FEM
DT	-7.1945*** (1.4621)	-4.0058* (2.3524)	-2.8541 (2.7089)	-2.2266*** (0.7509)	-1.9352** (0.8996)	-2.0197** (0.9725)	-1.8470*** (0.5966)	-1.3878* (0.7718)	-1.2858 (0.8987)
EQ	0.0073 (0.0046)	0.0030 (0.0054)	0.0054 (0.0070)	-0.0128 (0.0177)	-0.0276 (0.0323)	-0.0213 (0.0335)	0.0172*** (0.0034)	0.0083 (0.0054)	0.0098 (0.0064)
FZ	9.6081*** (1.8511)	6.0877** (2.8478)	4.7596 (3.2880)	2.8140*** (0.8651)	1.5610 (0.9799)	1.3742 (1.4523)	2.1139*** (0.6668)	1.2233 (0.7745)	0.6210 (1.2183)
FA	-0.0564** (0.0261)	-0.1027 (0.0744)	-0.2956 (0.4394)	-0.0002 (0.0200)	-0.1134** (0.0447)	-0.4012** (0.1512)	-0.0047 (0.0162)	-0.1115*** (0.0417)	-0.3638** (0.1382)
Constant	-37.8364*** (9.2970)	-28.1349* (14.3934)	-17.9514 (30.2184)	-0.3355 (4.6049)	20.0178** (9.3842)	38.3025** (17.1651)	3.8777 (3.3902)	15.2364** (6.7159)	34.5096** (14.5528)
Observations	150	150	150	450	450	450	600	600	600
R-squared	0.527	0.066	0.075	0.124	0.125	0.166	0.189	0.061	0.108
F-test	44.56		0.984	13.70		2.565	29.06		2.638
Prob > F	0.000		0.480	0.000		0.026	0.000		0.019
Wald-chi2		153.7			19.22			23.61	
Prob > chi2		0.000			0.008			0.001	
LM [P – value]		69.75 [0.000]			566.73 [0.000]			693.33 [0.000]	
Hausman [P – value]		5.32 [0.622]			54.32 [0.000]			60.33 [0.000]	

Dependent variable is the Dividend Growth (DG). Explanatory variables are; Debt (DT), Equity (EQ), Firm Size (FZ), Firm Age (FA)  
Source: Author's Computation, 2019

*Interpretation of Result*

Table 7 observed that Random, Fixed and Fixed effects models are appropriate in panel 1, 2 and 3 of Table 4.7.1



respectively. Specifically, the LM and Hausman test statistics in the lower portion of the Table 4.7.1 which are 69.75 (p = 0.000) and 5.32 (p = 0.622), 566.73 (p=0.000) and 54.32 (p=0.000) and 693.33 (p=0.000) and 60.33 (p=0.000) for panel 1, 2 and 3 respectively show preference for Random, Fixed and Fixed effect models. These confirm the applicability of the Random, Fixed and Fixed effect models used in this study. To investigate and identify the effect of other variables on the Dividend Growth (DG) for the financial, non-financial sectors and the full sample, we estimate three models. The first *model* examines the relationship between Dividend Growth (DG) and the selected explanatory variables for the financial sector, the second model examines the relationship between DG and other variables for the non-financial sector and the third model examines the relationship between the DG and selected explanatory variables for the full sample. These mean that Dividend Growth (DG) is the dependent variable in Models 1, 2 and 3 whereas Debt (DT), Equity (EQ), Firm Size (FZ) and Firm Age (FA) are the explanatory variables.

Read between the lines the selected Random, Fixed and Fixed effect models in the Columns (2), (6) and (9) of the Table 9. The Wald-Chi2-statistics values of 153.7 (p = 0.000), 19.22 (p=0.008) and 23.61 (p=0.001) indicate that the DT indicator and other explanatory variables are jointly statistically significant in explaining variations in Dividend Growth (DG). Also, the R-squared values of 0.066, 0.166 and 0.108 indicate that the Debt (DT) and other explanatory variables jointly explain about 6.6%, 16.6% and 10.8% of change in Dividend Growth (DG).

