

**DEBT-EQUITY MIX AND PERFORMANCE OF DEPOSIT  
MONEY BANKS IN NIGERIA**

**BY**

**Pearl Funmilayo AWORINDE  
MGS1714057**

**DEPARTMENT OF FINANCE  
FACULTY OF MANAGEMENT SCIENCE  
UNIVERSITY OF BENIN  
BENIN CITY**

**AUGUST, 2024**

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF  
FINANCE, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF  
BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc)  
DEGREE IN FINANCE**

**AUGUST, 2024**

## **DECLARATION**

I, **Pearl Funmilayo AWORINDE**, do hereby declare that this project is entirely my work and composition. The work embodied in this project has not been submitted in candidature for any degree and is not concurrently being submitted for any other degree. All references made to works of other persons have been duly acknowledged.

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**Pearl Funmilayo AWORINDE**

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**Date**

## CERTIFICATION

We certify that this research work was carried out by **Pearl Funmilayo AWORINDE** and it is adequate in scope and quality and is hereby approved for in partial fulfilment of the requirement for the award of Bachelor of Science (B.Sc) Degree in Finance, University of Benin, Benin City.

\_\_\_\_\_  
**Dr. L.E. Igbiovvia**  
**(Project Supervisor)**

\_\_\_\_\_  
**Dr. O. Aigbovo**  
**(Project Co-ordinator)**

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_

\_\_\_\_\_  
**DR. A. O. Izekor**  
**(Head of Department)**

**Date:** \_\_\_\_\_

## **DEDICATION**

This project is dedicated to God Almighty for His grace, mercies and by whose divine assistance made it easy for me to accomplish this work.

## ACKNOWLEDGEMENTS

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## **ABSTRACT**

The study investigated the debt-equity mix and performance of deposit money banks in Nigeria. Panel data analysis technique was adopted using both preliminary analysis and multiple least square regressions to estimate the relationship between the dependent and independent variables. A sample of five deposit money banks from the Nigerian stock exchange was selected between the period of 2010-2017 based on available data. Based on the analysis carried out the study recommends amongst others that management should try as much as possible to finance their operations using equity and reduce their debt uptake in order to improve their performance.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Capital structure decision is the mix of debt and equity that a company uses to finance its business (Damodaran, 2001). Hence, the relationship between capital structure decisions and firm performance has been extensively investigated in the past few decades. Capital structure is defined as the means by which an organization is financed. It is also a company's proportion of short and long term debt and is considered when analyzing capital structure. It is the mix of debt and equity maintained by a firm. The capital structure choice has been an issue of great interest in the corporate finance literature. This is due to the fact the mix of funds (leverage ratio) affects the cost and availability of capital and thus, firms' investment source (Muritala, 2012). Modigliani and Miller (1958) suggested that, in a world without friction, there is no difference between debt and equity financing as regards the value of the firms. Thus, financing decision add no value and are therefore of no concern to the managers. Evidence would suggest that this does not hold in reality. However, today, capital structure is one of the important financial decisions for any business organization. This decision is important because the organization need to maximize return to various organization' and also have an effect on the value of the firm.

In Nigeria, financial constraints have been a major factor affecting corporate firms' performance. According to Salawu and Agboola (2008), the move towards a free market, coupled with the widening and deepening of various financial markets has provided the basis for the corporate sectors to optimally determine their capital structure. Mainly, the corporate sector is characterized by a large number of firms operating in a largely deregulated and increasingly competitive environment. Since 1987, financial liberalization has changed the operating environment of firms, by giving more flexibility to the Nigerian financial managers in choosing their firms' capital structure. Alfred (2007) suggested that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity capital. Therefore, a firm's capital structure simply refers to the combination of long-term debt and equity financing. However, whether or not an optimal capital structure exists in relation to firm value, is one of the most important and complex issues in corporate finance. This study is thus geared towards assessment of capital structure decision effect on market value in Nigerian quoted deposit banks in Nigeria.

## **1.2 Statement of the Research Problem**

Capital structure remains the most controversial issues in finance literature because of the dynamic nature of the mix of corporate financing, which mirrors the many events and exogenous shocks to firms' activities. Although the capital structure issue has received substantial attention in developed countries, it has remained neglected in the developing countries. The reasons for this neglect according to Bhaduri (2002) was, that until recently, developing economics have placed little importance to the role of firms in economic development, as well as the corporate sectors in many developing countries, faced several constraints on their choices regarding sources of funds, and that access to equity markets was either regulated, or limited due to the underdeveloped stock markets. Consequently in Nigeria, determining the actual effect a firm's capital structure has on its market value has been a major challenge among researchers. Particularly, specifying what capital mix seems to optimize firms' values has been a difficult puzzle to unravel. There have been a limited number of studies in Nigeria that have examined the firm's choice of capital structure and its market value in oil and gas companies, but only a few of the findings ever expressed that a firm's choice of capital structure could be influenced by the impact it has on its market value. According to Pandey (2005), the capital structure decision of a firm is a significant managerial decision; it influences the shareholders return and risk, and subsequently affects the market value of the firm.

Against this backdrop, this study investigates the effect of capital structure decision on firm performance in Nigeria.

More specifically, the study seeks to provide answers to the research questions below:

- (i) What is the relationship between total debt/total equity ratio and corporate performance in Nigeria?
- (ii) Is there any significant relationship between total debt/total capital and corporate performance in Nigeria?
- (iii) Does corporate total debt/total asset have any significant relationship with corporate performance in Nigeria?
- (iv) What is the effect of total assets on corporate performance in Nigeria?

### **1.3 Objectives of the Study**

The central objective of this study is to examine the effect of capital structure on firm performance in Nigeria. The specific objectives of the study are to;

- (i) ascertain the relationship between total debt/ total equity ratio with firm performance in Nigeria;
- (ii) examine the significant relationship total debt/total capital and firm performance in Nigeria;
- (iii) investigate the relationship of total debt/total asset on firm performance in Nigeria; and

(iv) find out the effect of total assets on firm performance in Nigeria.

#### **1.4 Research Hypotheses**

This study tested the null hypotheses below:

H<sub>01</sub>: Total debt/total equity ratio does not significantly affect firm performance in Nigeria.

H<sub>02</sub>: Total debt/total capital does not significantly affect firm performance in Nigeria.

H<sub>03</sub>: Total debt/total asset does not impact firm performance in Nigeria significantly.

H<sub>04</sub>: Total assets does not significantly affect firm performance in Nigeria.

#### **1.5 Scope of the Study**

The scope of this study in content is limited to the impact of capital structure of firms' performance in Nigeria. The study is limited to only deposit money banks listed on the Nigerian Stock Exchange within the financial year period of 2010 to 2017. This is perceived necessary in order to keep the study within controllable level.

