

# THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

## Effect of Firms Characteristics on Capital Structure of Listed Oil and Gas Firms in Nigeria

Kayode Olushola Fasua

Director General, Nigerian College of Accountancy, Kwall, Jos, Nigeria

OJO, Lukman Olatunji

Ph.D. Student, Department of Accounting, Nasarawa State University, Keffi, Nigeria

### **Abstract:**

*The study examined the impact of the firm characteristics and capital structure of the listed oil and gas companies in Nigeria on the capital structure of the listed oil and gas companies, namely the size of the business, growth, profitability, tangibility and liquidity. Secondary data from the annual reports of oil and gas companies listed on the Nigerian Stock Exchange between 2010 and 2019 were used in this examination. The paper used panel regression in relation to the use of the Hausman specification test to assess the use of the fixed or random effect model. Ex-post facto research design was adopted. The outcome of the random effect regression showed that this study found that all the company characteristics (size, liquidity, tangibility of assets, growth and profitability) used in this study had a major positive effect on the oil and gas company's capital structure in Nigeria. The analysis therefore shows and suggested more studies on the capital composition of the debt ratio to be carried out by the management of the listed oil and gas companies in order to optimize the valuation of the listed companies, and the share price is concerned with reducing the cost of capital.*

**Keywords:** Firm characteristics, capital structure, oil and Gas

### **1. Introduction**

Therefore, studies suggest that companies without borrowings (unleveraged firms) show less fluctuation in their earnings, whereas companies with borrowings (leveraged firms) show greater fluctuation in their earnings as their financial performance changes. The determination of debt and equity is an important decision faced by firms (Glen and Pinto, 1998). Therefore, some basic implications of borrowing on leveraged firms may be defined as follows; borrowings include interest payments that, in effect, slash the net income of firms, interest expenses as fixed costs that increase the volatility of net incomes and thus affect EPS and borrowings, also reduce the share of equity in the capital structure of a company and thus reduce the number of o Companies must therefore carefully arrange their capital mix so that it is possible to obtain the best possible outcome. Morris and Bereta (2008) concluded that an ideal mix of capital structure is one that not only maintains stability but also increases the wealth of the organization.

However, when making this critical and challenging financial decision, many factors have to be considered, because a wrong turn could even lead the company to financial instability or distress. which is not the aim of a going concern. For these reasons and more, studies have made attempt to determine the factors that determine capital structure of firms. Chechet, Garba and odudu (2013) believe that, because the decision on the capital structure is a long-term issue, managers will be advised and know how to change their financial mix to the optimum level by recognizing the variables that decide the overtime of the capital structure. But, according to Bundala (2012), these factors are not definitive and cannot be generalized since there are micro factors that can be affected by a specific country's technology and functional political policies. Masnoon and Anwar (2012) also observed that apart from country specific and institutional factors, firms related factors are major important factors that can influence capital structure choice.

Therefore, firm characteristics play an important role in capital structure decisions and are referred to as incentive variables that are relatively sticky at firm's level across time. They are variables that affects the firm decisions both externally and internally (Shehu, 2012). These characteristics are distinct and are believed to impact differently on capital structure of firms. The incentives range from liquidity, profitability, growth, size, age, non-debt tax shields, business risk, and asset tangibility among others. So, firms' managements need to be aware of them so that appropriate decisions on capital structure mix can be taken

The issue of capital structure Therefore, in capital structure decisions, firm characteristics play an important role and are referred to as compensation variables that are relatively sticky over time at the level of the organization. These are variables that both externally and internally affect company decisions (Shehu, 2012). These characteristics are different and are believed to affect the capital structure of companies differently. Among other items, the incentives range from liquidity, profitability, growth, size, age, non-debt tax shields, business risk, and asset tangibility. Therefore, the management of companies needs to be aware of them in order to make appropriate decisions on the mix of capital structures. has been debated for several years and still remain the most significant unsettled issues in the field of finance

and accounting. So far, there have been several studies on capital structure both in Nigeria and outside Nigeria, among them are the works of Booth, Aivazian, Demircug and Maksimovic (2001), Shehu (2011), Akbar and Bhutton (2012), Chechet (2013), Ajao and Ema, (2013), the studies mainly focus on the general level of capital structure of organizations, with little targeting specific industry especially the oil and gas sector of Nigeria.

The literature's findings indicate that while some of the knowledge from modern finance theory may be applied across countries, much remains to be done to understand the effect of various institutional features on the structure of capital. (In 2001, Booth, Aivazian, Demircug & Maksimovic). Akbar and Bhutton (2012) found that every firm's capital structure is based on definite debt and equity characteristics or cost and benefit analysis. In addition, the findings of the previous studies were inconclusive, contentious and subject to further investigation. (2008: Moris & Beretta).

In view of the fact that company features play a critical role in the management decision of the mix of capital structure that will ultimately boost earnings. To this end, current research has provided inconclusive results and divergent views as to whether firm characteristics have an effect on the structure of capital. Observational differences may be due to the different methodologies adopted, particularly in the definition of variables and the time frame. This study takes the view that company-specific features are associated with achieving the optimal capital mix of companies that in turn maximize company value, in line with the recent research paper on relationships between them, Onalapo, Kajola and Nwidobie (2015), Fareed, Zulfiqar and Shahzad (2014), Chandrasekharan (2012), Masnoon and Anwar (2012), Chechet (2013) Shehu (2013). However, much of this analysis evaluated the determinants of the capital structure on the aggregate leverage measure in which Bevan and Danbolt (2000) observed that there is a possible risk in doing so. In addition, Hall, Hutchinson and Michaelas (200) argued that the analysis of both long-term and short-term leverage components makes it possible to differentiate between variables that have an effect on each of them.

In their studies, they reported mixed results, which may be due to the adoption of various methodologies, particularly in the definition of their variables and time frame selection. There was a knowledge gap, hence the need for this research, following mixed results from previous Nigerian studies on determinants of capital structure and the absence of such studies conducted so far. Firm-specific factors will be implemented to assess the capital structure of the oil and gas companies listed on the Nigerian stock exchange.

The main objective of the study is to analyze the influence of the company's characteristics on the capital structure of the oil and gas companies listed in Nigeria. Other basic objective is to examine the impact of the liquidity, asset tangibility of the firm., company size, growth of the company and firm profitability on the capital structure of Nigeria's listed oil and gas companies. The 2010-2019 period is covered by the study. This research, therefore, covered ten years. The remainder of this article is structured as follows. The literature and the current theoretical context are discussed in section 2. The research methodology is discussed in section 3. The outcomes are discussed in Section 4. Finally, in Section 5, the conclusion is drawn out.

## 2. Literature Review

### 2.1. Concept of Capital Structure

Modigliani and Miller (1958) first introduced the theory of capital structure in their seminal paper on the irrelevance of a company's value to the capital structure in a perfect market situation, arguably forming the basis for modern capital structure thinking. Intensive research has been performed to test the validity or otherwise of their theory in real life circumstances for the past ten years (10) years after the work of Modigliani and Miller, although all the current evidence contradicts one another. According to Dere and Sola (2010), the capital structure is thus defined as the way a company can fund its assets through some combination of debt and equity. If a company is funded by debt or equity or the combination of both, it may not be devoid of consequences. Because both include the company's costs, the company has to select the correct choice that minimizes its costs, and most companies prefer to choose the right combination that will result in the lowest costs. The debt and equity ratios are also the measuring instruments for the capital structure.

In the field of this research, Capital Structure and firm characteristics face various meanings by numerous scholars. Some of their meanings, however, are un-ambiguous and have the same point of view. From the study of Rajan and Zingales (1995), who researched the economics of the world's G7 nations, Aivazian, Demircug and Maksimovic (2010) expanded their research. Their findings from these studies were that the capital structure of emerging economies and firms in different countries had some similar characteristics, but according to them, more study was required to identify further determinants of the capital structure in different world economies. While Ali (2011) said that, from the same point of view, capital structure means the ways in which businesses fund their overall assets, operations and growth through equity and debt issuance. Financing, in this context, often implies the process through which the organization raises capital to achieve its predetermined goals for its day-to-day operations and future growth. These sources which include, but are not limited to, the following: internally or externally: internal sources consist of retained profits, equity, preferred stock and many others. Though borrowings and loans are composed of external sources.

According to Ramlall (2009), the capital structure is a mixture of debt and equity and relates to the ability of companies or enterprises to realize the aspirations and needs of their stakeholders. In this respect, Pandey (1999) also sees the capital structure as the level of debt in relation to balance sheet equity. His view has to do with the financing method embraced and established by a company and the amount of capital needed and obtained by a company. It is clearly understood, on the basis of the above views, that the capital structure is the way in which a firm finances its planned activities in a way that provides services and yields returns on investment. According to Sa'ad (2010), the capital structure is a combination of debt of a company, which includes common equity and preferred equity, both long-term and short-

term. This means that it is an important instrument for ensuring consistent growth in the way an organization manages its overall operations through the use of various sources of funds.

Conclusively, what constitute capital structure faces numerous views by different stakeholders and scholars in this area of study. However, capital structure is a tool that ensures continuity of services, growth and development of a firm's operations to meet up with daily demands of the public and as well yields return on investment. Thus, profitability is essential to business survival. While capital structure decision has the center stage to ensure optimal capital structure equilibrium. Firm size, firm liquidity, firm tangibility, firm growth and firm profitability.

## 2.2. Firm Characteristics

Several literatures have revealed how financial and non-financial characteristics such as leverage, liquidity, size, age and diversification have an influence on the firm's financial performance and growth. These characteristics can easily be measured by using available data from the Nigeria Stock Exchange of the listed oil and gas firms.