The result from the regression analysis shows that DT is negative and statistically significant in relationship with the DG at 10% and 5% level of significance with coefficient of -4.0058 and -2.0197 respectively for the financial and non-financial sectors. This means that a unit change in the DT will cause DG to reduce 4.0058 and 2.0197 respectively for the panel 1 and 2. In contrary, DT shows a negative and statistically insignificant relationship with DG with coefficient of -1.2858 within 1% and 10% conventional alpha level which implies that DT cannot explain for changes that occur in the DG for the full sample.

In the variable EQ, there exists a positive and statistically insignificant relationship with the DG except the non-financial

that is negative with coefficient of - 0.0213 and financial and full sample having 0.0030 and 0.0098 respectively. This implies that EQ doesn't affect DG across the sectors as at the time of this study.

In the inference of the variable FZ, there exists a positive and statistically significant relationship with the DG at 5% level of significance with coefficient of 6.0877 for the financial sector. This means that Firm Size can explain for 6.0877 increases in the Dividend Growth (DG) for the financial sector. In opposition to the financial sector, the non-financial sector and full sample shows a positive and statistically not significant relationship with the dependent variable DG within 1% and 10% conventional alpha level with coefficients of 1.3742 and 0.6210 respectively. These mean that an increase in the FZ for the non-financial sector and full sample will not cause a change in the dependent variable DG as at the time of this study.

In the variable FA, there is a negative and statistically insignificant relationship with the DG for the financial sector within 1% and 10% conventional alpha level with coefficients of -0.1027. This infers that a unit change in the FA will not cause a change in the DG as at the time of this study for the financial sector. Furthermore, FA shows a contrary interpretation for the non-financial sector and full sample. It reveals a negative and statistically significant relationship with the DG at 5% alpha level with coefficients of -0.4012 and -0.3638 respectively for the two panels. These jointly imply that a unit change in the FA will cause DG to decrease by 0.4012 and 0.3638 respectively for the non-financial and the full sample.

*Test of Hypothesis Six (H0<sub>3</sub>)*

Research Objective 3: evaluate the moderating effect of Age and Firm size on the relationship between capital structure and performance

Research Question 3: What is the moderating effect of Age and Firm size on the relationship between capital structure and performance?

Research Hypothesis 6: Age and Firm size do not have significant moderating effect on the relationship between capital structure and performance

Regression Estimate for Objective 3: Table 8

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	POOLED	REM	FEM	POOLED	REM	FEM	POOLED	REM	FEM
DT	-1.2031 (1.4856)	-1.2004 (1.7054)	-4.0169 (2.6375)	-1.5720** (0.6472)	-1.6728** (0.8180)	-2.3898** (1.1306)	-2.2517*** (0.5127)	-1.7898*** (0.6849)	-3.0464*** (1.0373)
EQ_	-0.1019*** (0.0110)	-0.1015*** (0.0126)	-0.1058*** (0.0150)	-0.1083*** (0.0159)	-0.0984*** (0.0201)	-0.0787*** (0.0258)	-0.1137*** (0.0061)	-0.1106*** (0.0080)	-0.1079*** (0.0102)

FZ	-0.2164 (2.3110)	-1.2072 (2.3505)	-1.7008 (2.5410)	2.2397*** (0.6347)	2.0141** (0.8317)	-0.6647 (1.4576)	2.6636*** (0.5431)	1.7748** (0.7813)	-0.9966 (1.2324)
FA	-0.2917*** (0.0683)	-0.3179* (0.1731)	0.1559 (0.5782)	-0.0330 (0.0243)	-0.0321 (0.0397)	0.3551** (0.1669)	-0.0797*** (0.0239)	-0.0816* (0.0436)	0.3283** (0.1631)
Constant	33.8068* (19.4050)	52.3297** (22.8273)	91.3094*** (34.5252)	-8.0164* (4.6897)	-5.3086 (7.1452)	26.3737 (20.6727)	-2.4206 (4.5199)	3.0159 (7.3760)	48.2581*** (16.5744)
Observations	150	150	150	450	450	450	600	600	600
R-Squared	0.763	0.473	0.479	0.140	0.082	0.116	0.608	0.250	0.270
Adj. R-Squared	0.752		0.394	0.127		0.004	0.604		0.180
F-Test	65.40		16.84	10.31		7.572	131.3		28.18
Prob > F	0.00		0.000	0.000		0.000	0.000		0.000
Wald-Chi2		30.76			48.13			27.75	
Prob > Chi2		0.000			0.000			0.000	
LM		93.54 [0.000]			54.08 [0.000]			204.36 [0.000]	
Hausman		18.76 [0.447]			24.31 [0.001]			20.81 0.004	