## **1.6 Significance of the Study**

The study contributes to the existing body of knowledge, as well as make up for the paucity of scholarly papers in Nigeria on firms' capital structure and financial performance in deposit money banks. Also, the findings of this study will aid an effective and efficient financing decision of firms in deposit money banks. Consultants and financial analysts will find the study helpful in their financial and advisory services to failing and distressed banks who are their prospective customers. This study will be of great benefit to financial sector regulatory authority or authorities. The outcome of this study and recommendation will equip the authority with the composition of the DMBs' capital structure. This study will also be of vital and immense advantage to prospective and current shareholders of the various banks in the sample. This is so because shareholders (prospective shareholders) and investors (prospective investors) will be equip with both theoretical and empirical evidences about capital structure and performance of quoted banks in Nigeria.

## **1.7 Limitation of the Study**

The study is based on the data set that is assessed from the financial statement of the different deposit money banks in our sample. The reliability and accuracy of those data will therefore affect the robustness of the present study.

Also, another perceived limitation is methodological weakness of the estimating technique.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This section discusses relevant literature on the linkage between capital structure and firm value. The relationship determined by past studies is now examined. In doing this, conceptual, theoretical and empirical literature is reviewed in order to devise a concrete perspective for the study.

#### **2.2 Conceptual Literature**

##### **2.2.1 Concept of Capital Structure**

The term capital structure according to Kennon (2010) refers to the percentage of capital (money) at work in a business. There are two forms of capital: equity capital and debt capital. Each has its own benefits and drawbacks and a substantial part of wise corporate stewardship and management is attempting to find the perfect capital structure in terms of risk and reward payoff for shareholders. Alfred (2007) stated that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure of a firm by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity. The capital

structure of a firm as discussed by Inanga and Ajayi (1999) does not include short-term credit, but means the composite of a firm's long-term funds obtained from various sources. Therefore, a firm's capital structure is described as the capital mix of both equity and debt capital in financing its assets. However, whether or not an optimal capital structure exists is one of the most important and complex issues in corporate finance.

### **2.2.2 Components of a Firm's Capital Structure**

The various components of a firm's capital structure according to Inanga and Ajayi (1999) may be classified into equity capital, preference capital and long-term loan (debt) capital.

#### **1. Equity Capital**

Pandey (1999) defined equity capital as including share-capital, share premium, reserves and surpluses (retained earnings). Typically, equity capital consists of two types which include: contributed capital, which is the money that was originally invested in the business in exchange for shares of stock or ownership and retained earnings, which represents profits from past years that have been kept by the company and used to strengthen the Balance Sheet or fund growth, acquisitions, or expansion. The cost of equity capital of a firm using the dividend growth basis can be expressed as:

$$K_e = d_0(1 + g)/P_e + g \dots\dots\dots(1)$$

Where:  $K_e$  equals the cost of equity capital;  $d_0$ , the current dividend per share;  $P_e$ , the Ex-dividend market price per share and  $g$ , the expected constant annual growth rate in earnings and dividend per share.

## 2 Preference Capital

The preference share capital is a hybrid in that it combines the features of debentures and those of equity shares except the benefits. Its cost can be expressed as:

$$K_p = P_{div}/P_o \dots\dots\dots(2)$$

Where:  $K_p$  equals the cost of preference share;  $P_{div}$ , the expected preference dividend and  $P_o$ , the issue price of preference shares.

## 3 Debt Capital

The debt capital in a firm's capital structure refers to the long-term bonds the firm use in financing its investment decisions because the firm has years, if not decades, to come up with the principal, while paying interest only in the meantime. The cost of debt capital in the capital structure depends on the health of the firm's balance sheet. This can be expressed as:

$$K_d = Int/Bo \dots\dots\dots (3)$$

Where:  $K_d$  equals the before-tax cost of debt;  $Int$ , the interest element and  $Bo$ , the issue price of bond (debt). The after-tax cost of debt capital will be:  $K_d(1 - T)$ .

Where:  $T$  is corporate tax rate.

## **2.3 Theoretical Literature**

### **2.3.1 Theory of Capital Structure**

Several theories have emerged to explain firms' capital structures and their resultant effects on their market values. Among these theories include the Capital structure relevance theory, pecking order theory, the free cash flow theory, the agency cost theory and the trade-off theory (Bokpin and Isshaq, 2008).

#### **1. Capital Structure Irrelevance and Relevance Theory**

These theories as propounded by Modigliani and Miller (1958 and 1963) state that under perfect capital market conditions, a firm's value depends on its operating profitability rather than its capital structure, that is, value irrelevant (Modigliani and Miller, 1963). But, in their tax-corrected paper, Modigliani and Miller (1963) showed that when corporate tax laws permit the deductibility of interest payments, the market value of a firm is an increasing function of leverage. With corporate income tax rate  $\tau_c$ , and  $\rho$  on an after tax basis, the equilibrium market value of levered firm is given by:

$$V_L = \bar{X}(1-\tau_c)/\rho + \tau_c D_L \dots\dots\dots(4)$$

Where,  $\bar{X}$  equals expected earnings before interest and taxes,  $\bar{X}(1-\tau_c)/\rho = V_w$  value of the firm if all-equity-financed, and  $\tau_c D_L$  is the present value of the interest tax-shield, the tax advantage of debt. Given  $\bar{X}$ ,  $V_L$  increases with the leverage, because interest is a tax-exempt expense. But while this theory successfully introduced the potential effects of corporate taxes into the capital structure theory, it only leads to an extreme corner effect as the firm's value is maximized when 100 percent debt finance is used (Mollik, 2008).

In reality, it is impracticable, probably because of the uncertainty of interest tax-savings, and the existence of personal taxes (Miller, 1977) and non-debt tax shields (DeAngelo and Masulis, 1980) putting limit to this limitless tax advantage to debt. Following this theory, it is apparent that a significant relationship exists between a firm's choice of capital structure and its market value.

## **2. Capital Structure and the Pecking Order Theory**

The pecking order theory of capital structure as introduced by Donaldson (1961) is among the most influential theories of corporate leverage. It goes contrary to the idea of firms having a unique combination of debt and equity finance, which minimize their cost of capital. The theory suggests that when a firm is looking to finance its long-term investments, it has a well-defined order of preference with respect to the sources of finance it uses. It states that a firm's first preference should be the utilization of internal funds (i.e. retain earnings), followed by debt and then external

equity. He argued that the more profitable firms become, the lesser they borrow because they would have sufficient internal finance to undertake their investment projects. He further argued that it is when the internal finance is inadequate that a firm should source for external finance and most preferably bank borrowings or corporate bonds. And after exhausting both internal and bank borrowing and corporate bonds, the final and least preferred source of finance is to issue new equity capital. According to Myers (1984), due to adverse selection, firms prefer internal to external finance. When outside funds are necessary, firms prefer debt to equity because of lower information costs associated with debt issues. These ideas were refined into a key testable prediction by Shyam-Sunder and Myers (1999), that the financing deficit should normally be matched dollar-for-dollar by a change in corporate debt. As a result, if firms follow the pecking order, then in a regression of net debt issues on the financing deficit, a slope coefficient of one is observed. Fama and French (2002) tested some qualitative predictions of the pecking order theory as against the qualitative predictions of the tradeoff model. In their findings, they suggested that more profitable firms are less levered and it is consistent with the pecking order. And also, that firm with greater investment opportunities is less levered as predicted by the tradeoff theory.

