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Capital Structure's Impact on Financial Performance in A Selected Bank in Nigeria

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Abstract

This study explores the relationship between capital structure and financial performance, focusing on the metrics of gross profit margin (GPM), return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE) in the context of business firms and banks in Nigeria. Drawing on secondary data from ten selected Nigerian firms over five years, the study uses quantitative methods, specifically regression analysis, to investigate the influence of capital structure on financial performance. The findings suggest that capital structure, particularly the debt-equity ratio (DER), has a significant yet complex effect on key performance indicators such as ROA and ROCE. The study also highlights that while capital structure directly impacts the gross and net profits of firms, the relationship between capital structure and operating profit is less definitive due to the influence of external factors such as market forces and economic conditions. Key findings indicate a weak positive correlation between capital structure and gross profit ($R^2 = 0.147$), and a similarly low correlation between capital structure and net profit ($R^2 = 0.108$), suggesting that changes in capital structure explain a small proportion of variations in financial performance. Despite the low correlations, the study emphasizes the importance of optimizing capital structure to enhance profitability, particularly in the banking sector where leverage can significantly affect financial outcomes. These findings align with previous empirical research, which shows an inverse relationship between leverage and financial performance in both Ghana and Nigeria. The study concludes that capital structure plays a pivotal role in shaping the financial performance of firms, particularly in terms of ROA and ROCE, but its effect on other profitability metrics, such as operating profit, is less pronounced. Business managers are encouraged to carefully consider their capital structure decisions, as an imbalanced capital structure can negatively impact borrowing capacity and overall profitability. Further research is recommended to explore the nuanced interactions between capital structure and external market conditions, especially in developing economies.

Keywords: Capital Structure, Financial Performance, Return on Assets (ROA), Return on Capital Employed (ROCE), Debt-Equity Ratio (DER), Leverage, Nigerian Banks, Profitability Metrics

1. Introduction

Capital structure refers to the mix of debt and equity used by a firm to finance its operations [1]. It is a strategic choice that significantly impacts a firm's financial performance, defined as the ability to generate revenue and manage expenses [2]. Numerous studies have examined capital structure across various industries globally [3]. Research by Jacob & Ajina (2020) indicates that capital structure can positively or negatively affect financial performance [4]. For instance, studies on Nepalese hydropower firms show a significant inverse relationship between capital structure decisions and financial performance, as measured by Return on Equity (ROE), Return on Assets (ROA), and Tobin's Q [3]. Similarly, Nigerian cement firms revealed that short-term and total debt negatively influenced ROE and Gross Margin [5].

In Indonesia, a study on Sukuk financing emphasized the interconnectedness of financial instruments and corporate value [6]. A survey of the energy sector in Pakistan found a negative relationship between capital structure and financial performance, contrary to previous findings [7]. Additionally, Taiwanese SMEs and Indonesian property companies demonstrated that capital structure decisions significantly affect performance (Thi & Phung, 2020; Yuliah et al., 2022). The negative correlation between capital structure and financial performance underscores the importance of financing source decisions (Yuliah et al., 2022).

Research on Nigerian commercial banks established that board diligence moderates the relationship between capital structure and financial performance, suggesting that good governance can

mitigate adverse effects [8]. Studies within Nigeria's food and beverages sector highlighted capital structure's relationship with financial performance through panel regression and Granger causality tests [9]. Olarewaju (2019) explored the direct relationship between capital structure and performance in manufacturing firms, emphasizing short-term impacts [10]. The relevance of capital structure in driving financial performance extends beyond industries, also observable in Indian pharmaceutical firms and Nigerian deposit money banks [4,11].

These studies illustrate that capital structure decisions significantly influence business finances across diverse industries [4,11]. Additionally, research on Nigerian manufacturing firms sheds light on the intricate relationship between intellectual capital and performance, highlighting various factors affecting financial outcomes [12]. Consequently, the discourse on capital structure and financial performance remains inconclusive and warrants further analysis [3,5-7,13]. The impact of capital structure choices on financial metrics like ROE, ROA, and profitability underscores how effective financial management fosters sustainable business performance [2]. By analyzing capital structure strategies, firms can make informed adjustments that enhance financial health and create long-term value [2].