Dependent variable is the Performance (P). Explanatory variables are; Debt (DT), Equity (EQ), Firm Size (FZ), Firm Age (FA)  
Source: Author’s Computation, 2019

*Interpretation of Results*

Table 8 shows that Random, Fixed and Random effect models are appropriate in panels 1, 2 and 3 respectively of Table 8. Specifically, the LM and Hausman test statistics in the lower portion of the Table 8 which are 93.54 (p = 0.000) and 18.76 (p = 0.447), 54.08 (p=0.000) and 24.31 (p=0.001) and 204.36 (p=0.000) and 20.81 (p=0.004) for panel 1, 2 and 3 respectively show preference for Random, Fixed and Random effect model. These confirm the applicability of the Random, fixed and Random effect model used in this study. To investigate and identify the effect of other variables on the Performance (P) for the financial, non-financial and the full sample, the study estimated three models. The first model examines the relationship between Performance (P) and the selected explanatory variables for the financial sector, the second model examines the relationship between P and other variables for the non-financial sector and the third model examines the relationship between the P and other explanatory variables for the full sample. This means that Performance (P) is the dependent variable in Models 1, 2 and 3 whereas Debt (DT), Equity (EQ), Firm Size (FZ) and Firm Age (FA) are the explanatory variables.

Interpreting the selected Random, Fixed and Random effect models in the Columns (2), (6) and (8) of the Table 4.11.1. The Wald-Chi2-statistics values of 30.76 (p = 0.000), 48.13 (p=0.000) and 27.75 (p=0.000) indicate that the DT indicator and other explanatory variables are jointly statistically significant in explaining variations in Performance (P). Also, the R-squared values of 0.473, 0.116 and 0.250 indicate that the Debt (DT) and other explanatory variables jointly explain

about 47.3%, 11.6% and 25.0% of change in performance.

The inference from the result shows that Debt (DT) exhibit a negative and statistically insignificant relationship with a coefficient of -1.2004 at 1% and 10% conventional level of significance for the financial as in column (2). This indicates that DT is not enough to explain the changes in the Performance (P) as at the time of this study. Also, DT in the non-financial as in column (6) is negative and statistically significant at 5% alpha level with coefficient of -2.3898 and in the full sample, it is negative and statistically significant at 1% alpha level with coefficient of -3.0464 which jointly implies for column (6) and (8) that a unit change in DT will reduce P by 2.3898 and 3.0464 respectively for the non-financial sectors and full sample.

In the variable FZ, it is seen that the variable is negative and statistically insignificant for the model 1 (financial sector) with the coefficient -1.2072 which implies that Firm Size is not responsible for any changes that occurs in the P for the financial sector. Consequently, FZ is found to be positive and statistically significant with coefficient of 94.1979 and 102.1144 at 5% and 1% alpha level respectively. This implies that a unit change in the FZ for the non-financial sector and full sample will cause P to increase by -0.6647 and 1.7748 respectively.

In the Firm Age (FA), it is seen that financial and full sample is negative and statistically not significant with coefficients of -6.4784 and -0.0816 respectively. In support to the financial sector and full sample, the non-financial is also statistically not significant but with a positive coefficient of 0.3551. This jointly implies that a unit change in the explanatory variable

FA does not cause any change in the P.

