

CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS (DMBs) IN NIGERIA

Abstract

This study examined the influence of capital structure on the financial performance of DMBs in Nigeria. The study sampled 6 (six) out of 24 quoted DMBs in Nigeria as of December 2020, which was arrived at using the Stratified and purposive sampling technique. Financial performance (DV) was proxied by Net Interest Margin. Capital Structure (IV) was proxied by Short Term Debt Ratio and Long-Term Debt Ratio. A panel regression model was employed for data analysis. The analyses exert that, at 5% level of significance, P-values indicates that short-term debt (STDTA = 0.94), TDTA (0.31) have considerable impact on ROA. While long-term debt (LTDTA) has a moderate impact on ROA at 9%. The study recommends that to improve financial performance, banks management should evaluate a tradeoff between SHTD and LGTD when deciding on capital structure.

Keywords: Capital Structure, Short Term Debt, Long Term Debt, Financial Performance, Net Interest Margin

1. Introduction

In the world of finance, one of the most crucial decision areas is capital structure. It determines how much debt and equity a corporation owes. It's a critical decision that affects the company's value. This is because a company's financial structure is linked to its ability to meet the needs of its various stakeholders. The capital structure of a firm has an impact on its ability to deal with the competitive environment. This implies that deciding on the best capital structure is critical to the firm's existence. A blended structure of debt and equity that produces a low cost of capital and maximizes the firm's value is called optimal capital structure. As a result, improper capital structure decisions, such as the incorrect mix of debt and equity, may result in a high cost of capital, increased financial risk, inferior financial performance, and ultimately hamper the firm's existence. This indicates that choosing an inefficient capital structure can lead to a company's collapse.

Financial performance defines the firm's efficiency and effectiveness in resources utilization. Considering the vital role DMBs play in the economy in terms of financial intermediation, monetary policy transmission, and the maintenance of economic stability, their survival and growth are crucial to the nations. Stressing the importance of solid financial performance in the banking business, it is obvious that banks with sound financial performance and sufficient capital can survive severe shocks. This means that a strong banking sector will continue to provide necessary financial intermediation services. As a result, a healthy and stable banking sector promotes financial stability by enhancing financial deepening, creating additional job possibilities, and enhancing financial stability.

The financial stability report shows a downward trend in the financial performance parameters of Nigerian banks. Return on equity (ROE) and return on assets (ROA), for example, have fallen from 14.90 and 2.67 percent in 2007 to 1.18 and 0.16 percent in 2016 (IMF, 2017; CBN, 2016). This event has the potential to erode public confidence and, in the worst-case scenario, result in bank runs. Owing to the above strong association between banks survival and financial performance, improvement in important decision areas such as capital structure becomes critical. Modigliani and Miller's foundational work in 1958 laid the groundwork for capital structure research. They claimed that different debt-to-equity ratios have no bearing on the firm's worth. Following that, the influence of capital structure on a firm's performance was extensively researched in both industrialized and developing countries, with mixed results.

There few studies in the context of Nigerian banking sector that empirically evaluated distinct types of debts as indicators of capital structure, such as short-term debt (SHTD) and long-term debt (LGTD). In terms of financial performance indicators, net interest margin (NIM) is a basic banking-specific performance measure that has largely been overlooked in prior research. Margin measures such as net interest margin (NIM) and net non-interest margin (NNIM), according to the CBN (2013), have lately emerged as critical indicators for bank management, regulatory bodies, and the general public. Furthermore, NIM demonstrates the cost and efficiency of financial intermediation by banks. As a result, this setting allows for more research to be done to establish empirical evidence from the Nigerian context. Thus, more researches are needed most especially in the Nigerian context to validated the results. The goal of this research is to fill a knowledge gap by empirically evaluating the robustness of the extent of the relationship between capital structure metrics and performance of Nigerian banks using the net interest margin as a central profitability indicator. To achieve this broad objective, the researchers hypothesized that:

- H₀₁: There is no substantial association between short-term debt and the financial performance of DMBs in Nigeria.
- H₀₂: There is no significant relationship between long-term debt and the financial performance of DMBs in Nigeria.

2. Literature Review

This section reviews concepts relating to capital structure, financial performance, empirical literature and the theoretical framework of the study.

2.1. Concept of Capital Structure

The form and manner in which a corporation finances its assets to generate income are referred to as capital structure, and it invariably maximizes the wealth of its owners. According to Saeed, Gull, and Rasheed (2013), capital structure is linked to several types of funding vehicles used by firms to obtain assets necessary for their operations and development. Uwalomwa and Uadiale (2012) thought of it as a combination of the company's long-term debt, specific short-term debt, common stock, and preferred equity. The capital mix of a corporation fundamentally reflects how it funds its overall functions and growth by utilizing a variety of funding sources. Unlevered companies are those that are wholly financed by equity, and highly levered companies are those that are entirely financed by debt.