2. Statement of the Problem

Capital structure, defined as the composition of a firm's balance sheet including all financing options, presents a significant challenge in strategic management, impacting the firm's ability to satisfy multiple stakeholders (Oladele et al., 2017). The two primary classes of liabilities debt and equity are linked to different types of investors, each associated with varying levels of risk, benefits, and control.

- Debt Holders: Generally earn fixed income and are protected by covenants and have less control and bear lower risk, as they are last in line for claims on the firm's earnings.
- Equity Holders: Hold greater control and potential for higher returns but face increased risk.

The decision regarding the optimal ratio of debt to equity is critical, as it influences the firm's cost of capital and overall competitiveness. Financial managers often grapple with determining this balance, as maximizing profitability can inadvertently reduce market price (Oladele, Omotosho & Adeniyi, 2017).

While numerous theories exist to explain capital structure decisions, no universally accepted approach has emerged. Theories developed since Modigliani and Miller (1958) have explored the relationship between capital structure and firm performance. However, managerial autonomy in these decisions can lead to choices driven by self-interest rather than the firm's best interests, particularly in firms with tightly held stocks (Oladele et al., 2017).

In Nigeria, investors and stakeholders may undervalue the importance of capital structure, viewing it as irrelevant to firm value. However, effective capital structure planning is crucial for organizational success, as inappropriate choices can severely harm financial performance and even lead to bankruptcy. This study aims to demonstrate that an optimal capital structure exists, which can significantly enhance a firm's financial performance.

3. Research Aim and Objectives

The study aims to investigate the impact of capital structures on financial performance using financial institutions in Nigeria from the period of 2020 to 2024.

Specifically, the study's objectives include:

i. To identify the factors that influence the capital structure of organizations

ii. To determine the metrics used to evaluate the financial performance of banks, such as gross profit margin (GPM), return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE)

iii. To analyze the relationship between capital structure and the financial performance of banks in Nigeria

iv. To examine how capital structure impacts the financial performance of banks in Nigeria

3.1 Research Questions

i. What are the key factors that influence the capital structure of organizations?

ii. What variables are used to measure the financial performance of banks, such as gross profit margin (GPM), return on capital employed (ROCE), return on assets (ROA), and return on equity (ROE)?

iii. What is the relationship between capital structure and the financial performance of banks in Nigeria?

iv. How does capital structure impact the financial performance of banks in Nigeria?

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4. Literature Review: Theoretical Framework Theory of Capital Structure

One of the most contentious issues in corporate finance is capital structure. Managers must consider a variety of factors when deciding how to support new initiatives (Bilgehan, 2014). Debt and equity account for the majority of the capital structure. Financial financing refers to the use of short- or long-term debt instruments like as bonds, notes payable, bank loans, or debentures. Managers generally choose debt over stock since it is less expensive and offers benefits such as cheaper capital expenses than shareholder demands and tax-deductible interest charges. Equity financing, which includes ordinary and preferred shares, is needed by law but often costs more than debt. As a result, managers must find a balance between debt and equity finance to maximize corporate value while reducing capital expenditures (Atrill, 2006; Watson & Head, 2007). Theories of capital structure give different perspectives on how decision-makers should fund new initiatives, contributing to ongoing discussions and debates in this area.

4.1 Traditional Theory

The classical model provides how the cost of capital is associated with the amount of debts (Lumby & Jones, 2007). As stated in this theory, as an organization takes more debts, it does take

total gearing, thereby reducing the cost of debt and capital. Possibly, this reduction ability will enhance the market value of the company. But if there is more debt on the balance sheet that at some point becomes beneficial due to increased leverage that enhances financial risk, causing ordinary shareholders to demand greater returns. Therefore, for managers to keep the company in the right financial position, they need to ensure that the company's dividend policy and market value of the shares as well as the capital structure are well done.

4.2 Modigliani and Miller Theory

In their 1958 publication, Modigliani and Miller introduced the capital structure irrelevance theory, often referred to as the M&M theory. This theory is grounded in the assumptions that there are no taxes, no transaction costs, and no bankruptcy costs. Modigliani and Miller proposed two key points without considering taxes. They assumed that all parties involved have access to the same information (information symmetry), that the cost of debt is on par with the cost of equity, and that a company's EBIT is not influenced by debt financing. According to their first proposition without taxes, the market value of a company is unaffected by its capital structure under these conditions.