#### IV. DISCUSSION OF FINDINGS

The study established a significant relationship between debt and Return on Capital Employed and the position was maintained even when the moderating variables; age and firm size were introduced. However this result negates the study conducted by Ugwu, Obasuyi and Mbah (2019) whose work discovered that Organizational age does not have significant effect on Debt to Equity Ratio (p value = 0.737) and recommended that managers should consider the organizational age effect on debt to equity ratio. Although the study was in agreement with the study conducted by Salman and Munir (2012) which examined the effects of debt and equity, and results showed that equity financing has more positive effect on business performance for the particular sample.

Furthermore there was a partial agreement with the study conducted by Salawu (2009) whose results indicated that profitability presented a positive correlation with short-term debt and equity and an inverse correlation with long-term debt. In addition, the results showed a negative association between the ratio of total debt to total assets and profitability. Although the study was a departure from the work of Onaolapo and Kajola (2010) whose result posed a negative relationship between capital structure and performance. Rosario, and Chavali (2019) presented in it's correlation analysis that a positive relationship subsisted between debt variable and profit but slightly negative correlation among other variables. An attempt was made to analyze the financial data of 22 companies in hotel industry in India in order to establish the relationship between the capital employed and profitability. It was observed that nearly 58% of the assets of the industry were funded by debt, indicating that the industry is not highly geared. This agrees with the study where the report of 170 companies on the Nigerian Stock Exchange (NSE) was considered to establish relationship with capital structure and performance and eventually there was a compatibility of a significant relationship between capital structure and performance.

#### V. CONCLUSION

There is no gainsaying the position that many authors often proxy capital structure with a mix of equity and debt as evident in various studies. Also evident in several studies was the proxy of performance with Return on Capital Employed (ROCE). The need to institute varieties of drivers of capital structure remains sacrosanct so that at least the day to day operational affair of businesses could be carried on with minimal or bearable threat.

This study has been able to establish that with reasonable involvement of equity holders in the affair of a concern they tend to positively contribute to engender a reasonable return on the wealth of the firm. Also is the fact that capital structure as a driver of performance as established by this and many

studies will go a long way in aiding the going concern of most concerns. Capital being wealth that is set aside for the production of further wealth means it's adequacy would result into greater fortune for the business.

Furthermore, equity holders of companies were able to significantly affect dividend growth of selected listed companies in Nigeria. It suffices to conclude that a positive relationship between debt holders and ROCE was hinged on the futuristic goal of sustainability for the firm. In addition, the study observed the contribution of debt obligation to the overall return on capital employed of the business and suggest that even as far away as debenture holders may appear to look, is not enough to impair return on capital. This consciousness could be buttressed by the study of Shin and Kim (2017) on "Impacts of household loan regulation on financial stability". Their result showed that housing loan regulations such a debt to income regulation contributed to a lower household debt delinquency ratio. This means a judicious debt management could propel the profitability of a company. The study equally established equity holders as a veritable driver of dividend growth which means equity ownership was able to grow dividend because management were favourably disposed to retaining the equity holders.

It is crystal clear from the study that the different parameters of capital structure significantly affected performance of firms as such boards of management of various firms in the country should engage in a robust discourse and consultation on the consequential tendencies of factoring the different kinds of capital structure as one of the foundation of corporate governance that will form the policy thrust for the business. The study has considered capital structure and performance of selected listed of sampled companies over the period of ten (10) years using the different aforementioned proxies for the endogenous (dependent) and exogenous (independent) variables. The study therefore concluded that a significant relationship subsisted between capital structure and performance which is compatible with the status of the *a-priori* expectation and in harmony with statistical significance of 5% level. This implies that all measures of capital structure earlier discussed are significant factor on the measure of performance.

#### VI. RECOMMENDATION

By virtue of the findings and conclusion drawn from this study, firms in Nigeria require potent policy that is grounded and founded on a sound corporate governance vision and ethical standard so that the beacon of hope, fortune and loft which has eluded organizations in Nigeria would be ushered back into the system. It is therefore incumbent on the government that as part of making virile policy that will positively engender the viability of firms in Nigeria, that the following recommendations are vital:

1. Existing firms in Nigeria should be mandated to leverage on any formidable kind of capital structure, debt and equity mix in the affair of the business. It was evident

from the study that these capital stakes were capable of affecting performance in the affirmative, thus giving an assurance on the going concern convention of the company. The rationale for this could be attached to the fact that since capital itself suffices as having interest in a firm; no sound mind will remain lukewarm over his interest but would rather strive to add value to sustain the business which will in turn protect their own interest too.