## 2.3. Firm Size

Firm's size is the one of the most influential characteristics in an organizational study. Hambrick (1995), Mintzberg (1979) in their related overview of the importance of the firm size, that firm size has overall positive effect on the firm's profitability. Large oil and gas industries are possible having more layers of management, greater number of departments, increased specialization of skill and function, also high number of workers (bureaucracy) than the smaller oil and gas firms (Draft, 1995). Determinant capital structure in developing countries. Recent research has revealed that firm size determines its pace of adaptation to change or resistance to fundamental changes in conducting business (Miller & Chen, 1994).

Firm size is a corporate strategy to increase sales volume from new products and new markets. Many researchers have studied the relationship between firm size and performance. Hoskisson and Hitt (1990), Data (1991). Their studies provide an excellent surveys, analysis, and critiques of previous findings. The observation is that there does not seem to be any consistent or conclusive findings between firm and size and performance. Stimpert and Duhaine (1997) also argue that the inconsistencies are due to the fact that the size impacts other variables, which in turn determines firm performance since firm size and size are positively correlated (Draft, 1995).

Profitability The size of the firm is one of the most important characteristics of an organizational analysis. The size of the company has an overall positive effect on the company's profitability from its related definition of the meaning of the company size, Hambrick (1995), Mintzberg (1979). Big oil and gas companies may have more levels of management, more divisions, greater specialization of skills and positions, as well as a large number of workers (bureaucracy) than smaller companies in oil and gas (Draft, 1995). Determinant capital structure in developing countries. The fact that the scale of the organization determines its degree of adaptation to change or resistance to fundamental changes in company behavior has been abolished by recent research (Miller & Chen, 1994).

Firm size is a method of a corporation aimed at increasing the amount of sales from new products and new markets. The relationship between firm size and efficiency has been studied by several researchers. Hoskisson and Hitt (1990), Data (1991). Their studies include an exemplary survey, review, and criticism of previous outcomes. The observation is that there seems to be no definite or conclusive outcomes between business and size and results. Stimpert and Duhaine (1997) also indicate that the variations are due to the fact that the size affects other factors, which in turn influences the productivity of the company because the company's size and size are positively correlated (Draft, 1995).

Several reports have shown business profitability as a company's earning strength. A company's earning power is the concern of a company's shareholders, business managers, and administrative structure. All attempts are aimed at optimizing the benefit of Chechet, Garba, (2013). But how do we quantify profitability is a case study, Book et al (2001) thought that profitability is calculated as the ratio of operating income to total assets, i.e. return on the company's size, one of the organizational analysis' most prominent features. The size of the company has an overall positive effect on the company's profitability in its related definition of the meaning of the company size, Hambrick (1995), Mintzberg (1979). Big oil and gas companies may have more levels of management, more divisions, greater specialization of skills and positions, as well as a large number of workers (bureaucracy) than smaller companies in oil and gas (Draft, 1995). Determinant capital structure in developing countries. The fact that the scale of the organization determines its degree of adaptation to change or resistance to fundamental changes in company behavior has been abolished by recent research (Miller & Chen, 1994).

Firm size is a method of a corporation aimed at increasing the amount of sales from new products and new markets. The relationship between firm size and effectiveness has been studied by several researchers. Hoskisson and Hitt (1990), Data (1991). Their studies include excellent surveys, assessments, and critiques of previous findings. The observation is that there seems to be no definite or conclusive outcomes between business and size and results. Stimpert and Duhaine (1997) also indicate that the variations are due to the fact that the size affects other factors, which in turn influences the productivity of the company because the company's size and size are positively correlated (Draft, 1995). Assets as pre-tax earnings divided by total assets.

## 2.4. Liquidity

Liquidity is a company's ability to cover its short-term liabilities, and the greater a company's liquidity, the more comfortable it is to cover debt and debt interest payments. Ramlall (2009) used the current ratio as a metric of current assets over current liabilities to metric liquidity and describe liquidity. In line with Ramlall's statement above, this study

will also use the current ratio in the calculation of profitability. Firm liquidity often tests the willingness of the company to satisfy its short - term commitments by using the most available assets or liquidity. When they need to deal with urgent situations and or raise working capital, Firms have converted their liquidity assets to cash quickly. According to Titman (2001), liquidity enhances the financial performance of the company, proof that high liquidity companies help a company to cope with unanticipated contingencies and to cope with its obligations during low earnings periods (Skandalis, 2008).

Firm liquidity is another window for a company to use its fixed income securities, such as high interest payments coming from debt and preferred equity with a high level of financial leverage. Titman (1998) argues that leverage opens up opportunities for predatory rivalry in fragmented commodity markets, thereby conditioning the efficiency impact of leverage on the level of competition in the oil and gas industries. Highly liquidated oil and gas industries may be at risk of bankruptcy if their debt status is poorly managed; they will possibly lose their lenders in the future. In general, debt is not bad if properly handled, so shareholders can increase the return on their investment and make good use of the borrowing-related tax advantages.

### 2.5. Tangibility

Tangibility is that asset worth companies may use their creditors as collateral and that can be used as debt issuing security. (Bas, 2009, Rajan & Zingales, 1995, Boot 2001). Both accepted that tangibility is the ratio of non-current assets of the company (fixed assets) to total assets considered as leverage proxy. We anticipate a positive signal from this vector in accordance with both static trade-off and pecking order predictions. On the other hand, agency theory predicts a negative relationship between the tangibility of assets and the ratio of leverage. The researcher agrees in this research that tangibility is equivalent to total assets minus current divided by total current assets. Tangibility is that asset worth companies may use their creditors as collateral and that can be used as debt issuing security. (Bas, 2009, Rajan & Zingales, 1995, Boot 2001). Both accepted that tangibility is the ratio of non-current assets of the company (fixed assets) to total assets considered as leverage proxy. We anticipate a positive signal from this vector in accordance with both static trade-off and pecking order predictions. On the other hand, agency theory predicts a negative relationship between the tangibility of assets and the ratio of leverage. The researcher agrees in this research that tangibility is equivalent to total assets minus current divided by total current assets. Tangibility =  $\frac{\text{Total Assets} - \text{Current Assets}}{\text{Total Current Assets}}$

### 2.6. Growth

Growth is employed in this study as a measure of change in demands, one would therefore, expects that high growth should be associated with higher profitability. However, it has noticed and argues that extreme profitability in one period may contribute to reductions in profitability in the following period. Growth may also be achieved via pricing strategies which sacrifices current profitability (Gaskins, 1970).

According to pecking order, growing companies funding pressure for investment opportunities is likely to exceed their retained earnings. Hitman and Wessels (1988), used annual percentage increase in total assets as a measure of growth. To Shehu (2012) growth was measured as percentage increase in the net total assets. This study adopts the definition of Shehu (2012).

Firm derived their financial power either by equity or debt or combination of both. The basic need was to choose the option that is less cost and yields higher or better productivity. According to Morris, and Bereta (2008), an optional capital mix is one that not only maintain the stability but also enhance the firm's wealth. Choosing a financial structure is the responsibility of the managers and critically observed variable with their pros and cons. Brigham and Houston (2004) highlighted three primary factors that influences capital structure decisions.

- Business risk: these are the risks associated with a business and the use of choice of financing source. The greater the firm's business risk, the lower its optimal debt ratio.
- Financial flexibility: is the ability of a firm to raise capital on a reasonable level for effective and continually of the firm's services or productivity. The long-time success of the firms depends on the steady supply of capital and necessary for state operations.
- Tax position: the firm's tax position is a major reason for using debt because the interest is tax deductible, this lower the effective cost of debt. However, if most of firm's income is already sheltered from taxes by depreciation tax shield.

## 3. Empirical Review

Alipour, Mohammadi, Farhad, and Derakshan (2015) examined the determinants of the capital structure of Iran's non-financial firms. Design / method / technique. Using pooled ordinary lowest squares and panel econometric methods such as fixed effects and random effects, the most significant factors affecting the option of capital structure of manufacturing companies listed on the Tehran Stock Exchange Iran during 2003-2007 are examined. The outcomes of the study indicate that factors such as company size, financial stability, asset structure, profitability, liquidity, growth, risk and state ownership have an impact on all measures of Iranian companies' capital structure. A major source of financing for Iranian firms has been found to be short-term debt. The results of the current research are consistent with some capital structure theories. Also, Paseda (2016) studies the determinants of the capital structure of Nigeria. For the period 1999-2014, the study population consists of all non-financial corporations listed on the Nigerian Stock Exchange (NSE), using 50 companies which have met with the minimum data requirements. Using the panel data least squares regression, modified to weighted (cross section- and period-) models, the study reports the following findings. First, asset intangibility, firm age and expected inflation are the factors that have a positive impact on corporate borrowing, while those factors that have a

negative impact on the capital structure are asset tangibility, growth, size, earnings volatility, profitability, liquidity, dividend-paying status and industry uniqueness. More so, Nguyen (2014) also found a positive relationship between the size of the company and the composition of its capital. In addition, the negative relationships between the profitability and liquidity of the firm and the capital structure are explained. Meanwhile, there are negligible associations between the growth rate and the interest coverage ratio and the capital structure.