However, they later expanded their theory, recognizing that as a company takes on more debt, equity shareholders perceive increased risk and thus demand higher returns. Following various criticisms, Modigliani and Miller revised their theory in 1963, resulting in M&M II. This iteration acknowledges the benefits of taxes in determining capital structure. Specifically, the tax deductibility of interest payments, known as tax shields, reduces the company's tax burden. Therefore, M&M II indicates that higher leverage can boost a company's value and performance due to these tax benefits (Hill, 2016).

4.3 Trade-Off Theory

The trade-off theory of capital structure which has looked at the relationship between the tax shields of debt capital and the costs of financial distress has also been reviewed in the Nigerian setting [14]. This theory posits that firms bring in the figure of capital structure that attains the highest good of the firm by weighing the benefits of using debt over the cost of using it [15]. Several researches conducted on Nigerian firms show a mix of support for the trade-off theory implying some elements that inform the degree of accuracy of its application based on certain characteristics of the firms and the industries [16].

4.4 Pecking Order Theory

Another prominent theory in capital structure literature is the pecking order theory, which posits that firms have a preference hierarchy for financing sources, favoring internal funds over external financing, and debt over equity when external financing is required [17]. Research on Nigerian firms has provided mixed evidence regarding the adherence to the pecking order theory, with some studies finding support for its predictions, while others suggest that Nigerian companies may deviate from this hierarchy due to market constraints and institutional factors [18].

4.5 Agency Theory

According to the agency theory, the capital structure continues to focus on the optimal level of debt in reducing agency costs resulting from the conflicts of interest between managers and shareholders [19]. In the Nigerian setting more often than not, ownership structures are highly concentrated and institutions supporting the covenant of corporate governance might not be effectively established, the agency factors related to decisions on capital structures gains added importance [20]. Some empirical research has looked at the role of debt as a disciplinary tool in Nigerian firms and the effect of ownership structure on capital structure decisions [21].

4.6 Comparative Summary of the Capital Structure Theory

The M and M theory is widely recognized as the foundation for all the theories of capital structure. As Brigham & Ehrhardt (2010) the situation described by M and M was idealistic with the two having presented their theory to the market way back in 1958, especially as a way of showing how a firm's value was affected by shifts in capital structure assuming that the market was perfect. Using an analysis of a cross-sectional of firms in Nigeria, Babalola (2012) noted an inverse relationship between a firm's value and an increase in debt. Luigi & Sorin opposed the M and M theory built on unrealistic assumptions. Just as it failed to describe how firms finance their activities, it called for more studies on the role of financing (Luigi & Sorin, 2009).

According to the tradeoff theory, although it is desirable to maximize the benefits that are associated with the use of debt such as tax shields, it is also important to consider the level of costs that are incurred as a result of financial distress (Mac & Bhaird, 2010). Lopéz-Gracia & Sogorb-Mira (2008) examined the research work where the data indicated a positive relationship between taxes and debt. Another study in the area focused on analyzing the effect of profitability on the level of debt, and the study established that there is a positive coefficient. (Fama & French, 2002). The pecking order theory, as postulated earlier, supports internal financing and if external financing has to be done, it prefers debt to new equity. After analyzing the data Gonzalez & Gonzalez (2012) observed a negative association between profitability and debt. The pecking order theory offers benefits by providing more power to managers and lowering the costs associated with capital structure.

4.7 Conceptual Framework Capital Structure

Capital structure is defined as the overall blend of long-term financing that a firm employs in its operations and expansion plans and it has been used interchangeably with the term capital combination [22]. The current study underscores the fact that capital structure management in the context of the firm's financial management framework represents a critical success factor because its decisions would affect a firm's cost of capital, profitability, and value [23]. Understanding capital structure therefore becomes paramount in the Nigerian context especially for firms that

operates in developing economy with its peculiar characteristics [24]. Capital structure is another praiseworthy area that has received much attention in the finance literature, and different theories seek to explain how firms arrive at their desirable capital structure [25]. The Modigliani and Miller theorem developed in 1958 is one of the pioneering papers in this line of arguing that in a world of efficient and perfect capital market, capital structure is indifferent to firm value. But more recent studies have revealed that capital structure decisions are real and do wipe firm value in real markets with market imperfection like taxes, bankruptcy costs and information asymmetry [26].