### **3. Capital Structure and the Static Trade-off Theory**

The static trade-off theory of capital structure (also referred to as the tax based theory) states that optimal capital structure is obtained where the net tax advantage of debt financing balances leverage related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant (Baxter, 1967 and Altman, 1984). In view of this theory, issuing equity means moving away from the optimum and should therefore be considered bad news. According to Myers (1984), firms adopting this theory could be regarded as setting a target debt-to-value ratio with a gradual attempt to achieve it. However, he suggested that managers will be reluctant to issue equity if they feel it is undervalued in the market. The consequence is that investors perceive equity issues to only occur if equity is either fairly priced or overpriced. As a result investors tend to react negatively to an equity issue and management is reluctant to issue equity. Myers and Majluf (1984) assumed that firms' managers have superior information about the true value of the firms and that managers will therefore time a new equity issue if the market price exceeds their own assessment of the stock value, that is, if the stocks are overvalued by the market. Since investors are aware of the existence of the information asymmetry they will interpret the announcement of an equity issue as a signal that the listed stocks are overvalued, which subsequently will cause a negative price reaction. The literature on static trade-off theory has been voluminous and a number of questions have been asked as to whether or not expected increase tax-shield benefits from employing debt

finance may offset the financial distress cost such as; cash flow volatility, possible bankruptcy cost in the event of default, competitive threat if strained for cash. Based on this theory, optimum leverage is determined by balancing the corporate tax saving advantage of debt against the deadweight costs of bankruptcy (DeAngelo and Masulis, 1980; Bradley, Jarrell and Kim, 1984; Barclay and Smith, 1999; and Myers, 1984). But, others have questioned it. This theory of capital structure supports the idea of a firm having a unique capital mix in order to maximize its market value taking into consideration both the bankruptcy costs and tax-shield advantage of debt capital. It predicts a positive relationship between a firm's choice of capital structure and its market value. Miller (1977) argued that the tax savings seem large and certain while the bankruptcy cost seems to be negligible, implying that many firms should be more highly levered than they really are. Myers (1984) argued that if this theory were key force, then the tax variables should provide an important insight about optimum capital structure decision.

The static-order-hypothesis theory also predicts that more profitable firms should carry more debt since they have more profits that need to be protected from taxation. But others criticized this prediction, such as Myers (1984), Titman and Wesels (1988) and Fama and French (2002). The tradeoff theory predicts that larger and more mature firms use more debt in their capital structure than equity.

#### **4. Capital Structure and the Agency Cost Theory**

The agency cost theory of capital structure as propounded by Jensen and Meckling (1976) states that an optimal capital structure will be determined by minimizing the costs arising from conflicts between the parties involved. They argued that agency costs play an important role in financing decisions due to the conflict that may exist between shareholders and debt holders. And that when companies are approaching financial distress, shareholders can encourage management to take decisions, which in effect, expropriate funds from debt holders to equity holders. The general result of these extensions is that the combination of leverage related costs (such as bankruptcy and agency costs) and a tax advantage of debt produces an optimal capital structure at less than a 100 percent debt financing as the tax advantage is traded off against the likelihood of incurring the costs. But Parrino and Weisbach (1999) empirically estimated that the agency costs of debt are too small to offset the tax benefits. However, debt moderates the manager-shareholder conflict and reduces the agency costs of equity by raising the manager's share of ownership in the firm. Also, debt can reduce agency costs of equity by reducing the amount of free cash available to managers to engage in the pursuits since debt commits the firm to pay out cash (Jensen, 1986).

### **2.3.2 Factors Impacting on a Firm's Performance other than its Capital Structure**

There are, apparently, many other factors that influence a firm's market value other than its choice of capital structure in the real world. Prior researches have shown that other factors have significant relationship with firms' market values. This study mainly examined the relationship existing between the choice of capital structure of a firm and its market value. But other factors that as well influence firms' market values include: Growth potential or future investment opportunity (Myers, 1984; Titman and Wessels, 1988; Harris and Raviv, 1991); Dividend Policy (Miller and Modigliani, 1961; Gordon, 1967); the size of a firm (Gordon, 1962); the kind of risk a firm is exposed to, liquidity position of the firm as well have some influence on its market valuation.

### **2.4 Empirical Literature**

This study will not be complete without taking a critical look at some past empirical studies in terms of the purpose of the studies, the methodology that was adopted and the findings of the studies as are related to this current study. For instance, Kester (1986) found a negative relation between capital structure and performance (profitability) in the US and Japan. Capon et al. (1990) conduct a meta-analysis of results from 320 published studies related to financial performance, and find a positive relationship between usage of leverage and the financial performance.

Roden and Lewellen (1995) examines the capital structure of 48 US firms during the period 1981-1990 and revealed a positive relation between profitability and capital structure.

Rajan and Zingales (1995) studied the determinant factors of capital structure of common company corporations in seven large countries around the world (America, Japan, Germany, France, Italy, Britain and Canada) during 1987 to 1991. In this study, they chose 4557 companies as samples of these seven countries. Research findings indicate that financial leverage has negative relationship with profitability and market value to book value ratio and positive relationship with the value of tangible fixed asset and firm size.

Kinsman and Newman (1998) studied the relationship between debt level and firms' performance by including three measures of debt level. This study suggested an inverse relation between the debt level and firms performance and found that earnings are negatively correlated with short-term debt, but are positive with long-term debt.

Sunder and Myers (1999) examined the effect of four factors: assets tangibility, growth opportunities, company's tax status and profitability on the capital structure (debt ratio) of 157 American companies in the period of 1979 to 1981. Research results indicate a significantly positive relationship between assets tangibility with debt ratio and a significantly negative relationship between debt ratios with firm

profitability. Moreover, there is no significant relationship between two variables, growth opportunities and the tax status with the debt ratio.

Gleason (2000) tested the relation between performance and leverage using return on assets as performance proxy. The result from the study indicates a significant negative relation between total debt and firms' performance. Fama and French (2002), Booth (2001) also claim negative relationship between financial leverage and performance.

Majumder and Chiber (2004) confirm negative relationship between financial leverage and performance. Their results further suggest that liquidity, age and capital intensity have significant influence on financial performance.