During the six-year period from 2000 to 2005, Kila and Mahmood (2008) tested the determinants of the capital structure of companies listed in the Bursa Malaysia Securities Berhad (BMSB) industry. The data were taken from the financial statements of 17 firms, with a total of 102 findings. The dependent variable of the debt ratio is expressed as total debt divided by total assets, while the size, growth, liquidity and interest coverage ratios are independent variables. Using pooled OLS figures, the result shows that the ratio of scale, liquidity and interest coverage is substantially adversely linked to total debt. However, the study finds that the annual changes in earnings represent an insignificant negative relationship between the capital structure and the firm's growth. Finally, the results of the dummy variable show that the capital structure varies substantially between those businesses that embrace more debt (more than 30 percent of their total assets) and those that use less leverage financing

For a period of 14 years from 1990-2004, Salawu and Agboola (2008) analyzed the determinant of capital structure using 33 major non-financial companies listed on the Nigerian stock exchange. In their analysis, leverage proxy was broken down into three distinct components, namely; Total Debt / Total Assets; Short Term Debt / Total Assets; Long Term Debt / Total Assets, in order to understand how determinants of the capital structure impact different debt ratio composition. Data evaluated using statistical methods (descriptive statistics and correlational analysis) for estimation and profitability were positive and overall debt was positive. The result also shows that Nigeria's large non-financial firms are profitable and are expected to prefer debt to benefit from the tax shield, and their work demonstrates that Nigeria's large firms prefer short-term debt, especially oil and gas.

Muzzammil, Hassan, Hassan and Muhammad, (2016) examined the effects of profitability and capital structure on textile firms in Pakistan. This study is based on data from 10 listed KSE textile companies selected for the period from 2009 to 2014. Estimated model of regression and profitability of correlation on capital structure. According to their findings, if the financial leverage rises, the profitability declines and vice versa, there is a negative association between the capital structure and profitability. The determinants of the capital structure of non-financial firms in Iran were investigated by Alipour, Mohammadi, Farhad, and Derakshan (2015). Design / approach / methodology. The most important factors affecting the choice of capital structure of manufacturing companies listed on the Tehran Stock Exchange Iran during 2003-2007 are explored using pooled ordinary least squares and panel econometric methods such as fixed effects and random effects. The study results indicate that factors such as the size of the company, financial stability, asset structure, profitability, liquidity, growth, risk and state ownership have an impact on all capital structure measures of Iranian companies. Short-term debt has been found to be a significant source of funding for Iranian companies. The findings of the current research are consistent with certain hypotheses of the capital structure

Pasada (2016) studies the determinants of Nigeria's capital structure. The research population consists of all non-financial corporations listed on the Nigerian Stock Exchange (NSE) for the period 1999-2014, using 50 companies that fulfilled the minimum data requirements. The study records the following results using the panel data least squares regression, updated to weighted (cross section- and period-) models. First, asset intangibility, firm age and expected inflation are the factors that have a positive impact on corporate borrowing, while asset tangibility, growth, size, earnings volatility, profitability, liquidity, dividend-paying status and industry uniqueness are those factors that have a negative impact on the capital structure.

Nguyen (2014) analyzed capital structure determinants within the reach of Finnish technology companies, namely, growth rate, business size, profitability, liquidity and interest coverage capacity. Specifically, the study analyzes financial data from technology companies in order to either affirm or refute the assumptions that the connection between the selected determinants of the capital structure of the firms listed in the OMX Helsinki Stock Exchange Technology Sector Index is the focus of the analysis. The analysis uses the design of quantitative testing, which is a mixture of deductive approach, methodology and experimental research. Both primary and secondary sources gathered the data. The primary source is primarily the financial reports of 17 companies for the period from 2008 to 2012. The secondary source is, meanwhile, derived from books and journals. The result statistically supports the positive relationship between the size of the company and the composition of its capital. In addition, the negative relationships between the profitability and liquidity of the firm and the capital structure are explained. Meanwhile, there are negligible associations between the growth rate and the interest coverage ratio and the capital structure.

Booth (2001) analyzed the determinants of the capital structure of developing countries to assess if they are responsible for assessing the applicability of the capital structure to other countries with different institutional frameworks in developed countries. The capital structure choices of firms in different developing countries were examined in their work. Compared to testing the impact of capital structure theories on financial leverage, countries such as Zimbabwe, Korea, Brazil, India, Mexico, Malaysia and many others were crossed with the available data and statistics on the Nigerian stock exchange, international finance corporation, and the result of the study showed that profitability has a negative relationship with the debt ratio of a business. And the result showed that outcomes from developed countries could be relevant to developing countries, although Booth (2001) indicated that the institutional framework of the country and the particular factors of the organization play an important role in deciding the capital structure of companies.

Wang and Sheikh. (2011). examined determinants of the capital structure of companies in the manufacturing industry of Pakistan the investigation is based on panel data for a sample of 160 companies listed on the Karachi Stock

Exchange during the period 2003-2007. The results indicate that profitability, liquidity, volatility of earnings, and tangibility (asset structure) are negatively related to the debt ratio, while the size of the company is positively related to the debt ratio. Non-debt tax shields and growth prospects do not seem to be related to the debt ratio in a meaningful way. The results of the study are consistent with the forecasts of trade-off theory, pecking order theory, and agency theory, which indicate that models of capital structure derived from Western settings help to explain the financing actions of Pakistani companies.

During the six-year period from 2000 to 2005, Kila and Mahmood (2008) tested the determinants of the capital structure of companies listed in the Bursa Malaysia Securities Berhad (BMSB) industry. The data were taken from the financial statements of 17 firms, with a total of 102 findings. The dependent variable of the debt ratio is expressed as total debt divided by total assets, while the size, growth, liquidity and interest coverage ratios are independent variables. Using pooled OLS figures, the result shows that the ratio of scale, liquidity and interest coverage is substantially adversely linked to total debt. However, the study finds that the annual changes in earnings represent an insignificant negative relationship between the capital structure and the firm's growth. Finally, the results of the dummy variable show that the capital structure varies substantially between those businesses that embrace more debt (more than 30 percent of their total assets) and those that use less leverage financing

For a period of 14 years from 1990-2004, Salawu and Agboola (2008) analyzed the determinant of capital structure using 33 major non-financial companies listed on the Nigerian stock exchange. In their analysis, leverage proxy was broken down into three distinct components, namely; Total Debt / Total Assets; Short Term Debt / Total Assets; Long Term Debt / Total Assets, in order to understand how determinants of the capital structure impact different debt ratio composition. Data evaluated using statistical methods (descriptive statistics and correlational analysis) for estimation and profitability were positive and overall debt was positive. The result also shows that Nigeria's large non-financial firms are profitable and are expected to prefer debt to benefit from the tax shield, and their work demonstrates that Nigeria's large firms prefer short-term debt, especially oil and gas.

Handoko, (2016) examined the influence on the capital structure of the public insurance companies listed on the Indonesian Stock Exchange was determined by the company's characteristics, namely the size of the company, growth potential, profitability, liquidity and tangibility. During the years 2008-2013, the analysis used a sample of 10 insurance companies (non-life insurance). The analytical approach used is the approach of panel data analysis that uses a mixture of data time series and cross-section with random effect model panel technological applications and fixed effect models and data used as secondary data. This research shows that the dominant variable characteristics affecting the capital structure of the company are firm size and growth, while the negative impact on the liquidity variable is positive. In the case of a public insurance firm listed on the Indonesian stock exchange, the more positive impact on the company's capital structure and the importance of the trade-off principle can be clarified and made more relevant.

Kila and Mahmood (2008) examined capital structure determinants for companies listed on the Bursa Malaysia Securities Berhad (BMSB) market during the six-year period between 2000 and 2005. The data were taken from the financial statements of 17 firms, with a total of 102 findings. The dependent variable of the debt ratio is expressed as total debt divided by total assets, while the size, growth, liquidity and interest coverage ratios are independent variables. Using pooled OLS figures, the result shows that the ratio of size, liquidity and interest coverage is significantly adversely linked to total debt. However, the study finds that the annual changes in earnings represent an insignificant negative relationship between the capital structure and the firm's growth. Finally, the results of the dummy variable show that the capital structure varies significantly between those companies that embrace more debt (more than 30 percent of their total assets) and those that use less leverage financing

Kaijage and Elly (2014) investigated effect of corporate characteristics on capital structure decisions of SMEs: a case of DTMS in Kenya. This paper examines the influence of corporate characteristics on the capital structure of deposit taking microfinance institutions (DTMs), which is a special group of SMEs in Kenya. Using secondary data from financial reports of nine DTMs in Kenya for the period 2008 to 2012, the study finds that size and growth positively influence capital structure of DTMs in Kenya. Liquidity, profitability, and tangibility of assets negatively influence capital structure of the DTMs. These study findings generally concur with the predictions of the pecking order theory and the signaling effects of capital structure.

Gurcharan (2010) reveals from his studies on capital structure determinants in a selected firm in Asian countries. He finds that profitability and growth have significant relationship with firm's leverage, so also the size has a significant relationship. He further said that market capitalization and growth rate also show positive significant impact with leverage. The objective of this study was to find out whether same capital structure determinants can be applicable to the Nigerian economy; although this study was conducted in a developing economy like Nigeria.

Kaijage and Elly (2014) The examined impact of the corporate features on the capital structure decisions of small and medium-sized enterprises: the case of DTMS in Kenya. This paper examines the influence of corporate characteristics on the capital structure of a special group of SMEs in Kenya, the deposit-taking microfinance institutions (DTMs). Using secondary data from the financial reports of nine DTMs in Kenya for the period 2008 to 2012, the study finds that the capital structure of DTMs in Kenya is positively affected by size and growth. The capital structure of the DTMs is adversely influenced by liquidity, profitability, and asset tangibility. These results of the study generally agree with the predictions of the theory of pecking order and the signaling effects of the structure of capital.'