As in many other EMs, the relevance of classical capital structure theories has been widely discussed among scholars in Nigeria [27]. The Nigerian business environment presents unique characteristics such as limited capital markets access, high interest rates, and economic risks, which mean that the capital structure decision-making process does not require a one-size-fits-all approach [28]. The major factors which have made it difficult for Nigerian firms to efficiently manage their capital structures include, inadequate development of bond markets, scarcity of long term funds, and high cost of external funds [29].

A great deal attention has been given to firm specific factors in the analysis of capital structure in Nigerian firms [30]. Lev and Gustafsson (1995) in identifying some of the factors that affect the capital structure in Nigeria pointed out that variables such as profitability, firm size, asset tangibility, growth opportunity and business risk have significant effects on the capital structure choice of firms. Usually, the connection between these factors and the leverage ratios differs across sectors and may have shifts with time because capital structure choices remain an unceasing process [31].

The effect of macro attributes on capital structure decisions has also been a study area in Nigeria [32]. A number of macro-variables including inflation rates, exchange rates, and economic growth have been known to influence financing decision of these firms [33]. The information about the macroeconomic environment of Nigeria reveals that this country has a volatile economy which depends on the oil prices of the global market, which influences the capital structure decisions of the country's corporations [34]. Some factors indicate that the nature of capital structure and its determinants differ across industries in Nigeria [35].

Scholars have established that there exists heterogeneity in capital structure trends by the sector of the Nigerian economy including manufacturing, banking and oil and gas [24]. These differences can be explained by the fact that regulatory demands, asset portfolios, and rivalry dynamics differ from one industry to another [30]. The Nigerian banking industry for instance has attracted a lot of attention in capital structure research this is because it operates under a peculiar regulatory environment and also plays a very vital role in the Nigerian economy [36]. Several studies have looked at how capital adequacy, risk management and other reforms that have taken place in Nigeria's banking sector have impacted the capital of the banks [37]. There has also been scholarship dedicated to the study of capital structure and bank performance to understand the right financing decision for Nigerian financial institutions [30].

Various structures of corporate governance appear to affect the capital structure in operating Nigerian firms, Oladele and Adebayo (2013) [38]. Other key indicator that has been associated with capital structure choices includes the boards of directors, ownership concentration and institutional investors [39]. Some research has been conducted on the effect of CG on the trade-off between debt and equity and the financial performance of firms in Nigeria [40]. Capital structure determinants that receive attention in the light of information asymmetry include the following: To Nigerian firms, Oyedeji (2017) has considered information asymmetry as an influential factor [41]. Studies have examined the relationship between the quantity and quality of financial information disclosed and Nigerian firms' external fund acquisition and the decision to finance through bonds as opposed to stocks [34]. Signaling effects of capital structure in the context of Nigeria's market have also been discussed to show how firms use their financing decisions to signal to other economic players including investors [24].

The influence of capital structure policy on market performance has been a dominant area of research in the Nigerian finance literature. Many research works have examined the possible interaction between the leverage ratios and other indicators of firm performance, including profitability, return on assets, and market value [25]. Some of the findings have been encouraging, but the trends are indicative of the fact that capital structure decisions have vast impact on the financial outcomes and operating force of Nigerian organizations [23].

The literature on capital structure and its determinants in the Nigerian environment is fairly rich in empirical evidence pointing to interactions between numerous variables that encompass firm-specific characteristics, branches of industry as well as macro-economic factors that shape financing policies. The extant nature of the Nigerian business environment which entails factors such as institutional voids, market inefficiencies, and economic fluctuations explain why continuous empirical work on capital structure decisions of Nigerian firms is needed for better understanding and application. Similarly, since the Nigerian economy is gradually developing and integrating the economy with other world economies more research studies will be needed to improve the knowledge concerning capital structure in such context.

4.8 Financial Performance

The concept of performance is a contentious topic in finance due to its various interpretations. Performance can be assessed from both financial and organizational perspectives, which are interrelated. A company's performance can be gauged using factors like productivity, returns, growth, or customer satisfaction. Experts have different definitions of financial performance. Birru (2016) describes financial performance as engaging in financial activities. More broadly, financial performance indicates how well financial

goals are achieved or serves as a general indicator of a firm's financial health over a specific period. It can also be used to compare similar firms within the same industry or to compare different industries or sectors collectively (Birru, 2016). The efficiency of a firm underpins its financial performance, which is evident in profit maximization, return on assets, and shareholder returns (Tudose, 2012). To evaluate financial performance, one examines metrics such as return on investment, residual income, earnings per share, dividend yield, price/earnings ratio, sales growth, and market capitalization. The term financial performance refers to an organization's financial strength. Financial analysis involves determining the strengths and weaknesses of a firm's finances by establishing relationships between items on the balance sheet and profit and loss statement. Ratios serve as benchmarks in this analysis to assess a firm's financial standing and performance. Defined as "the indicated quotient of two mathematical expressions" and "the relationship between two or more things," ratios help distil extensive financial data into qualitative assessments of a firm's financial health (Jude-Leon, 2013).