Adaramola, Sulaimon and Fapetu (2005) aimed at establishing a realistic relationship between the capital structure and corporate performance of selected quoted firms in Nigeria. The study used panel data from fifty quoted firms for the year 2002. The data were further built into three different panels. Panel one comprised of data from both banking and non-banking firms, panel two has data from 25 non-banking firms while panel three has data from 25 banking firms. The study employed the ordinary least square (OLS) regression method of estimation to analyze the variables used i.e. Earnings per share (EPS) on leverage ratio, weighted average cost of capital and business risk. The study revealed that capital structure has no significant impact on the value of non-banking firms as all explanatory variables used in the panel for non-

banking firms were not statistically significant from zero. On the other hand, the result showed that the value of the banking firms was positively affected by its capital structure. According to the authors, this result suggests that the concept of optimal capital structure is not applicable to the Nigerian banking institutions.

Abor (2005) carried out a review, using 22 companies listed in Ghana Stock Exchange during 1998 to 2002 to find the impact of capital structure on profitability. They found that there was a significant positive relationship between capital structure (total debt to total assets ratio) and return on equity (ROE). Their result also showed that profitable companies have more dependence to financing through liability and that a high percent of liabilities of these companies are short term liabilities.

Chen and Strange (2005) concluded that the relationship between these variables (firm size, firm age, business risk, sale growth rate, tax, profitability and intangible assets) and debt ratio (capital structure) depend on the basis of calculation of the dependent variable (market value or book value) in 2003 in 972 stock companies in China.

Sogorb (2005) carried out a survey on the impact of small and medium companies' features on their capital structure in Spain during 1994 to 1998. In the study, using data of 6482 nonfinancial companies in 8 industry order, results show that tax reserves and profitability of these companies have negative relationship with capital

structure while size, growth opportunities and assets structure in these companies have positive relationship with capital structure. Andersen (2005) reviewed the relationship between capital structure and firms performance for 1323 companies from various industries and concluded that there is a significant relationship between capital structure and ROA.

Daskalakis and Psillaki (2005) carried out a review of the determinants of Capital Structure of the SMEs in the Greek and the French companies. In the study which was performed on the 1252 Greek companies and 2006 French companies during a six-year period (1997 to 2002), they employed assets structure (tangible assets to total assets ratio), size, growth opportunities and profitability of company as determinants of capital structure. They found that assets structure and profitability have negative relationship with debt ratio (Capital Structure) in both countries, but firm size and growth opportunities have positive relationship with Capital Structure.

Fosberg and Ghosh (2006) in the research conducted on the 1022 companies in the New York Stock Exchange (NYSE) and 244 companies in the America Stock Exchange (AMEX) concluded that the relationship between capital structure and ROA is negative. Houang and Song (2006) in the research conducted on the 1200 Chinese companies during 1994 to 2003 concluded that financial leverages has negative relationship with return on assets and growth opportunities. Carpentier (2006) found no significant evidence of the relationship between the change in debt

and change on firm's value. However, Carpentier did detect a significant positive coefficient between firm's size and profitability.

Zeitun and Tian (2007), using 167 Jordanian companies over fifteen year period (1989 – 2003), found that a firm's capital structure has a significant negative impact on the firm's performance indicators, in both the accounting and market measures. Salawu (2007) carried out an empirical analysis of the capital structure of 50 selected non-financial quoted companies in Nigeria between the period 1990 and 2004. The study investigated the main determinants of the capital structure of the selected quoted firms in Nigeria. The study employed two different analytical techniques namely the descriptive statistics and the inferential statistics (panel data econometrics techniques) in analyzing secondary data obtained from the annual reports of the selected companies and reports of the Nigerian Stock Exchange. The descriptive analysis used in evaluating the selected variables were the mean, mode, median, range and standard deviation. The pooled ordinary least square (OLS) model, Fixed Effects model and Random Effects model are used in the analysis of data. The study also excludes the financial quoted companies. The empirical results show that debt financing for listed companies in Nigeria for the period studied corresponds mainly to a short term debt nature. Leverage was found to be negatively correlated with profitability. The size of the firms was however found to be positively correlated with total debts which according to the author, suggests that large firms can better support higher debt ratios than small firms.

Uremadu and Efobi (2008), examine impact of capital structure on corporate profitability in Nigeria using 10 manufacturing companies for 5 years (2002-2006) using Pearson's correlation coefficient and OLS regression model on a pooled time series data. They find that ratio of long-term debt to equity capital (gearing) has a positive and significant impact on return on capital employed (ROCE).

Arabiyan and Safari (2009) investigates the effects of capital structure on profitability using 100 Iranian listed firms from 2001 to 2007. They found short-term and total debts are positive related to profitability (ROE) while indicate a negative relation between long-term debts and ROE. Ebaid (2009) investigates the impact of capital structure choice on performance of 64 firms from 1997 to 2005 in the Egyptian capital market. He employs three accounting –based measures; including ROA, ROE and gross profit margin, and concludes capital structure choices, generally, has a weak-to-no impact on firm performance. El-Sayed (2009) explored the association between capital structure and the performance of listed firms in Egypt for the period 1997 to 2005, using regression analysis. He found that neither STD, LTD, nor TTD were significantly correlated with a firm's performance measured by ROE, and that in general terms capital structure choice has a weak to no significant impact on Egyptian listed firms' performance.

Onaolapo and Kajola (2010) investigated the effect of capital structure on financial performance of companies listed on Nigeria Stock Exchange. This study was

performed on 30 nonfinancial companies in 15 industry sectors in a 7-year period from 2001 to 2007. The results showed that the capital structure (debt ratio) has a significant negative effect on financial measures (ROA and ROE) of these companies.

Adeyemi and Oboh (2011) examined the empirical effects of corporate capital structure (financial leverage) on the market value of a selection of firms listed on the Nigerian Stock Exchange. Both primary and secondary data were obtained for analysis employing both descriptive and inferential statistics for analysis. A sample size of 150 respondents and 90 firms were selected for both primary data and secondary data respectively. Descriptive statistics was used to analyse the primary data, while Chi-Square was used to draw inference of perceived relationship between capital structure and firm value. The results of the study suggested that a positively significant relationship exists between a firm's choice of capital structure and its market value in Nigeria.

San and Heng (2011), using a sample of 49 companies, studied the relationship between capital Structure and Corporate Performance of Malaysian Construction Sector during 2005 to 2008. Their results indicated that there was a significant relationship between capital structure and corporate performance. Ari (2011) use eastern Asian companies as a sample and find a positive between firm's performance and the leverage.

Osuji and Oditia (2012) examines the impact of capital structure on financial performance of Nigerian firms using a sample of thirty non-financial firms listed on the Nigerian Stock Exchange during the seven year period, 2004 – 2010. Panel data for the selected firms were generated and analyzed using ordinary least squares (OLS) as a method of estimation. The result shows that a firm's capital structure surrogated by Debt Ratio, DR has a significantly negative impact on the firm's financial measures (Return on Asset, ROA, and Return on Equity, ROE).