2. All the newly established concerns should as part of corporate governance infuse one type of capital structure ownership or the other in the team of those saddled with the day to day running of the affair of the business. For instance under capital structure, it is possible to have the managing director, finance director and chief accountant owning percentage block of shares as insider stakes as demonstrated in the study. There is no doubt that the progress and success of the business will be paramount to these persons that double as owners and management team of the firm. Furthermore there should be adequate encouragement that makes ownership (debt and equity) stakes attainable by various companies so that their involvement could add substantial value to the organization since they would not normally appear lukewarm in the face of burning matters and exigency issues.
3. The Government should as a matter of policy mandate the Boards of all public listed companies to involve as part of their composition those who have one kind of capital structure or the other in the organization that they have been saddled to superintend.
4. There should be a virile mechanism of timely and qualitative monitoring of concerns in ensuring that any attempt to jettison ownership stake (debt and equity) for a non-ownership structure will be taken as fraudulent and criminal intent without any doctoring.
5. Capital structure stake should not be limited to the management alone but to be extended to the rank and file or other lower level management as this synergy could go a long way in engendering the profitability of firms. This means that the quality of holdings in terms of long term debt holdings and unrestricted equity would go a long way in adding value to the business.
6. Capital structure of any kind should be structured to accommodate equity and debt holders so that the risk ingredient that most concerns are vulnerable to under a highly geared scenario one way or the other would have been considered. In the work of Jeleel and Olayiwola (2017) where an organization continues to make profit while debt cost was kept constant or reduced, this will in turn result into huge returns to equity holders because account payable which normally depletes resources is reduced. The Federal Government of Nigeria could learn from this study in that although the nation continues to sell crude oil and realize return, as long as the service cost on loans keep increasing the government may be hamstrung to provide tangible infrastructure due to pressure the

service cost fulfillment might put on revenue. As such all effort should be introduced towards reducing the interest on all loans to a bare minimum as this go a long way in gauging performance.

### 7. Contribution to Future Research

This study has contributed to knowledge in the following areas:

#### To Policy

Impartation to education in Policy is in the growth and expansion of firms that is now possible and attainable. Since capital structure and performance are statistically significant with significant relationship between the two variables, it means the performance status being effectively driven by the capital structure position of firms to meet their financial commitment in conformity with corporate governance as such unnecessary waste and profligacy will be eschewed placing such firms at a vantage position of having enough resources to radiate growth and expansion.

#### To Theory

This study also contributes to theories by buttressing the legitimacy theory which professes a social contract between the organization and the society. capital structure is a medium to engender the social contract because as owners with blocks of shares they will pursue to the letter all strategies that will make management to act ethically and professionally in their service to the society. The fact that they would be enjoined to bring about information disclosure and accountability which are essential ingredients that should impact performance to a reasonable extent. There is also a theoretical contribution to knowledge of lending credibility theory where capital structure such as debt and equity towards the performance of a firm will go a long way in restoring the confidence of current and potential stakeholders. Therefore it is not only by the audit of financial statement that credibility is conveyed, it is equally evident that capital structure adds credibility to reportage due to its significant relationship with performance

#### Academics

The work has contributed to academics by consolidating on the study of other researchers and also heralded the platform upon which many authors could equally contribute. For instance the work submitted on a significant relationship between capital structure (debt, equity) and performance (return on capital employed, dividend growth) of selected listed companies in Nigeria. This study affords other authors the opportunity to dovetail on this study via the proxy of performance with other fliers outside return on capital employed and dividend growth that this study considered.

#### Accounting practice

This study contributed to accounting practice by demystifying integrity and objectivity to only financial reportage, capital structure of the mix of debt and equity is viewed as an



objective stance that not only adds value to a statement but also engender performance of concerns on the Nigerian Stock Exchange. For instance the mix of debt and equity affected all measures of performance. This could be established as an objective point of trading

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