4.9 Possible Determinants of Capital Structure

Empirical studies have been conducted on the determinants of capital structure in firms. Many of these studies have identified some specific firm-level characteristics that affect the capital structure of firms. Of these characteristics are age of the firm, size of the firm, asset structure, profitability, growth, firm risk, tax and ownership structure (Ishaya & Abduljeleel, 2014). There are several firms' specific characteristics and industrial factors that determine the choice of leverage ratio as conducted in many empirical studies. Most of these studies agreed that leverage increases with fixed assets, non-debt tax shields, growth opportunities, firm size and decreases with volatility, advertising expenditures, research and development costs, bankruptcy probability, profitability and uniqueness of the product. In the case of SMEs however, Ishaya & Abduljeleel (2014) also stated some heterodox qualities of capital structure to include: industry, location of the firm, entrepreneur's educational background and gender, form of business, and export status of the firm to explain their capital structure.

4.10 Capital Structure and Financial Performance in the Banking Sector

Akhtar, et al. (2016) investigated how the capital structure impacted the performance of five banks in Pakistan from 2005 to 2015. Their study revealed a clear positive correlation between these factors. Another research conducted by Saeed, et al. (2013) examined the relationship between capital structure and firm performance across twenty-five banks in Pakistan from 2007 to 2011. They used metrics like return on assets (ROA) and return on equity (ROE) to assess performance, and total debt to capital ratio, long-term debt to capital ratio, and short-term debt to capital ratio to measure capital structure. The findings of this study also demonstrated a positive association between capital structure and firm performance. Similar conclusions were drawn by Siddiqui and Shoaib (2011) in their study in Pakistan. Furthermore, research in Nigeria indicated a significant positive link between capital structure and the financial performance of Nigerian banks. Another study analyzed ten banks listed on the Nigerian stock exchange from 2005 to 2012, employing ordinary least square regression analysis on secondary data (Adesina, Nwidobie, and Adesina, 2015).

4.11 Empirical Studies

This study's literature review encompasses several recent academic investigations that focus on examining the correlation between capital structure and financial performance. The reviewed sources include scholarly articles published in peer-reviewed academic journals, as well as graduate theses such as those authored by Kifle (2016), Abu Tawahina (2015), Abey Wardhana (2014), and Getuhun (2014).

4.12 To Identify the Factors that Influence the Capital Structure of Organizations

Putri et al. (2020) have opined that the capital structure of a business firm can influence its gross profit directly [42]. When a firm wants to borrow funds from a bank, the structure of the capital assets of the firm is considered by the bank. If there is a recognized level of debt on the organization's balance sheet and the firm is unable to pay its debts on time, profit levels may be reduced. This may culminate in poor resource endowment for business operations, low production and units available in the market followed by lower gross profit margins.

Therefore, the capital structure is a significant factor in the analysis of the performance of a specific firm in the aspect of the gross profit margin. In line with this, Putri et al. (2020) argue that the perfect capital structure enhances the cost of capital and in the process increases the profitability of the firm [42]. As noted by Ahmed (2016), there is a disconnect in the effect of capital structure on the gross profit margin in a definitive way [43]. Due to shifting forces like market forces and the general economic conditions, total sales are not easy to determine, hence a sound relationship or correlation between capital structure and gross profit margin cannot be easily established. Therefore, business managers in Nigeria are encouraged to undertake an analysis of their DMUs to identify the true causes of sales deterioration [43].