Sheikh, and Wang. (2011) explored the Determinants of capital structure of firms in manufacturing industry of Pakistan Different conditional theories of capital structure are reviewed (the trade-off theory, pecking order theory, agency theory, and theory of free cash flow) in order to formulate testable propositions concerning the determinants of capital structure of the manufacturing firms. The investigation is performed using panel data procedures for a sample of

160 firms listed on the Karachi Stock Exchange during 2003-2007. The results suggest that profitability, liquidity, earnings volatility, and tangibility (asset structure) are related negatively to the debt ratio, whereas firm size is positively linked to the debt ratio. Non-debt tax shields and growth opportunities do not appear to be significantly related to the debt ratio. The findings of the study are consistent with the predictions of the trade-off theory, pecking order theory, and agency theory which shows that capital structure models derived from Western settings does provide some help in understanding the financing behavior of firms in Pakistan

Alipour, Mohammadi, Farhad and Derakshan, (2015) investigated the determinants of capital structure of non-financial firms in Iran. Design/methodology/approach. Pooled ordinary least squares and panel econometric techniques such as fixed effects and random effects are used to investigate the most significant factors that affect the capital structure choice of manufacturing firms listed on Tehran Stock Exchange Iran during 2003-2007. The results of the study suggest that variables such as firm's size, financial flexibility, asset structure, profitability, liquidity, growth, risk and state ownership affect all measures of capital structure of Iranian corporations. Short-term debt is found to represent an important financing source for corporations in Iran. The results of the present research are consistent with some capital structure theories

In the studies of Eriotis (2007) on the firm size and capital structure in 129 Greek companies listed on the Athens stock exchange between 1997 – 2001. The research was done by using panel data procedure to analyses data from the listed firms, in their studies, the total model, the fixed effects model and the random effects model was considered. The debt was expressed as total liabilities divided by total assets and it includes ratio both long-term and short-term liabilities mainly because Greek firms used either very little or no long-term debt capital at all. According to findings, the firm size of a firm which is measured by the sales figure is positively related to the debt ratio. Thus, the result indicates that the large firms employ more debt capital in comparison with smaller firms in Greek.

Thomas et al (2014) examined the factors that determined capital structure of 238 Kenya firms listed in the Nairobi securities exchange for the period between 2006 to 2012. Their findings proved that 34 firms were sampled excluding commercial Banks because they were not having current assets or current liabilities in their financial records. The information was gathered from the Nairobi securities exchange and the balance sheet analysis of the listed firms on the Nairobi securities exchange multiple regression analysis was used to test the hypothesis and the results proof that firm size is positively correlated and not significant on capital structure.

So also, from the observations made by Cools (1993), Wiwattanakantang (1999) believed that there is no significant relationship between the capital structure and volatility in earnings. They said that the problem of under investment decreases when the volatility of firms returns increases. This assumption provides that earnings volatility is positively related to leverage levels of listed oil and gas firms in Nigeria.

Several researchers' throw lights on the specific characteristics and capital structure of firms that determine leverage ratio. But in many researches, there are complains of inadequate relationships between the chosen variables and theoretical determinants in the empirical studies. This situation can only be justifiable by establishing additional theories on empirical studies or observations. From the analysis of several studies, a number of empirical studies have identified firm characteristics that affect the capital structure of a firm. Some of these characteristics include; profitability, growth, firm size, tax and ownership, firm risk and many others, explain firm's capital structure.

In developing economy like ours (Nigeria) the determinants of capital structure of firms or listed oil and gas industries cannot be over emphasized profitability, growth, size, tax and risk associated with determines the productivity of their products and output. It is widely advisable for managers to study these determinants before embarking on the business.

Several theories and empirical studies have been propounded by many scholars of the world, pioneers in these studies like Modigliani and Miller (1998) asserted that, the firm market value is determined by its earnings power and the risk of its underlying assets, independent of the way it chooses to finance its investments or distributes dividends. Same observation was also made by Chowdhury (2004), and concludes that, firm's characteristics and operating leverage significantly affects the choice of capital structure of a firm. A study by Sen and Oruc (2008) also reveals that there is a negative relationship between the leverage ratio and total asset profitability, current rate and sales amount, while no significant relation was found for firm growth, a negative relation was established between assets structure and leverage level. While Yassven and Turkel (2009) conduct a study in a Turkish firm, concludes that capital structure of a firm is a mixture of debt and equity issues to reduce the possible pressure on its long-term financing. Getzman, Lang and Spremann (2010) studied the determinants of the capital structure and adjusted speed. Their findings highlighted that profitability, growth, firm size, market expectation and others are positively corrected with leverage and capital structure decision of a firm.

Glosh, Pestrova and Wang (2008) analyzed the relationship between market condition and operating performance have a long-lasting effect on firm's use of leverage. They employed a mean of weighting scheme that take into consideration, the effect of profitability during the period when firm rebalances its leverage. Though, the result of their studies revealed a strong negative impact between the constructed variable, weighted average, profitability and firm's capital structure. It is very difficult in many cases or business firms to measure productivity and output as it affects profitability. In a Pakistan Panel data, a study was carried out by Shan and Khan (2007) on the determinant of capital structure. The researchers used profitability, growth, firm size, collaterals, non-debt tax, and earnings volatility to analyze relationship between determinants of capital structure. Their findings revealed that three of the above determinants (profitability, growth and tangibility) were significantly related to leverage ratio; while the other three variables were not significantly related to debt ratio of a firm. As well, research was also conducted by Mazha and Nasr (2010) in same Pakistan firm; they used tangibility and growth as the major determinants of capital structure. And that, the finding shows

that both public and private firms in Pakistan implore different patterns of financing, they concluded that government owned firms employ more leverage than private firms.

But in some cases, especially in Nigeria economy, the success and failure depend on the level of managerial skills and competence to combine all the necessary determinants to a desired result.

The work of Nadeem Ahmed Sheik and Zungium Wang (2015), proof that profitability, liquidity, earning, volatility and tangibility are negatively related to the debt ratio, the study was carried out in a Pakistan manufacturing firm. While firm size according to Nadeem has a positive relationship with debt ratio. Growth opportunity and non-debt tax shield are not related to the debt ratio. Tax and Debt highly affects business firms in Nigeria, the relationship proof negative as well as positive in different circumstances. Another study in a Bangladesh Banking industry by Yakub, and Mushar of (2015), on the impact of firm characteristics on capital structure between 2010 – 2012 proofs a negative significant correlation between debt to asset ratio and tangibility of asset study. The economy or business environment where debt constitutes the liquidity asset, it is mostly difficult to measure high returns hence a negative relationship if not properly manage.

Indi and Adhegaonkar (2012) in their study to find out determinants of capital structure, in Indian chemical firms, eleven firms were chosen using convenience sampling. The study covers period of five years from 2010 to 2015. Seven variables were used (firms' size, profitability, tangibility, non-debt tax shield, growth in asset, liquidity and interest coverage ratio) as independent variables and capital structure as dependent variable. They used Total Debt to Total Asset as a measure of financing leverage, size is measured as natural logarithm of sales, sales prefer over asset as measure of size of the business because it reflects the current value, profitability is measure as an Earnings Before Interest and Tax (EBIT) to Total Assets is uniform measure to study the firms profitability, tangibility was defined as Fixed Asset to Total Asset (TA), non-debt tax shield is defined as depreciation to total assets, growth was defined as incremental total asset, that is current year TA – previous years TA to previous years TA, interest coverage ratio was defined as interest to earnings before interest and tax and liquidity is defined as current asset to current liabilities. Their results show tangibility, non-debt tax shield and interest coverage ratio have linear relationship with capital structure and the rest of the variables are non-linear relationship with capital structure.

Akinleye, Afolabi and Olowoniyi (2012) in their work of investigating determinants of firm's capital structure. The study employed panel economic model to analyze data gathered from thirty firms mostly oil and gas firms for the period of six years between 2009 – 2014. Their findings reveal that expected growth and firm's size positively influenced stock return while tangibility has a negative impact on capital structure of the firms studied. Growth and firm size may not necessarily influence its capital structure, because the management and productivity are also a major concern. Also, Shehu (2011) examined the determinant of capital structure in Nigeria oil and gas between 2010 – 2015. The analysis uses panel data pertaining of twelve oil and gas firm reports obtained from their annual reports. The entire results outlined that leverage is negatively related with firm size; profitability and tangibility are positively related with leverage and found a controversial relationship between growth and leverage.

### 3.2. Underpinning Theory

Many researchers propounded theories on the capital structure (Frank, Goyal 2008) some of these theories were used in the literature to underpin research of this nature, that is firm characteristics and the leverage. The theories are: pecking order theory, trade-off theory, agency cost theory and the signaling theory.

### 3.3. Pecking Order Theory

Without access to a target debt, Pecking order theory measures the sources of funding such as retained profits, debt financing and equity financing with business profitability. The theory specifies that a company should not have a debt goal in the strategy, but that the amount of debt funding employed depends on the company's profitability and its ability to use funds from various sources before these sources are depleted or the cost becomes too high (Servaes & Tufano, 2006).

The theory of Pecking Order emphasizes that the company will not have an optimal capital structure target, but will follow incremental financing choices that put internally generated funds at the top of the order, then followed by debt problems, and finally only when the company exhausts its debt capacity and issues equity financing. The cost of equity comprises the cost of new share issuance and the cost of earnings retained. Debt rates are cheaper than the expense of any of these mutual fund sources. Taxes are charged by shareholders on distributed earnings, taking into account the expense of new issues and retained earnings, although no taxes are paid on retained earnings and no inflation expenses are borne when earnings are retained. Based on the above-mentioned assumptions, businesses tend to exhaust internal sources in order to fund their expenditure costs and then go to an external source if the internal sources are inadequate.