Fozia, Bhutto and Abbas (2012) explore the effect of Capital structure on firm financial performance in textile sector of Pakistan. The data of 141 textile firms is collected from Balance Sheet Analysis (BSA), a document issued by State Bank of Pakistan from 2004-2009. Return on asset (ROA) is used as a proxy measure of firm's performance and size, tangibility, debt to equity ratio, amount of annual tax, growth of firm and risk associated with business entity are considered as the determinants of capital structure. Log linear regression model has been used to analyze the impact of capital structure on firm performance. The results indicate the all the determinants of capital structure are significant.

Awunyo-Victor and Badu (2012) examine the relationship between capital structure or leverage and performance of listed bank in Ghana from 2000 to 2010. Data was collected from Ghana stock exchange and annual report of the listed banks. Panel regression methodology was used to analyse the data. The result revealed that the

banks listed on the Ghana Stock Exchange negatively and significantly influences banks performance.

Guangchen (2012) investigates the influence of capital structure on firm's performance based on 2007 data from 4 big economies in Europe: Germany, France, Italy, and UK. The paper finds a negative relationship between firm's leverage and firm's performance and finds the relationship between capital structure and firm performance may be not linear in case of Germany and France.

Aburub (2012) with a selected sample of 28 companies listed in Palestine Stock Exchange during 2006 to 2010 investigated the impact of capital structure on the firm performance of companies listed. In the study, five parameters consisting of return on equity (ROE), return on assets (ROA), earnings per share (EPS), market value to book value of equity ratio (MVB) and Tobin Q ratio were used as the accounting measures of firm performance evaluation and also as dependent variables while four measures of short-term debt to total assets ratio (SDTA), long-term debt to total assets ratio (LDTA), total debt to total assets ratio (TDTA) and total debt to total equity ratio (TDTQ) were used as the measures of capital structure and also as the independent variables. The results showed that the capital structure has a positive effect on firm performance evaluation measures.

Ogbulu and Emeni (2012) examine the impact of capital structure on a firm's value. The analysis was implemented on a sample of 124 companies quoted on the Nigerian

Stock Exchange (NSE) for the year ended 31st December 2007. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study reveals that in an emerging economy like Nigeria, equity capital as a component of capital structure is irrelevant to the value of a firm, while Long-term-debt was found to be the major determinant of a firm's value.

Ahmad et al. (2012) examines the relationship between capital structure and performance of firms listed I Malaysian stock market taking sample from consumer products and industrial products. Findings from the study showed that only ROA has positive significant relation to short-term debt and total debt, while ROE has no significant relation to all capital structure indicators.

Khalaf Al-Taani (2013) examines the relationship between capital structure and firm performance in Jordan across different industries using a sample of Jordanian manufacturing firms. The annual financial statements of 45 manufacturing companies listed on the Amman Stock Exchange were used for this study which covers a period of five (5) years from 2005-2009. Multiple regression analysis was applied on performance indicators such as Return on Asset (ROA) and Profit Margin (PM) as well as Short-term debt to Total assets (STDTA), Long term debt to Total assets (LTDTA) and Total debt to Equity (TDE) as capital structure variables. The results show that there is a negative and insignificant relationship between STDTA

and LTDTA, and ROA and PM; while TDE is positively related with ROA and negatively related with PM.

Eriki and Omorokunwa (2014) examine the effect of capital structure on bank's performance in Nigeria using key variables such as return on assets (ROA) and return on equity (ROE), leverage, interest on debt, tax liabilities and market turnover of the selected banks in Nigeria from 2003 to 2012. Their findings show that a bank's capital structure or leverage has a significant positive effect on its return on capital employed its return on equity. Also bank leverage has a significant negative impact on its return on asset and a pervasive impact on its performance. Shah (2014) investigated the effect of capital structure on the performance of cement companies quoted on the Karachi Stock Exchange from 2009 to 2013. Using the Pearson correlation and multiple regression analysis, he found a significantly negative interplay between debt to assets and firm performance variables (GPM, NPM, ROA, and ROE). Equally, a positive association was found between debt to equity and firm performance variables (GPM and NPM) on the one hand, and a negative association between debt to equity and firm performance variables (ROA and ROE) on the other hand. Conclusively, capital structure variables were found to significantly impact on firm performance, and hence Shah (2014) recommended the application of an optimal mix of debt and equity and proper allocation and utilisation of resources in order to achieve an optimal productivity level. Nirajini and Priya (2013), in their study on the impact of capital structure on the financial performance of Sri Lanka-

listed trading firms, found a significant correlation between debt-asset ratio, debt-equity ratio and long-term debt and gross profit margin, net profit margin, ROCE, ROA and ROE, at levels 0.05 and 0.1. This led them to conclude that capital structure was directly associated with financial performance, and hence they recommended that the firm should appropriately combine debt and equity decisions to enhance business survival and optimize profit.

Mouna, Jianmu, Havidz and Ali (2017) in their study carried out in Morocco using panel regression model to investigate the impact of capital structure on firm's performance for a period of 2013 to 2016 using 53 firms. The results of this research conclude a significant effect of three explanatory variables out of three, debt ratio (DR) has negative significant effect on return on asset (ROA), debt equity ratio (DER) has negative and significant impact on return on equity (ROE) and size has positive significant impact on firm performance using return on equity (ROE) as proxy for firm performance. Basit and Irwan in their study carried out in Malaysia to estimate the impact of capital structure on financial performance of industrial production firms between 2011 to 2015. Descriptive statistics and multiple regression was employed as estimation technique. The findings of the study revealed that industrial product company rely heavily on equity finance in their capital structure. Besides that, the regression result found debt to equity has negative impact on ROA, total debt ratio and total equity ratio has insignificant impact on ROA. Debt to equity has negative impact on ROE, total debt has positive impact on ROE and

total equity has insignificant impact on ROE. Besides that, debt to equity has negative impact on ROE, total debt has positive impact on ROE and total equity has insignificant impact on ROE. Finally, debt to equity has a negative significant impact on EPS, total debt ratio has positive significant impact on EPS and total debt has insignificant impact on EPS. The study carried out by Nassar (2016) on the impact of capital structure on financial performance of firms listed at the Istanbul Stock Exchange found that there is a negative significant relationship between capital structure and firm performance. He analyzed a total of one hundred and thirty six firms over a period of eight years from 2005 to 2012. The capital structure variable was measured by the debt ratio and financial performance variables were return on assets, return on equity and earnings per share.

In summary, the argument of capital structure decision and its effect on firm performance it's not in agreement among most researchers paving way for further studies and empirical test? Besides, not all the prior studies use the same parameters either as capital structure or financial performance proxies. Thus, this paper intends to cover the most debatable variables to further clarify the link between variables of the study.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter mainly focuses on the data collection method employed for the empirical analysis of the study. Some of the issues addressed include model specification, method of data analysis and data source. The software to be employed in the study is the Eview 8.0.