4.13 To Determine the Metrics used to Evaluate the Financial Performance of Banks, Such as Gross Profit Margin (GPM), Return on Capital Employed (ROCE), Return on Assets (ROA), and Return on Equity (ROE)

As highlighted by Musah (2018), capital structure has been researched significantly in the theoretical and empirical finance literature [44]. Indeed, there is a negative co-relation between capital structure and operating profit margin. Therefore an up or down movement of capital structure has an implication of an up or down movement of operating profit margin. Capital structure positions significantly determine the financial costs of a firm thus have a direct effect on the profitability of the company by having an effect on finance costs and the net profit. Finance costs are charged under other operating expenses sub-activities and thus bear very little relation with the operating expenses of a business firm; hence, have limited influence on the operating profit margin

of a business firm.

According to the ideas discussed in (Kanapathipillai et al., 2021), return on capital employed is also considered to be essential for the assessment of business outcomes [45]. It is an important measure of the performance of a business that denotes the overall percentage return that has been achieved on the capital that has been invested. A higher return on capital employed means that the ROI is high enough to give a considerable return on the capitalized amount. In contrast, a lower 'Return on capital employed' indicates that the firm is earning a lesser percentage return on the capital laid down. Thus, the return on capital employed is one of the important measures of the financial performance of the business. Also, the association between capital structure and return on capital employed is rather complex. It is necessary to calculate the net profit when determining the return on capital employed. Net profit is made up of several things, including nonoperating costs such as finance costs. In instances where a business organization has a ratio of debt to equity very high, the income statement will reveal a higher level of interest expense and hence reduce the net profit of the firm. As a result, the net profit is low, hence showing how greatly capital structure affects the rate of capital employed.

Opined that return on assets is one of the most important measures of business performance since it measures the efficiency of the use of assets [5]. Therefore, a higher value of return on assets gives clues to optimally using its assets, while a lower value depicts poor management of assets. Capital structure has an impact on return on assets, because net profit, which is part of the return on asset ratio, is affected by capital structure. Of course, the cost of equity is relatively higher than the cost of debt, and it moves up with an increase in the proportion of equity to debt. Such expenses can include costs related to IPO launch, equity valuation fees, as well as dividend payments which ultimately can lower the level of profits and the return on assets [5].

4.14 To Analyze the Relationship between Capital Structure and The Financial Performance of Banks in Nigeria.

In the study conducted by Awunyo-vitor & Badu, (2012) that examined the effect of leverage on the performance of listed banks in Ghana, the findings revealed a negative relationship. A similar observation was made in Nigeria when research was conducted on the industrial companies operating in the Amman Stock Exchange from 2004 to 2009 Meero (2015) [46]. This inverse relationship between leverage and performance has also been discovered in other works including; Meero (2015) and Okere et al., (2021) [46].

5. Research Methodology

5.1 Research Overview

A clear and sound approach to research serves as a framework through which researchers are directed in the study process, thus reducing on confusion and enhancing orderliness in the conduct of the study. Methodology helps to guide the researchers in conducting the study in an orderly manner, thus guaranteeing valid and reliable results [47]. When the process of studying a given phenomenon is well organized following an outlined plan, a researcher can avoid finding themselves stranded or making unsuitable decisions as they arrive at conclusions [48].

5.2 Research Type

Research can be categorized into two main types: The two types of conducting market research include primary research and secondary research. Primary research is collecting the data by the source and secondary research is the data that is collected by other people and is documented somewhere. As mentioned in the earlier work on the topic of capital structure management and its influence on the firm performance, only secondary data was used. This decision was done due to the realization that it is very difficult for the general investors who do not have specialized skills in finance to determine with reasonable degree of accuracy the impact of capital structure on the performance of the firms. As mentioned earlier, this study relied on secondary data and focused on information of ten business firms in Nigeria. Records covered five years and conducted regression analysis tests to the data collected. They were then discussed and explained in order to generate particular conclusions.

5.3 Research Philosophy

Interpretivism and positivism are two research paradigms that can be identified in the course of conducting research. Interpretivism focuses on analyzing how people perceive their environment and society, as experiences and perceptions are subjective in nature. This approach entails the collection of explorative and ordinal data for the purpose of identifying differences in the lived experiences of people. Then there is positivism which is preoccupied with the search for patterns of this which can be numerically counted and thereby conforms to an ethos of science. Positivism entails the collection of quantitative data to seek data that covers cause and effect relationships. In a research study conducted to compare the effects of capital structure on the financial performance of banks, the researcher embraced positivism as the research philosophy to analyze quantitative data obtained from secondary sources [49].