This thesis focuses on the theory of pecking order, the theory of trade-off based on the findings of earlier studies carried out using the above theories in developed economics. Therefore, in our emerging economies (Nigeria in particular), the need to follow these theories to reach and grow our business world to an international standard. This research adopts the principle of pecking order and trade-offs.

### 3.4. Trade-off Theory

Bayter (1969), De Angelo and Masulis (1980) introduced the trade-off principle that posits the non-existence of an ideal capital structure. They are of the view that a firm sets and works towards its debt goals. This theory stressed that a business decides how much debt finance to use and how much equity finance to use by balancing the advantages of costs. It determines the advantage of debt financing, the tax advantage of the debt, as well as the cost of debt financing and financial hardship, including the cost of debt bankruptcy.



Myers (1984) said in his research that businesses would select their mixture of debt and equity funding to offset debt costs and benefits. But it should also be remembered that by utilizing debt, a business cannot consistently minimize its total cost of capital. There is a mix of debt and equity to minimize the average capital cost of the business and increase the valuation of the market.

According to the principle of trade-off, the tax benefits of debt can be traded against the expense of financial hardship for which the tax advantage is lower, greater liquidity is available for the business and the company's operations can be increased. This theory establishes that there are certain competing variables responsible for the goal leverage of the business. Taxes, bankruptcy costs, and agency costs are certain forces. Kraus and Litzenberger (1973), Jensen (1986) and many others expatiate tax bases and organization expense model.

Many scholars have criticized the theory, and some of these scholars argue that it causes conflicts of interest between shareholders and creditors. Graham (2000), Miller (1977) and Goyal (2002) claim that tax savings tend to be greater than the expense of bankruptcy, suggesting that more businesses are more leveraged than they tend to be.

As one of the main critics of his theory, Myers (1984) notes that it negates traditional debt ratios derivable from taxpaying firms.

The pecking order theory and trade-off theory are most relevant, in conclusion. This is due to the fact that the analysis takes into account the effects of business characteristics impacting their capital structure. The theory of the pecking order suggests that corporations opt first for their sources or funds generated internally, then before contemplating external sources or debt, often as their last resort.

The theory of trade-offs believes that businesses increase their leverage to take advantage of tax advantages. These theories and other related studies add to the numbers that illustrate the need for further application of these theories to the nation's (Nigeria's) development and growth.

### 3.5. Metrology

Research design employed for this study is causal research design. This design was chosen for its suitability and sufficiency in determining the cause-effect that exists or covariation between capital structure of the listed oil and gas firms and their characteristics. It provides for a relatively cheaper method of collecting large data concerning a giving problem of this nature.

This study adopts and uses panel data regression from the available literature (secondary sources). All data used in this study were extracted from the annual reports and accounts of the sampled oil and gas firms obtained from the Nigerian stock exchange fact book for the periods under study. The study centered on oil and gas firms listed in Nigerian stock exchange.

The population of the study consist of the selected oil and gas firms quoted on the Nigeria stock exchange between 2010 – 2019 are used as sample of the study.

The Data were drawn from the secondary source, annual publications, books of accounts and fact books of the listed oil and gas firms in Nigeria from Nigerian Stock Exchange. Fact book and firm annual financial reports from 2010 – 2019. The panel regression was employed to analyze the effect of firm characteristics relationship on capital structure of the listed oil and gas firms in Nigeria.

### 3.6. Variables Measurement

The measurement Of the dependent and independent variables are provided in table below.

Variables Measurements	Proxies/Definition
Dependent variable leverage	$LEV1 = TLR = \text{Total Debt} / \text{Total Debt} + \text{Total Equity}$
Independent variables	
Profitability	The ratio of earnings before interest, taxes and depreciation and book value of total assets. (Booth et al, 2009; Bevan & Danbolt, 2002).
Asset Tangibility	Fixed assets/total assets. (Rajan & Zingales, 1995; Booth et al 2001; Bas et al 2009).
Size	Natural log of total assets
Growth	Annual changes in the book value of total assets. (Rajan&Zingales, 1995)
Liquidity	The quick, or acid test ratio is which is equal to current assets minus inventories divided by current liabilities.
Control Variables	Total annual depreciation/total assets. (Titman &Wessels, 1988; Sherif&Elsayed, 2013).
Source	Compilation by researcher (2017)

Table 1: List of Variables

Most of the existing empirical studies on capital structure use linear regression techniques with proxies for the determinant factors used to explain the variation in leverage ratios across firms. The following multivariate ordinary least square (OLS) regression model is specified and used to test the relationship between the financial leverage and its characteristics in the oil and Gas firms listed on the Nigerian Stock Exchange.

General Form of the Equation is:

LEV = Function of (Profitability, Size, Liquidity, Growth, Non-Debt Tax-Shield)

Therefore, the Specified Model is:

$$LEV_{it} = \beta_0 + \beta_1 PR_{it} + \beta_2 SZ_{it} + \beta_3 LQ_{it} + \beta_4 TAN_{it} + \beta_5 GW_{it} + \beta_6 NDTs_{it} + \varepsilon_{it}$$

PR = Profitability

SZ = Size

LQ = Liquidity

TAN = Tangibility

GW = Growth

NDTS = Non-debt tax shield

$\varepsilon$  = The Error Term

The regression model, panel regression and available literature from the Nigerian stock exchange are sufficiently use in studying the research problem. These methods were chosen because of their flexibility, strength and high predictive ability. Regression model enables the concurrent analysis harmonization and interpretation to several related variables. This model enables test of linearity, normality, stability of variance and independence of observation, which are essential in such parametric analysis.

Panel regression technique is adopted for this study and is to be used to address the estimated para-meters of perspective variables of the models, which aligns with objectives of the study. This was supported by the research carried out by Dodd (1986), and Chowdhury (2004) as cited in Lima (2009).

#### 4. Data Analysis and Results

##### 4.1. Descriptive Statistics

Table 1 shows the descriptive statistics for the dependent and independent variables of the study.

	LEV1	LIQU	TANG	SIZE	GROWTH	PROF
Mean	9.570000	1.227000	14.09500	7.761000	2.429000	4.594000
Median	9.000000	1.205000	13.68000	7.770000	2.055000	4.530000
Maximum	13.70000	1.400000	30.88000	7.940000	5.710000	6.200000
Minimum	4.000000	1.130000	2.870000	7.530000	0.990000	2.990000
Std. Dev.	2.696852	0.077955	8.684432	0.156121	1.442315	1.183586
Skewness	-0.345460	0.963564	0.407859	-0.105596	1.136945	0.028121
Kurtosis	2.696626	3.042988	2.119772	1.366900	3.243650	1.502708
Jarque-Bera	1.898021	12.38557	4.800658	9.038731	17.43315	7.483492
Probability	0.387124	0.002044	0.090688	0.010896	0.000164	0.023713
Sum	765.6000	98.16000	1127.600	620.8800	194.3200	367.5200
Sum Sq. Dev.	574.5680	0.480080	5958.130	1.925520	164.3415	110.6691
Observations	80	80	80	80	80	80

Table 2: Descriptive Statistics of the Variables  
Source: Descriptive Statistic Results from Eview

Descriptive statistics are shown in Table 2 above, descriptive data statistics provide information on sample statistics such as mean, median, maximum and minimum value, and sample distribution as measured by skewness, kurtosis and Jarque-Bera statistics. The statistics on skewness and kurtosis provide valuable information about the symmetry of the probability distribution of different data series and, respectively, the thickness of the tails of these distributions. In particular, these two statistics are of considerable significance as they are used in the calculation of the Jarque-Bera statistics used to test the normality or asymptotic properties of a specific sequence. Some descriptive statistics for the eight insurance companies sampled for a twelve-year period covering a total of 80 observations from 2010-2019 are reported in the table above. The descriptive statistics of all the variables used to try to analyze the determinants of the capital structure of insurance firms are presented in Table 2 above.

The table shows that the Capital Structure (CST) average value is 9.570. The minimum value of the capital structure (CST) is 4.00 with a maximum value of 13.70 and a standard deviation of 2.696 The minimum value of the capital structure (CST) is 4.00 with a maximum value of 13.70 and a standard deviation of 2.696 The standard deviation value of

2.696 is less than the mean value of 9.57, meaning that the data is not widely dispersed from the mean value as the mean value of the variable is greater than the standard deviation value. The CST skewness value is 0.345, which is similar to 0 and is positively skewed, which is called symmetrical above its mean, and has a long right tail in the distribution. Likewise, kurtosis tests how fat the tails are in the distribution. The kurtosis statistics obtained for kurtosis at a maximum value of 3 are expected to ensure normal distribution (Blundell & Bond, 2000). The CST kurtosis value is 2.696, which is below 3, indicating that the variable is normally distributed in nature, indicating the extent of flatness (platy-kurtic) of the data series distribution relative to normal.

Liquidity (LIQU) also has a mean value of 1.227, a maximum value of 1.400, a minimum value of 1.133 and a normal deviation of 0.077. The standard deviation is lower than the mean value of 1.227, which means that the mean is not widely distributed from the results. The variable skewness value is 0.96, which is above zero, which implies that the variable distribution is of a non-symmetric type. The liquidity value of Kurtosis is 3.04, which is well above 3, suggesting that the form is leptokurtic in nature.