#### **3.2 Research Design**

The ex-post-facto and the longitudinal research design was used in this study. This is to enable the researcher to ascertain the impact of explanatory variables on the dependent variable from historical data.

#### **3.3 The Population of the Study**

The population of the study is the entire Nigerian banking sector for a period of 6 years (2010 to 2016). The period is long enough to enable us capture the behavioural pattern of banks' capital structure and corporate performance in Nigeria.

#### **3.4 The Sample of the Study**

In order to carry out an empirical analysis of capital structure and corporate performance in Nigeria, the sample focuses on five main banks such as Access bank,

Skye bank, UBA, Zenith bank and Fidelity bank. The choice of the five banks is based on two reasons. First, they represent some of the most active banks in Nigeria and secondly, for reason of data availability.

### **3.5 Sources of Data**

The data used in this study are secondary and cross sectional data, which are sourced from the Nigerian Stock Exchange (NSE) and the respective bank's financial statements for various years covering 6 years (2010 to 2017).

### **3.6 Model Specification**

The model specified below is deduced from the work of Barine (2012) which states that the capital structure a firm opts for is only a choice between debt and equity in financing long term investments. The amount of debt a firm uses for finance depend on the interest on debt, corporate income taxes, withholding taxes, personal income taxes, costs of financial distress, and covenant restrictions in other financing agreements, and other market imperfections. The lower the rate of interest on long term debts, the higher will be the desire of a firm to opt for it; but higher leverage increases the risk of financial distress.

$$CPER = f(DEBT/EQTY, DEBT/CAP, DEBT/TASSETS, TASSETS).....(1)$$

The econometric form of the model is stated thus:

$$CPER = \alpha_0 + \alpha_1 DEBT/EQUITY + \alpha_2 DEBT/CAP + \alpha_3 DEBT/TASSETS + \alpha_4 TASSETS + u_t \dots \dots \dots (2)$$

Where:

CPER = Corporate Performance (is taking as firm's total income or earnings).

DEBT/EQUITY = Firm's Debt to equity ratio

DEBT/CAP = Firm's Debt to Total Capital

DEBT/ASSETS = Firm's Debt to/Total Assets

TASSETS = Total Assets

Apriori Expectation =  $\alpha_1, \alpha_2, \alpha_3, \alpha_4 > 0$

### 3.7 Method of Data Analysis

The study is designed to critically examine the impact of capital structure on the value of firms in Nigeria. Descriptive statistics and the Panel data analysis methods were used to analyze the data. The panel data analysis is preferred in this study as it considers the cross-sectional and time-series attributes of the sampled data. In essence, the panel data analysis accommodates 'time as well as the heterogeneity' effects of the quoted banks. Furthermore, we will use the *Hausman test* to select between fixed and random effects in order to ascertain which of the effect to be adopted in the analysis.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND PRESENTATION OF RESULTS**

#### **4.1 Introduction**

The main aim of this study is investigate the impact of capital structure on corporate performance in Nigeria. As earlier stated in chapter three, the panel data regression technique is used for the analysis. In order to present a robust investigation and analysis of the study, two general methods are used in the empirical analysis. Firstly, in order to provide a background to the empirical analysis, statistical examination is carried out on the data so as to generate the initial characterization of the data used in the study. Second the presentation and analysis of the regression results is performed using the Eviews 8.0 Econometric software.

#### **4.2 Descriptive Statistics**

Table 1 presents annualized mean, annualized standard deviation and other summary statistics on corporate performance measure and the determining factors. The results are reported for all five banks combined. The mean of total revenue/profit after tax of the banks is 2.95 while the median value is 1.65. This indicates relative similarity of the data over the years. The standard deviation is also relatively high at 3.07, also indicating high variability in the data across the periods. However, the J-B statistic value of 6.632 is very high and passes the significance test at the 1 percent level.

This implies that we cannot reject the hypothesis of non-normality of the data series over the different banks used in the analysis. Apparently, individual bank characteristics exert strong effects on the performance of these banks. This calls for an estimation method that takes the bank-specific effects into consideration.

**Table 4.1: Descriptive Statistics**

	CPER	DE	DTC	DTA	ASSETS
Mean	2.95E+10	1.550278	0.052134	0.009931	1.70E+09
Median	1.65E+10	0.005918	0.005537	0.000766	1.62E+09
Maximum	1.01E+11	8.138321	0.288890	0.064995	3.76E+09
Minimum	-9.65E+09	3.23E-06	2.88E-06	3.68E-07	4.82E+08
Std. Dev.	3.07E+10	3.039713	0.091802	0.018198	8.43E+08
Skewness	1.225544	1.516280	1.514294	1.706011	0.631737
Kurtosis	3.599796	3.335746	3.753992	4.763327	2.678092
Jarque-Bera	6.632902	9.697028	10.14672	15.36584	1.770824
Probability	0.036281	0.007840	0.006261	0.000461	0.412544
Sum	7.37E+11	38.75694	1.303355	0.248286	4.24E+10
Sum Sq. Dev.	2.27E+22	221.7566	0.202262	0.007948	1.71E+19
Observations	25	25	25	25	25

Source: Author's computation 2024 from Eview 8.0

In terms of variability among the other variables, DE and ASSETS seem to have the highest instability, judging from their respective relatively high standard deviations. This shows that these variables are actually very unstable among the banks used in the sample. For the DTA, the explanation may be that the banks may have employed the right combinations of debt/assets ratio that have resulted in the lower risk nature observed here compared to others. The J-B test for all of the variables indicates that

none of the data series is normally distributed. It is clear that individual bank characteristics have strong influence on the performance and direction of these variables for each of the banks.

### 4.3 Empirical Results on the Regressions

The panel data analysis method is therefore used for the estimation of the relationships. As stated in the previous section, the standard test for the method of panel analysis to adopt is the Hausman test for random effects. The result of the test is reported in table 4.2 below. The Chi-square statistic values for each of the models was significant. From the results, the statistic provides little evidence against the null hypothesis that there is no misspecification when the random effect model is employed for the estimates in values. Hence, the best method to apply for the model estimation is the Random-effect strategy.

**Table 4.2: Hausman Test for Panel Effects**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	18.326	4	0.0011

Source: Author’s Computations, 2024

Though the Hausman test has shown that the Random Effect (RE) estimates are more appropriate in the estimations, we include fixed effects estimate for the sake of robustness checks. The result of the estimates of the initial model is reported in Table

4.3 below. In all respect, the Random Effects performed better (in terms R Square, R bar Square, Dw.st and the individual t-Stat). In the random effects (RE) estimates, the goodness of fit is impressive; with the adjusted R squared value 0.78 indicating that over 78 percent of the systematic variations in dividend payout is captured in the model. The F value of 18.507 for the result is also high and easily passes the significance test at the 1 percent level, and it indicates the impressive overall performance of the model. This suggests a significant relationship between corporate performance and capital structure or all the independent variables combined.