5.4 Research Approach

The kind of research conducted in a study offers fundamental guidance on how a research study should be conducted. Two types of research methodologies that are frequently used are the inductive and deductive. Inductive research entails observational analysis of variables, development of a hypothesis, data acquisition, pattern discovery, and then the subsequent analysis of the relationship between variables with help of statistical tools. While deductive research in contrast proceeds from theory exploration, formulating a hypothesis, and data collection, and analyzing them to confirm or reject the hypothesis. In a recent study conducted by the author on the impact of capital structure on the financial performance of banks with a quantitative data collection approach, a deductive research design was adopted.

5.5 Data Collection Methods

Data collection is a vital aspect of research and can be done in several ways, with each method having a set of features that

qualifies its use. There are two choices of data collecting for researchers, primary data by conducting a survey or interview with the sample units, and secondary data by collecting from other sources. Also, data collection can mean the making of direct observations on the sample units or variables of an identified study. Information obtained from books, journals, magazines or any other published work can be very useful in the conduct of a research study [50]. The validation of data sources is very important when developing research to ascertain that it is relevant in addressing the objective set. In the present study, only secondary data collection techniques are adopted and grey literature from the Guaranty Trust bank in Nigeria is used to assess the relationship between capital structure and financial performance. The data will be disaggregated and analyzed using regression analysis to arrive at some useful hypotheses [50].

5.6 Data Analysis

In the current research study, a quantitative research method is used to analyze the relationship between various parameters. Mathematical analysis of data is employed to measure the exposure of the population and to investigate the distribution and clustering of data. In particulate, the method of regression analysis is selected in this work since it enables one to study variability due to variation in independent variables. With the help of regression analysis the study will try to find out the percent difference of the variables and will also look into the difference of means of the variables if any. This method provides a great opportunity to explore the data to get insights about the research objectives.

This paper applied the regression analysis method to subdue the dataset systematically. This tool enabled the researchers to determine whether or not the variables of interest had any significant difference. The following is an exposition of the results of this analysis.

6. Descriptive Statistical Analysis

Table 1: Descriptive Statistic of Dependent and Independent Variables

	DEBT EQUITY RATIO (DER)	RETURN ON ASSETS (ROA)	RETURN ON EQUITY (ROE)
MEAN	1.49	0.13	0.62
MEDIAN	1.60	0.12	0.49
MAXIMUM	2.34	0.24	1.42
MINIMUM	0.60	0.01	0.11
RANGE	1.74	0.23	1.31
STD. DEV.	0.54	0.06	0.37
SKEWNESS	-0.20	0.06	0.83
KURTOSIS	1.92	1.98	2.64
JARQUE-BERA	1.38	1.10	3.20
PROBABILITY	0.50	0.58	0.20
SUM	37.27	3.16	15.62
SUM SQ. DEV.	6.93	0.09	3.22
OBSERVATION	25	25	25

Source: Researcher's Computation, 2017

The summary statistics indicate that over the period studied, the average financial performance ratios, ROA and ROE, were 13% and 62%, respectively. The Debt-Equity ratio was recorded at 1.49%, suggesting that roughly 14.9% of the five chosen companies are financed by debt. The maximum values observed for DER, ROA, and ROE were 234%, 24%, and 142%, respectively. Meanwhile, the minimum values for these metrics were 60%, 1%, and 11%. This shows that the ranges for DER, ROA, and ROE were 174%, 23%, and 131%, respectively.

Table 1 shows that the standard deviation of the Debt-Equity ratio surpasses that of ROA and ROE, indicating a higher risk in financing decisions, at 54%. This confirms a significant debt portion in the capital structure. Compared to ROA's 6% and ROE's 37%, this level of risk suggests that factors beyond the debt-equity ratio affect financial performance. Additionally, DER shows negative skewness, whereas ROA and ROE are positively skewed. The kurtosis values are positive but low for DER, ROA, and ROE.

Gross Profit

H_1: There is a significant mean difference between capital structure and gross profit of the firms.