Similarly, the mean growth value (GRT) is 4.429, the maximum value is 5.71, the minimum value is 0.99, and the standard deviation is 1.44. The standard deviation is lower than the mean value of 5.71, which means that the mean is not widely distributed from the results. The variable skewness value is 1.136, which is above zero, meaning that the variable distribution is non-symmetric in nature. The GRT Kurtosis value is 3.24, which is far above 3, indicating that the shape is leptokurtic in nature.

The descriptive statistics show a mean value of asset tangibility (TAN) of 14,095, a maximum value of 30,88, a minimum value of 2,87 and a standard deviation value of 8,68, the standard deviation value of which is lower than the mean value, suggesting that the data is not widely distributed from the mean. The variable's skewness value is 0.407, which is similar to zero, meaning the variables' distribution is symmetrical in nature. The value of the Kurtosis variable is 2.119, which is close to 3, indicating that the data is usually distributed in nature.

The table also indicates that the average firm size (FSZ) value is 7.761, the maximum value is 7.94, the minimum value is 7.53, and the standard deviation value is 0.156. The standard FSZ deviation is lower than the average value, implying that the mean is not widely scattered from the results. The variable skewness value is 0.1055, which is similar to zero and positive, which implies that the variable distribution is symmetrical and has a long right tail. FSZ's Kurtosis values are 1.366, which is above 3, indicating that the variable's distribution series was peaked relative to normal because the statistics were greater than 3.0.0. Within the area where the median existed, being peaked meant very few observations.

The mean value of liquidity (PROF) is 4.594, the maximum value is 6.20, the minimum value is 2.99 and the standard deviation is 1.183. The standard deviation is lower than the mean value of 4.594, which means that the mean is not widely distributed from the results. The variable's distorted value is 0.28, which is above zero, meaning that the variable distribution is non-symmetric in nature. The liquidity value of Kurtosis is 1.502, which is well above 3, suggesting that the form is leptokurtic in nature.

The findings of the test suggest that the data are usually distributed since their P-value is less than 0.05. This analysis uses the Jarque-Bera test for normality. Nevertheless, the Gaussian theorem (1929) and Shao (2003) suggest that data normality does not in any way affect the BLUE estimate of inferential statistics.

#### 4.2. Correlation Analysis

Table 3 displays the correlation coefficients between dependent and the independent variables and also the relationship between the independent variables themselves.

	LEV1	LIQU	TANG	SIZE	GROWTH	PROF
LEV1	1.000000					
LIQU	0.134438	1.000000				
TANG	0.795761	0.404835	1.000000			
SIZE	-0.748656	-0.559733	-0.971486	1.000000		
GROWTH	0.615807	-0.161065	0.439101	-0.470403	1.000000	
PROF	0.775976	0.600925	0.856492	-0.918791	0.497765	1.000000

Table 3: Correlation Matrix

Source: Eview Output, 2019

The above table shows the values of the correlation between the independent variables. The matrix of correlation is used to determine the correlation between the study's independent variables. The variables are found to correlate reasonably well (between -0.74 and 0.5). There is no coefficient of correlation greater than 0.8, so multicollinearity of data is not an issue (Neter, Kutner, Nachtsheim & Wasserman, 1996; Cassey et. al., 1999; Wallace & Naser, 2005).

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
LIQU	0.507524	7.032868	1.671190
TANG	0.000377	4.921242	1.238428
SIZE	0.648383	343.6744	1.606332
GROWTH	0.001646	2.533218	1.707081
PROF	0.001419	1.497011	1.301701
C	42.98343	390.0340	NA

Table 4: Variance Inflation Factor

Source: Eview Output, 2019

Two good ways to determine multicollinearity between the independent variables in a sample are the tolerance values and the variance inflation factor. The result shows that the variance inflation factor was consistently lower than ten (10), indicating a complete lack of multicollinearity (Neter et al; 1996; Cassey et al., 1999). This indicates that the suitability of the research model was consistent with the six independent variables. The tolerance values were also consistently smaller than 1.00, thus extending the fact that the independent variables lack complete multicollinearity (Tobachmel & Fidell, 1996).

## 5. Random Effect Model Regression Results

Variable	Coefficient	Standard Error	t-statistics	Prob
C	-559.7692	99.07306	-5.650065	0.0000
LIQU	20.74374	6.783382	6.330323	0.0031
TANG	1.051172	0.166053	3.266296	0.0000
SIZE	66.78760	11.42663	5.844909	0.0000
GROWTH	1.274568	0.247873	5.142025	0.0000
PROF	1.662142	99.07306	-5.650065	0.0000
R2	0.86			
Adj. R2	0.85			
F-Statistics	95.25984			
Prob(F-Statistics)	0.000000			
Hausman Chi-Sq. Stat.	0.000000			
Hausman Prob. Value	1.0000			
Heteroskedasticity F-Statistics	5.009144			
Heteroskedasticity Observed R-square	0.1154			
Br-Godfrey LM Stat	8.356766			
Br-Godfrey LM Ob. R	0.0945			

Table 5: Random Effect Model Regression Results

Source: Author's computation using eview 10

Dependent variable: Capital Structure

### 5.1. Firm Liquidity and Capital Structure

The regression line shows that  $CST = -559.7692 + 20.74374LIQU + 1.051172TAN + 66.78760SZ + 1.274568GRWT + 1.662142Pof$ , this means that CST will increase by 20.744 units for every unit increase in firm liquidity (LIQU). The significant value or P-value of LIQU is 0.0031, this significant value or P-value is less than the t-value of 0.05, which indicates that LIQU has significant effects on CST of listed oil and gas firm in Nigeria.

### 5.2. Tangibility of Asset and Capital Structure

The regression line reveals that CST will increase by 1.0511 units for every unit increase in TAN. The significant value or P-value of TAN is 0.0000, this significant value or P-value is less than the t-value of 0.05, which indicates that TAN has significant effects on CST of listed oil and gas firm in Nigeria.

### 5.3. Firm Size and Capital Structure

The regression line portrays that CST will increase by 66.787 units for every unit increase in size. The significant value or P-value of size is 0.0000, this significant value or P-value is less than the t-value of 0.05, which indicates that size has significant effects on CST of listed oil and gas firm in Nigeria.

### 5.4. Firm Growth and Capital Structure

The regression line exhibits that CST will increase by 1.274 units for every unit increase in GRT. The significant value or P-value of GRT is 0.0000, this significant value or P-value is the same as the t-value of 0.05, which indicates that GRT has significant positive effects on CST of listed oil and gas firm in Nigeria.

Profitability and Capital Structure

The regression line indicates that CST will increase by 0.16 units for every unit increase in Prof. The significant value of Prof is 0.0000, this value is less than the t-value of 0.05, and likewise, the coefficient value of Prof is positive which indicates that Prof has positive significant effects on CST of listed oil and gas firm in Nigeria.

95.25984's F-Statistic and its corresponding P-value of 0.0000 suggest that the model is fit and that the independent variables are chosen, combined and used correctly. The Determination Coefficient (R<sup>2</sup>) of 0.86 indicates that LIQU, TANG, SIZE, GRWT and Prof can explain about 86 percent of the variation in CST, or the ability of the regression line to predict CST is about 86 percent. Other independent variables that are not captured in the regression are attributed to the remaining 14%. The analysis of the

The Breusch Pagan-Godfrey Heteroskedasticity Test shows that the chi-square probability value of 0.1154 shows that homoscedasticity is the data. The p-value of 0.1154, which is greater than 0.05, thus makes the analysis support the null hypothesis that the residuals are desirable and not heteroskedasticity but homoscedasticity.

The Breusch — Godfrey serial correlation LM test was performed on the residuals for serial correlation and the results showed an observed R-square of 0.3161, where

## 6. Discussion of Findings

As a result of the regression, LIQU (LIQU) has had a substantial positive effect on the capital structure (CST) of the Nigerian oil and gas company listed. This suggests that LIQU affects CST. The LIQU coefficient is positive, which may be due to the fact that large companies are obvious, and this result coincides with the Pecking Order Theory of Myer and Majluf (1984), who argued that larger companies have less asymmetrical knowledge (Kester, 1986) and as such are seen by lenders as less rising.

Based on the consequence of regression, asset tangibility (TANG) and capital structure (CST), TANG has a significant positive influence on CST. The effect of tangibility on capital structure suggests a positive relationship between tangibility and capital structure, both according to trade off theory and pecking order theory. This means that a company with the incentive to borrow at a lower interest rate is likely to borrow more than a company because of having a higher percentage of fixed assets. Wanrapee (2009); Khrawish and Khraiweh (2010); Mishra (2011); Naser and Krassimir (2011); Chandrasekharan (2012); Zabri (2012); Shehu (2012); Oppong-Boakye, Appiah and Afolabi (2013); Aremu, Ekpo, Mustapha and Adedoyin (2013); Mohamed and Ma Adebayo (2013); Oladele and Adebayo (2013);

The effects of SIZE and capital structure regression show that SIZE has a significant positive influence on CST. SIZE has a considerable influence on CST. This indicates that Scale affects Nigeria 's listed oil and gas company's capital structure. The theoretical prediction of the Tradeoff principle is the reason for such a partnership in Nigeria's oil and gas market. The FSZ coefficient is positive as a result of the fact that large companies are visible, and the finding is in tandem

The study found that growth (GRT) had a significant positive effect on the capital structure (CST) of the Nigerian oil and gas company. This implies that GRWT positively affects the CST of Nigeria 's listed oil and gas business. According to the pecking order theory hypothesis, an organization must first use internally generated funds that may not be sufficient for a growing business. And the next option for rising companies is to use debt financing, which ensures that a growing company would have a high level of debt financing.