**Table 4.3: Capital Structure and Corporate Performance in Nigeria (Dependent Variable = CPER)**

Variable	<i>Fixed Effects (FE)</i>			<i>Random Effects (RE)</i>		
	Coeff.	t-Stat.	Prob.	Coeff.	t-Stat.	Prob.
C	-2.81E+10	-4.013450	0.0010	-2.91E+10	-4.254455	0.0004
DE	-3.34E+09	-3.836479	0.0015	-3.40E+09	-4.018220	0.0007**
DTC	-7.56E+10	-0.743401	0.4680	-1.36E+11	-1.565156	0.1332
DTA	5.92E+11	1.119904	0.2793	9.06E+11	1.998385	0.0595*
ASSETS	35.87842	9.784565	0.0000	36.52076	10.71835	0.0000**
R-squared	0.90			0.78		
Adj. R-squared F-statistic	0.85 18.173	DW.ST 2.27		0.74 18.507	DW.ST 2.47	

**Source: Author's computation (2024); Note: \*\*1% level of sig; \* 5% level of sig.**

The individual roles of the factors in determining corporate performance are considered by observing the coefficients of the variables in the panel result. The Random Effects result indicates that DE and ASSETS both pass the significance test at the 1 percent levels and while that of DTA significant at the 10%. This shows that debt/equity ratio, debt/total asset and firm's assets are significant factors in promoting corporate performance in Nigeria. The coefficient of DTC is negative and also fails the significance test at the 5 percent level. This indicates that firm's debt/total capital does not seem to stimulate corporate performance in Nigeria. Perhaps the poor debt servicing mechanisms of firms in Nigeria as well as the weak nature of their capital structure has rendered DTC not quite profitable to firms in Nigeria.

The overall results obtained from the model estimation are effectively acceptable because the D.W. statistic value of 2.47 is appropriate and implies that there is no autocorrelation in the model. Thus, the results are applicable for structural analysis as well as policy directions.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION**

#### **5.1 Summary of Findings**

Using statistical and econometric techniques in the empirical analysis, the results revealed that:

- (i) That firm debt/equity ratio has a significant negative impact on corporate performance in Nigeria.
- (ii) That firms' debt/total capital has an insignificant impact on corporate performance in Nigeria.
- (iii) That firm's debt/total assets have a significant positive impact on corporate performance in Nigeria.
- (iv) That a firm's size measured by its total assets has a significant positive impact on its performance in Nigeria.

#### **5.2 Policy Recommendations**

The following salient recommendations are made from the findings of the study:

- i) First; the findings suggest that maximizing the wealth of shareholders requires a perfect combination of debt and equity. Where firms are made to pay out funds regularly in terms of dividends, they may have to forgo negative present value projects. Therefore, the optimal debt structure is

determined by balancing the optimal cost of debt and the cost of managerial discretion.

- ii) The high negative significance of the leverage coefficient shows that by changing the capital structure composition in favour of equity in a firm can increase its overall performance. This is a significant policy recommendation for finance managers, because they can utilize debt management strategies to form optimal capital structure to maximize the wealth of shareholders.
- iii) Larger firms should also consider looking inwards within the firm for their financial needs since it has been shown that larger firms (ASSETS) tend to perform better in the study.
- iv) Managers should evolve other alternative means through which they can utilize debt to form optimal capital structure to maximize the wealth of shareholders.

### **5.3 Conclusion**

The study so far examines the relationship between capital structure and firm's performance in Nigeria for a period of 6 years (2010 to 2016). The general conclusion from the study is that bank's capital structure strongly affects its performance overtime. Thus, in doing this, the study employed panel data econometric method to investigate firm's capital structure and its performance in the Nigeria context using four variables such as debt/equity ratio, debt to total capital,

debt to total assets and assets. The results revealed generally that firm's capital structure has strong impact on banks' performance in Nigeria overtime.

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## APPENDIX I

Correlated Random Effects - Hausman Test

Equation: Untitled

Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	18.326988	4	0.0011

\*\* WARNING: estimated period random effects variance is zero.

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
DE	-333736363	-33994294	41008275	0.7592
DTC	-756161346	-13631663	276077890	0.2480
DTA	591601859	905617859	736922056	0.2474
ASSETS	35.878421	36.520760	1.835933	0.6355

	CPER	DE	DTC	DTA	ASSETS
Mean	2.95E+10	1.550278	0.052134	0.009931	1.70E+09
Median	1.65E+10	0.005918	0.005537	0.000766	1.62E+09
Maximum	1.01E+11	8.138321	0.288890	0.064995	3.76E+09
Minimum	-9.65E+09	3.23E-06	2.88E-06	3.68E-07	4.82E+08
Std. Dev.	3.07E+10	3.039713	0.091802	0.018198	8.43E+08
Skewness	1.225544	1.516280	1.514294	1.706011	0.631737
Kurtosis	3.599796	3.335746	3.753992	4.763327	2.678092
Jarque-Bera Probability	6.632902 0.036281	9.697028 0.007840	10.14672 0.006261	15.36584 0.000461	1.770824 0.412544
Sum	7.37E+11	38.75694	1.303355	0.248286	4.24E+10
Sum Sq. Dev.	2.27E+22	221.7566	0.202262	0.007948	1.71E+19
Observations	25	25	25	25	25

Dependent Variable: CPER  
 Method: Panel Least Squares  
 Date: 09/09/19 Time: 09:23  
 Sample: 2010 2017  
 Periods included: 7  
 Cross-sections included: 5  
 Total panel (balanced) observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.91E+10	8.96E+09	-3.247439	0.0040
DE	-3.40E+09	1.11E+09	-3.067121	0.0061
DTC	-1.36E+11	1.14E+11	-1.194689	0.2462
DTA	9.06E+11	5.94E+11	1.525374	0.1428
ASSETS	36.52076	4.463903	8.181352	0.0000
R-squared	0.787303	Mean dependent var		2.95E+10
Adjusted R-squared	0.744764	S.D. dependent var		3.07E+10
S.E. of regression	1.55E+10	Akaike info criterion		49.94635
Sum squared resid	4.82E+21	Schwarz criterion		50.19012
Log likelihood	-619.3293	Hannan-Quinn criter.		50.01396
F-statistic	18.50766	Durbin-Watson stat		2.988066
Prob(F-statistic)	0.000002			

Dependent Variable: CPER  
 Method: Panel Least Squares  
 Date: 09/08/18 Time: 09:25  
 Sample: 2010 2016  
 Periods included: 7  
 Cross-sections included: 5  
 Total panel (balanced) observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.81E+10	7.01E+09	-4.013450	0.0010
DE	-3.34E+09	8.70E+08	-3.836479	0.0015
DTC	-7.56E+10	1.02E+11	-0.743401	0.4680
DTA	5.92E+11	5.28E+11	1.119904	0.2793
ASSETS	35.87842	3.666839	9.784565	0.0000