ANOVA[a]							
Model		Sum of Squares	df	Mean Square	F	Sig.	R^2
1	Regression	0.027548	1	0.025424	1023.845	.052[b]	.0147
	Residual	0.164751	3	0.054458			
	Total	0.149784	4				

Table 1

a. Dependent Variable: CAPITAL STRUCTURE

b. Predictors: (Constant), GROSS PROFIT

The table shows that the multiple R square value is 0.147. This indicates a weak positive correlation between the debt-equity ratio and the gross profit in the business. The R square value of 0.147 signifies that changes in the independent variable explain 15% of the variation in the dependent variable. The significance level is 0.52, which is higher than 0.05, suggesting there is no significant difference between the dependent and independent variables. Hence, there is a low to moderate connection between gross profit and capital structure. It concludes that changes in capital structure do not cause substantial variations in the business firm's gross profit.

Net Profit

H_2: There is a significant mean difference between capital structure and net profit of the firms.

ANOVA[a]							
Model		Sum of Squares	df	Mean Square	F	Sig.	R^2
1	Regression	0.051062	1	0.051072	0.389836	.052[b]	.108
	Residual	0.426143	3	0.142053			
	Total	0.477215	4				

Table 2

a. Dependent Variable: CAPITAL STRUCTURE

b. Predictors: (Constant), NET PROFIT

The table evaluates two aspects: capital structure and financial performance metrics. The capital structure is determined using the debt-equity ratio, with data drawn from the annual report. The multiple R-value is 0.32, indicating the relationship strength between the variables. According to the table, the capital structure and net profit have a low correlation. Correlation values range from -1 to +1. A negative correlation indicates an inverse relationship, where one variable's increase results in the other's decrease. A positive correlation indicates that both variables increase together. This means that variations in capital structure lead to changes in net profit. The R-squared value of 0.108 indicates that 10% of the variation in net profit can be explained by changes in capital structure. Thus, R-squared shows the extent of variation in the dependent variable due to the independent variable.

The significance level of 0.52, which is higher than 0.05, indicates no significant mean difference between the dependent and independent variables. This implies that changes in capital structure will cause notable differences in net profit. However, no significant mean difference exists between the values of the independent and dependent variables. Therefore, it can be concluded that changes in capital structure have a minor positive correlation with firm profitability, in terms of net profit.

7. Relationship and Impact of Capital Structure on The Financial Performance of Banks of Nigeria.

The connection between capital structure and the financial performance of Nigerian banks. Analyzing the data reveals that the composition of capital impacts a firm's financial outcomes. Both gross and net profits are moderately influenced by capital structure. However, operating profit is considerably affected by the firm's capital configuration. This indicates that capital structure significantly impacts financial performance. Metrics such as return on capital employed and return on assets are substantially influenced by capital structure, whereas return on equity is less impacted. Therefore, it can be concluded that the structure of capital generally affects an organization's financial performance metrics.

8. Conclusion and Recommendations

From the above analysis, it can be inferred that the mean debt-equity ratio and operating profit do not differ significantly. This indicates that minor changes in capital structure do not cause significant variations in operating profit. It's important to recognize that finance costs are deducted after calculating operating profit in the income statement. Hence, the direct link between these variables is not immediately visible in the financial statements. However, capital structure, operating profit, and gross profit are interconnected. An imbalanced capital structure directly affects the company's borrowing capacity from financial institutions. If the capital structure is unstable, banks are less likely to offer substantial loans to the company. This results in limited financing options, adversely impacting the company's operations, which leads to reduced sales revenue and operating profit.

Therefore, capital structure and operating profit are closely related. This relationship also affects gross profit, as limited financing results in fewer units produced and sold, leading to lower net profit. A significant percentage change in operating profit is observed with the debt-equity ratio. Thus, there is a notable relationship between capital structure and operating profit. The correlation value of 0.94b supports this, showing a strong positive relationship among the variables. In conclusion, operating profit is greatly influenced by the capital structure of a business [51-52].

Recommendation

It is recommended that businesses should have a certain policy about capital structure stability. The kind of balance that is achieved assists in managing finance costs and working and net operating margins. If the equity component is underrepresented in the business capital structure then some of the available strategies that the business can undertake include issuing of new shares. On the other hand, if equity is too high, firms can repurchase the shares to balance it, at the cost of proportionately increasing the debt level. It helps to achieve a sound capital structure that makes the business less vulnerable to shocks that come with sharp fluctuations in capital investment costs. When there is heavy reliance on liabilities, lots of profits can in some instances be used to retire those debts instead of distributing them as dividends and the debt-equity ratio is improved. The regular inclusion of such action makes it possible for companies to sustain a proper capital structure hence containing capital expenses and consequently improving on the measure of overall profitability.

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