PROF has a significant positive effect on CST based on the result of regression, profitability (PROF) and capital structure (CST). According to both trade off theory and pecking order theory, the impact of profitability on the capital structure indicates a positive relationship between profitability and capital structure. This is in line with the findings of Sheik and Wang (2011); Akinlo (2011); Ogbolu and Emeni (2012); Kiran (2006); Sritharan (2014); Adaramola and Olarewaju (2015); Pasada (2015) who found a negative insignificant negative Tariq and Hijazi (2006); Rafiu and Akinlolu (2008); Gill, Biger and Bhutani (2009); Wanrapee (2009); Khrawish and Khraiweh (2010); Mishra (2011); Naser and Krassimir (2011); Chandrasekharan (2012); Zabri (2012); Shehu (2012); Oppong-Boakye, Appiah and Afolabi (2013); Aremu, Ekpo, Mustapha and Adedoyin (2013); Mohamed and Ma Adebayo (2013); Oladele and Adebayo (2013);

## 7. Conclusions

The study concludes, based on the main findings, that firm characteristics have a major impact on the choice of capital structure of the oil and gas companies listed in Nigeria. The results of this study have shown that the acceptable level of growth, tangibility, liquidity and size depends on the leverage measure, while profitability is important for both leverage measures. This research therefore concludes that profitability has a positive relationship with the leverage measures of the oil and gas companies listed in the study period, while growth also has a positive relationship. Furthermore, tangibility, liquidity and scale had a positive impact on the long-term debt leverage measure of the oil and gas companies listed for the period under review.

The study also concludes that a single measure of leverage as a proxy of the capital structure may not sufficiently capture its importance and level of correlation with the explanatory variables, in particular total debt, as used by previous studies. That is, sufficient consideration should be paid to the proxies used to measure the capital structure when calculating it. This is because capital structure decisions are based on a long-term basis. Therefore, because of the amount of commercial credit included in short-term debt, it may be difficult to interpret the calculation of the capital structure using total debt. The results of the study are in line with the forecasts of the theories of corporate financial decisions on the trade off and pecking order.

## 8. Recommendations

Based on the summary and conclusions drawn from the study, the following recommendations are proffered; The assets of the firms should be efficiently and effectively utilized to ensure increasing revenue at minimum costs. This will

facilitate increasing retained earnings from which growth opportunities may be financed without necessarily opting for debt (believed to be more expensive). Also, with increased profitability, immediate financing needs will be met without incurring fresh debt-related burden. In addition, the relevant authorities should strive to restore the sector's investors and creditors' confidence by ensuring enabling environment capable of facilitating increasing business profitability.

The option of debt should be chosen with utmost circumspection to hedge against shareholders losing control to the bondholders. More clearly, when opting for debt only asset tangibility, liquidity and firm size should be considered and the associated costs and benefits must be carefully evaluated. It is also recommended that the management of firms should remain liquid at all times by ensuring that their current liabilities do not exceed their current assets so that their financial obligations can be discharged on time.

The findings of this study also showed that listed Nigeria oil and gas firms total obligations comprises more short term than long term debts. This may have stemmed from the underdevelopment of the debt market in the country and also the illiquid nature of the public traded bonds. Thus, this study recommends that the Securities and Exchange Commission should formulate and enforce liquidity-boosting rules and regulations. This will go a long way to encouraging the participation of the oil and gas companies. This will enable them access long term loans which are believed to be cheaper compared to short term borrowings and also enable firms to liquidate debts they no longer need.

## 9. References

- i. Abor, J. (2005). The Effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana. *Journal of Risk Finance*, Vol. 6, 438-47.
- ii. Acaravci, S.K (2015). The Determinants of Capital Structure: Evidence from the Turkish Manufacturing Sector. *International Journal of Economic and Financial Issues*, 5(1), 158-171.
- iii. Ajao, o. S., &Ema, U. (2012). Determinants of Capital Structure in Nigerian Firms: A Theoretical Review. Volume No. 2 (2012), Babcock University, Nigeria.
- iv. Akbar, U. S., & Bhutto, N. A., (2012). Determinant and Policies of Capital Structure in the Non-Financial Firms (Personal Care Food) of Pakistan. *Asian Journal of Business and Management Sciences*. 2(2), 27-35.
- v. Akhtar, S., &oliver, B. (2009). Determinants of Capital Structure for Japanese Multinational and Domestic Corporations. *International Review of Finance*, 9, 1-26.
- vi. Akinlo, o. (2011). Determinants of Capital Structure: Evidence from Nigerian Panel Data. *African Economic and Business Review*, 9 (1), 1-16.
- vii. Akintoye, I.R (2008). Effects of Capital Structure on Firms' Performance: The Nigerian Experience. *European Journal of Economics, Finance and Administrative Sciences*, 10, 233-243.
- viii. Akinyomi, o. J., &olagunju, A. (2013). Determinant of Capital Structure in Nigeria. *International Journal of Innovation and Applied Studies*. 3(4), 999-1005.
- ix. Ali, L. (2011). The Determinants of Leverage of the Listed-Textile Companies in India. *European Journal of Business and Management* ISSN 2222-2839. 3 (12), 54-59
- x. Ali, K., Akhtar, M.F., &Sadaqat, S.(2011). Practical Implication of Capital Structure Theories. Empirical Evidence from the commercial Banks of Pakistan. *European journal of social sciences*. 23(1). 162-173
- xi. Antoniou, A.; Guney, Y., &Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market-oriented Versus Bank-oriented Institutions. *Journal of Financial and Quantitative Analysis*, 43 (1), 59-92
- xii. Anupam, M. (2012). An Empirical Analysis of Determinants of Dividend Policy – Evidence from the UAE Companies. *Global Review of Accounting and Finance*. 3(1). 18
- xiii. Arabzadeh, M., &Meghaminejad, M. (2012). The Capital Structure and Liquidity on the Tehran Stock Exchange. *American Journal of Scientific research*, 47, 69-78
- xiv. Ashraf, T., & Rasool, S. (2013). Determinant of Leverage of Automobile Sector Firms Listed in Karachi Stock Exchange: By Testing Pecking order Theory. *Journal of Business Studies Quarterly*. 4(3), 73-83
- xv. Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *Journal of Finance*, 57(1), 1-32.
- xvi. Bas, T., Muradoglu, G., &Phylaktis, K., (2009). Determinants of Capital Structure in Developing Countries. Research Paper Series. Cass Business School, 106 Bunhill Row, London EC1Y 8TZ, U.K.
- xvii. Bevan, A. A., &Danbolt, J. (2002). Capital structure and its Determinants in the UK – A Decompositional Analysis. *Applied Financial Economics*. 12, 159-170
- xviii. Bevan, a. A., &Danbolt J. (2000). Dynamics in the Determinants of Capital Structure in the UK. Working Paper, University of Glasgow.
- xix. Book et all (2001) capital structure and firm characteristics: evidence from an emerging market.
- xx. Booth, L, Aivazian V., Demircug-Kunt, A. and Maksimovic, V. (2001). Capital Structures in Developing Countries. *The Journal of Finance*, 56(1), 87-130.
- xxi. Bradley, M., Jarrell, G., & Kim, E. (1984). on the Existence of an optimal Capital Structure: Theory and Evidence. *Journal of Finance*. 39(3), 857-878.
- xxii. Brennan, M. J., & Schwartz, E. S. (1978). Corporate Income Taxes, Valuation and the Problem of optimal Capital Structure. *Journal of Business*, 51, 103-114.
- xxiii. Bundala, N.N. and Machogu, C.G. (2012). The determinants of capital structure: Evidence from Tanzania's Listed non-financial Companies. *International Journal of Research in Commerce, IT and Management*. 2(6), 24-32.
- xxiv. Chandrasekharan, C.V. (2012). Determinants of Capital Structure in the Nigerian Listed Firms. *International Journal of Advanced Researching Management and Social Sciences*. 1(2), 108-133