Effects Specification

Period fixed (dummy variables)

R-squared	0.900861	Mean dependent var	2.95E+10
Adjusted R-squared	0.851291	S.D. dependent var	3.07E+10
S.E. of regression	1.19E+10	Akaike info criterion	49.50300
Sum squared resid	2.25E+21	Schwarz criterion	49.94180

Log likelihood	-609.7876	Hannan-Quinn criter.	49.62471
F-statistic	18.17368	Durbin-Watson stat	2.278576
Prob(F-statistic)	0.000001		

Dependent Variable: CPER  
 Method: Panel EGLS (Period random effects)  
 Date: 09/08/19 Time: 09:28  
 Sample: 2010 2017  
 Periods included: 7  
 Cross-sections included: 5  
 Total panel (balanced) observations: 30  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.91E+10	6.84E+09	-4.254455	0.0004
DE	-3.40E+09	8.46E+08	-4.018220	0.0007
DTC	-1.36E+11	8.71E+10	-1.565156	0.1332
DTA	9.06E+11	4.53E+11	1.998385	0.0595
ASSETS	36.52076	3.407312	10.71835	0.0000

Effects Specification		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		1.19E+10	1.0000

Weighted Statistics			
R-squared	0.787303	Mean dependent var	2.95E+10
Adjusted R-squared	0.744764	S.D. dependent var	3.07E+10
S.E. of regression	1.55E+10	Sum squared resid	4.82E+21
F-statistic	18.50766	Durbin-Watson stat	2.478066
Prob(F-statistic)	0.000002		

Unweighted Statistics			
R-squared	0.787303	Mean dependent var	2.95E+10
Sum squared resid	4.82E+21	Durbin-Watson stat	2.478066

Correlated Random Effects - Hausman Test

Equation: Untitled

Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	18.326988	4	0.0011

\*\* WARNING: estimated period random effects variance is zero.

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
DE	-333736363	-33994294	41008275	0.7592
DTC	-756161346	-13631663	276077890	0.2480
DTA	591601859	905617859	736922056	0.2474
ASSETS	35.878421	36.520760	1.835933	0.6355

Period random effects test equation:

Dependent Variable: CPER

Method: Panel Least Squares

Date: 09/09/19 Time: 09:30

Sample: 2010 2017

Periods included: 7

Cross-sections included: 5

Total panel (balanced) observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.81E+10	7.01E+09	-4.013450	0.0010
DE	-3.34E+09	8.70E+08	-3.836479	0.0015
DTC	-7.56E+10	1.02E+11	-0.743401	0.4680
DTA	5.92E+11	5.28E+11	1.119904	0.2793
ASSETS	35.87842	3.666839	9.784565	0.0000

Effects Specification

Period fixed (dummy variables)

R-squared	0.900861	Mean dependent var	2.95E+10
Adjusted R-squared	0.851291	S.D. dependent var	3.07E+10
S.E. of regression	1.19E+10	Akaike info criterion	49.50300
Sum squared resid	2.25E+21	Schwarz criterion	49.94180
Log likelihood	-609.7876	Hannan-Quinn criter.	49.62471
F-statistic	18.17368	Durbin-Watson stat	2.478576
Prob(F-statistic)	0.000001		

**APPENDIX II**  
**DATA**

ACCESS BANK	YEAR	CPER	DEBT	EQUITY	CAPITAL	ASSETS
	2010	11,068,121,000	52,309,853	175,370,457	181,072,103	804,823,772
	2011	16,708,255,000	52,309,853	197,042,209	197,042,209	1,634,746,754
	2012	38,405,000,000	40,092,000	240,990,000	241,019,135	1,461,222,000
	2013	36,298,000,000	675.434	114,135	22232000	1,835,466,000
	2014	43,063,000,000	896.801	277,411,000	311,550,000	2,104,361,000
	2015	45,475,000,000	974.134	334,125	22232000	1,835,267,000
	2016	48,182,000,000	996.303	377,473,000	333,550,000	1,904,43,000
SKYE BANK	2010	10,432,000,000	58,947	111,853,000	426,152,000	705,859,000
	2011	1,300,000,000	78,574	100,106,000	110,815,000	914,265,000
	2012	12,644,000,000	229,077	106,894,000	125,051,000	1,073,828,000
	2013	16,023,000,000	283,422	120,415,000	120,415,000	1,116,636,000
	2014	9,741,000,000	207,962	132,256,000	165,942,000	1,421,112,000
	2015	17,011,000,000	113,422	142,715,000	114,211,000	1,116,636,000
	2016	17,561,000,000	229,962	137,254,000	182,543,000	1,220,111,000
UBA	2010	598,000,000	1,253,368	187,356	179,769,000	1,617,696,000
	2011	-9,647,000,000	1,483,738	182,315	175,023,000	1,942,793,000
	2012	51,477,000,000	1,712,748	220,317	293,632,000	2,272,923,000
	2013	46,601,000,000	1,957,879	259,538	305,516,000	2,642,296,000
	2014	47,907,000,000	2,056,925	281,933	352,453,000	2,762,573,000
	2015	42,101,100,000	1,957,572	156,536	317,211,000	2,343,194,000
	2016	51,203,000,000	2,136,722	231,532	415,162,000	2,532,344,000

ZENITH BANK	2010	37,414,000,000	1,441,770	363,561,000	470,830,802	1,895,027,000
	2011	16,509,000,000	1,797,056	380,335,000	454,472,000	2,309,427,000
	2012	100,681,000,000	1,998,883	462,956,000	593,109,000	2,604,504,000
	2013	95,318,000,000	2,406,071	509,251,000	670,395,000	3,143,133,000
	2014	99,455,000,000	2,884,701	552,638,000	736,034,000	3,755,264,000
	2015	96,114,000,000	2,522,0510	517,131,000	688,152,000	4,253,041,000
	2016	98,264,000,000	2,441,312	622,236,000	812,021,000	5,247,142,000
FIDELITY BANK	2010	9,687,000,000	22,196,102	136,178,000	143,356,000	481,615,000
	2011	3,911,000,000	24,140,000	137,482,000	144,285,000	740,941,000
	2012	17,924,000,000	31,926,000	161,455,000	167,648,000	914,360,000
	2013	7,721,000,000	1,081,800	163,455,000	170,850,000	1,081,217,000
	2014	16,142,000,000	1,013,914	173,111,000	183,109,000	1,187,025,000
	2015	8,825,000,000	1,042,300	146,121,000	171,636,000	1,275,106,000
	2016	17,231,000,000	1,225,522	192,201,000	190,125,000	2,254,213,000