- xxv. Chechect, I. L., Garba, S. L., & Odudu, A. S., (2013). Determinant of Capital Structure in Nigerian Chemical and Paint Sector. *International Journal of Humanities and Social Sciences*. 3(15), 247-263.
- xxvi. Chen, J.J. (2003). Determinants of Capital Structure of Chinese-listed Companies. *Journal of Business Research*. 57, 1341-1351
- xxvii. Dare, F. D., & Sola, O. (2010). Capital Structure and Corporate Performance in Nigeria Petroleum Industry: Panel Data Analysis. *Journal of Mathematics and Statistics*. 6(2), 168-173.
- xxviii. DeAngelo, H. & Masulis, R. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, 8, 3-30.
- xxix. Draft (1995) Determinant of capital structure in developing countries.
- xxx. Ebadi, M., Thim, C.K., and Choong, Y.V. (2011). Impact of Firm Characteristics on Capital Structure of Iranian listed Firms. *European Journal of Economics, Finance and Administrative Sciences*, 42, 160-171
- xxxi. Eriotis, N.V., (2007). "How Firm Characteristics Affects Capital Structure: An Empirical Studies". *Finance*. 33(5), 321-331.
- xxxii. Fareed, Z., Zulfiqar, B., & Shahzad, F. (2014). The Effect of Firm Specific Actors on Capital Structure Decision: Evidence from Power and Energy Sector of Pakistan. *Middle-East Journal of Scientific Research*. 21(9), 1419-1425.
- xxxiii. Fama, E. F., & French, K. R. (2002). Testing Trade-off and Pecking order Predictions about Dividends and Debt. *Review of Financial Studies*. 15(1): 1-33.
- xxxiv. Frank, M., & Goyal, V. K. (2008). Trade-off and Pecking order Theories of Debt. In E. Eckbo (Ed.), *The Handbook of Empirical Corporate Finance*. North Holland: Elsevier.
- xxxv. Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The Capital Structure of Swiss Companies: An Empirical Analysis Using Dynamic Panel Data. *European Financial Management*. 11(1), 51-56
- xxxvi. Gill, A., Briger, N., Pai, C., & Bhutani, S. (2009). Determinant of Capital Structure in The Service Industry, Evidence from United States. *The Open Business Journal*. 2, 48-53.
- xxxvii. Graham, J. R., & Harvey, C.R. (2001). The Theory and Practice of Corporate Finance: Evidence from the Field. *Journal of Financial Economics*. 60(2/3), 187-243.
- xxxviii. Glen, J., & Pinto, B. (1994). Debt or Equity? How Firms in Developing Countries Choose. IFC Discussion Paper, 22, 1-16.
- xxxix. Hall, G. C., Hutchinson, P.J., Michaelas, N. (2000). Industrial Effects on the Determinant of Unquoted SMEs' Capital Structure. *International Journal of Economics of Business*. 7, 387-401
- xl. Hall, G. C., Hutchinson, J., Michaelas, N. (2004). Determinants of the capital structures of European SMEs. *Journal of Business, Finance and Account*. 31(5/6), 711-728.
- xli. Harris, M., & Raviv, A. (1991). The Theory of Capital Structure. *The Journal of Finance*. 46, 297-355.
- xlii. Igbinsola, S. O., & Chijuka, I. M. (2014). The Determinants of Capital Structure of Listed in Nigeria. *European Journal of Accounting, Auditing and Finance Research*. 2(10), 96-111
- xliii. Jensen, M. C. (1976). *Theory of the Firm: Managerial Behavior, Agency Costs and ownership Structure*; Harvard University Press.
- xliv. Jensen, M. C., & Meckling, W. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, 76, 323-329.
- xlv. Khrawish, H. A., & Khraiwesh, A.H.A. (2010). The determinants of the capital structure: evidence from Jordanian industrial companies. *Journal of King Abdul-Aziz University Economic and Administration*, 24(1), 173-196.
- xlvi. Kinde, B. A. (2013). "Impact of Firm Level Factors: Evidence from Ethiopian Insurance Companies". *Global Journal of Management and Business Research Finance*. Vol.13, No.4, 24-30
- xlvii. Krishnan, V. S., & Moyer, R. C., (1999). Determinant of Capital Structure: An Empirical Analysis of Firms in Industrialized Countries. *Managerial finance*. 22, 39-55.
- xlviii. Kurshev, A. & Strebulaev, I. A. (2005), *Firm Size and Capital Structure*, Working Paper London Business School.
- xlix. Liargovas, P. & Skandalis, K., 2008. Factor Affecting Firms' Financial Performance: The Case of Greece. University of Peloponnese.
- l. Lipson, M.L., & Mortal, S. (2010). Liquidity and Capital Structure, *Journal of Financial Markets*, Forthcoming.
- li. Mansnoon, M., & Anwar, F., (2012). Capital Structure Determinant of KSE Listed Pharmaceutical Companies. *GMJACS*. 2(1), 19-38.
- lii. Modigliani, F. and Miller, M.H. (1958). The Cost of Capital, Corporate Finance, and the Theory of Investment. *American Economic Review*. Vol. 48, 261-297.
- liii. Mohammed, A. (2008). Capital Structure in Saudi Arabian Listed and Unlisted Companies. Research paper, Submitted to University of Stirling, Scotland.
- liv. Morris, G., & Beretta, C. (2008). The Capital Structure of REITs. Is it a peculiar industry? *Journal of European Real Estate Research*. 1(1). 6-57.
- lv. Myers, S. C. (1977). Determinants of Corporate Borrowing. *Journal of Financial Economics*. Vol.5, 147-175.
- lvi. Myers, S. C. (1984). The Capital Structure Puzzle. *Journal of Finance*. 39, 575-92.
- lvii. Myers, S. C. (2001). Capital Structure. *Journal of Economic Perspectives*. 15, 81-102.
- lviii. Myers, S. C., & Majluf, N. S. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics*. 13, 187-221.

- lix. Ogbulu, o. M., & emeni, f. K. (2012). Determinant of corporate capital structure in nigeria. *International journal for management science*. 1(10), 81-96
- lx. Onalapo, A. A., Kajola, S. o., & Nwidobie, M. B. (2015). Determinant of Capital Structure: A Study of Nigerian Quoted Firms. *European Journal of Business and Management*. 12(3), 170-183.
- lxi. Padron, Y, G., Apolinario, R, M, C., Santana, o, M., Conception, M., Martel, V., and Sales, L,J., (2005). Determinant Factors of Leverage: An Empirical Analysis of Spanish Corporations. *Journal of Risk Finance*. 6(1), 60-68
- lxii. Pandey, I. M. (2005). *Financial Management*. 9th Edition, Vikas Publishing House Pvt. Ltd., India.
- lxiii. Paydar, M., & Bardai, B. (2012). Leverage Behaviours of Malaysian Manufacturing Companies a Case observation of the Industrial Sector Companies in Bursa Malaysia. A Working Paper.
- lxiv. Prasad, S., Green, C., Murinde, V. (2003). *Company Financial Structure in Developing Economies: Evidence from a Comparative Analysis of Thai And Malay Companies*. Working Paper, University of Birmingham.
- lxv. Rajan, R. and Zingales, L. (1995). What Do We Know about Capital Structure? Some Evidence from International Data. *Journal of Finance*. 50, 47-81.
- lxvi. Ramlall, I. (2009). Determinants of Capital Structure among Non-Quoted Mauritian Firms under Specificity of Leverage: Looking for a Modified Pecking order Theory. *International Research Journal of Finance and Economics*. 31, 83-92.
- lxvii. Ross, S.A. (1977). The Determination of financial structure: the incentive signaling approach, *Bell Journal of Economics*. 8(1), 23-40.
- lxviii. Salawu, R. o., & Agboola, A, A., (2008). The Determinant of Capital Structure of Large Non-Financial Listed Firms in Nigeria. *The International Journal of Business and Finance Research*. 2(2), 75-84.
- lxix. Saleem, F., Rafique, B., Mehmood, Q., Irfan, M., Saleem, R., Tariq, S., & Akram, G. (2013) The Determination of Capital Structure of oil and Gas Firms Listed on Karachi Stock Exchange in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*. 4(9), 225-235
- lxx. Sen, M., & Oruc, E. (2008). Testing of Pecking order Theory in ISE (Istanbul Stock Exchange Market). *International Research Journal of Finance and Economics*, 21, 19-26
- lxxi. Shala, A., Ahmeti, S., Berisha, V., & Perjuci, E. (2014). The Factors that Determine the Capital Structure among Insurance Companies in Kosovo: Empirical Analysis. *Academic Journal of Interdisciplinary Studies*. 3(2), 43-50
- lxxii. Sharif, B., Naeem, M. A., and Khan, A.J. (2012). Firm's Characteristics and Capital structure: A Panel Data Analysis of Pakistan's Insurance Sector, *African Journal of Business Management*, 6(14), 4939- 4947.
- lxxiii. Sheikh, N. A., & Wang, Z. (2011). Determinants of Capital Structure: An Empirical Study of Firms in Manufacturing Industry of Pakistan. *Managerial Finance*. 37(2), 117 - 133,
- lxxiv. Shehu, U. H. (2011). Determinant of Capital Structure in the Nigerian Listed Insurance Firms. *International Conference on Management Proceedings*. Pg. 697-708
- lxxv. Shehu, U.H. (2012). *Firms Attributes and Financial Reporting Quality of Quoted Manufacturing Firms in Nigeria*. Unpublished P.hd dissertation, postgraduate school, Ahmadu Bello University, Zaria.
- lxxvi. Sogorb-Mira, F. (2005). How SME Uniqueness Affects Capital Structure: Evidence from a 1994-1998 Spanish data panel. *Small Business Economics*, 25(5), 447-457.
- lxxvii. Suto, M., (2003). Capital Structure and Investment Behavior of Malaysian Firms in the 1990s: A Study of Corporate Governance Before the Crisis. *Corporate Governance* 11, 25-39
- lxxviii. Titman, S. & Wessels, R. (1988). The Determinants of Capital Structure Choice. *Journal of Finance*, 43, 1-19.
- lxxix. Um, T., (2001). Determinant of Capital Structure and the Prediction of Bankruptcy in Korea, Unpublished PhD Thesis. Cornell University.
- lxxx. Thomas, K. T., Chenuos, N., & Biwott, G. (2014). Do Profitability, Firm Size and Liquidity Affect Capital Structure? Evidence from Kenyan Listed Firms. *European Journal of Business and Management*. 6(28), 119-124
- lxxxi. Wanrapee, B. (2009), Capital Structure Determinants of Thai Listed Companies, The Clute International Academic Conference, New Orleans Louisiana, Available: <http://conferences.cluteonline.com/index.php/IAC/2011No/schedConf/presentations?searchIal=B&track=11>
- lxxxii. Wooldridge, J. M. (2002). "Econometric Analysis of Cross section and Panel data." Cambridge MIT Press.
- lxxxiii. Zabri, S.M. (2012). The Determinants of Capital Structure among SMEs in Malaysia": Proceeding at International Conference of Technology Management, Business and Entrepreneurship. Renaissance Hotel, Malaysia 18-19 December. 132-146