Companies with a particular proportion of debts in their capital structure must devote a portion of their profit after tax to debt servicing (Chechet & Olayiwola, 2014). The value of a company is directly linked to its capital structure (Tifow & Sayilir, 2015). According to Kundakchyan and Zulfakarova (2014), an ideal blend of capital structure components maintains business soundness, maximizes return on capital, and reduces financial risks. In contrast to other business enterprises, the capital structure of the banking sector is distinctive.

In terms of operation, banks act as intermediaries to pool surplus money and lend it to the society's deficit units (Kipasha & Moshi, 2014). Mostafa et al., (2011) opined that for banks to extend credit lines, they must mobilize more cash through new deposit acceptance, borrowing from other banks, or equity issues. In support of the preceding argument, Allen and Carletti (2013) asserted that banks differ from other businesses in terms of deposit mobilization. Miller (1995) contends that the MM theory that underpins capital structure theory can be applied to banks, citing the example of an IBM lease financing subsidiary whose short-term liability security, the "Variable Rate Book Entry Demand Note," is functionally equivalent to demand deposits.

2.2. Determinants of Capital Structure.

There are various determinants of capital structure and these include Growth Opportunities. Titman and Wessels (1988) exposed that the higher the potential for expansion, the greater the demand for cash to finance expansion, and the greater the likelihood that the company will hoard earnings rather than distribute them as dividends. When a firm has a lot of development potential and a lot of investment efforts, it usually funds them using internal funds. Such a corporation may choose to decrease or pay fewer dividends to reduce its reliance on costly external financing. Companies with slow growth and limited investment opportunities pay higher dividends to deter management from over-investing corporate capital. As a result, a dividend would function as an incentive by removing resources from the firm and lowering the agency costs of free cash flows (Titman & Wessels 1988).

The second determinant is Dividend Payout. According to the bankruptcy costs hypothesis, the dividend payout ratio and capital structure debt level have an inverse connection, according to Titman and Wessels (1988). The low dividend payment ratio means a higher equity base for debt financing and a lesser risk of liquidation. Due to the low possibility of bankruptcy, the cost of bankruptcy is modest. According to the bankruptcy cost theory, low bankruptcy costs reflect a high degree of debt in the capital structure. The pecking order theory, on the other hand, shows that the debt and dividend payout ratio has a positive association. According to this theory, management favours internal financing over external financing. Management reserves the profits rather than paying a substantial dividend or relying on debt financing to meet financial demands. As a result, a lower dividend payment ratio reflects a lower capital structure debt level.

The size of the Firm is another determinant of capital structure. Small enterprises' capital structures are frequently made up of bank loans and retained profits. Big businesses, on the other hand, can easily issue shares and debentures, as well as take out loans and borrowings from financial institutions, if they have a good reputation, stability, and demonstrated profit (Titman & Wessels 1988).

2.3. Measurement of Capital Structure

Various metrics are used for measuring capital structure and a few amongst them include the following. First, Total Debt to Total Assets. The debt-to-asset ratio is a leverage ratio that determines how much debt (the sum of long-term and current debt) a company has in comparison to its total assets. The debt-to-equity ratio measures how much of a corporation is financed by debt. If a company's debt to assets ratio is 60%, it signifies that long-term and current debt account for 60% of the company's assets. Certainly, the majority of businesses have some type of debt on their books. A higher debt-to-asset ratio is riskier for equity investors when all other conditions are equal because debt holders usually obtain priority over firm assets following a bankruptcy (Well, 2007). A ratio of 1 (unlikely) suggests that a firm's debt is completely backed, whilst a ratio of 0 shows that the company has no debt. With a high debt-to-asset ratio, the company will have to pay more in interest on its debt before calculating net earnings.

The second metric is Total Assets to Total Equity. This is a statistic that is used to determine financial leverage. It shows the relationship between the total assets of the company and the amount on which equity investors have a claim. If the ratio is larger than two, the corporation is funding more assets with debt rather than equity, which could be a riskier investment. A low ratio could indicate that you're being careful (Pushner, 1995). The assets-to-shareholder equity ratio moves in lockstep with the debt-to-equity ratio.

2.4. Optimal Capital Structure

More than half a century ago, capital structure theory was dominated by the search for the best capital structure. The ideal capital mix for the company is a compromise between the tax benefits of debt and other leverage-related costs. The term "optimal" refers to a company's ability to balance debt and equity. Many scholars have studied the firm's optimal capital structure, including Miller (1977), Myers (1984), and others. Most studies will rely on macroeconomic data to determine the appropriate capital structure.

2.5. Concept of Financial Performance

The financial measurements or indicators used to investigate a company's overall health are referred to as financial performance. Bhunia, et al., (2011) argued that financial performance can simply be defined as a company's overall financial health over time. Performance ratios are used to assess a company's viability, stability, and fertility, according to the study. This means that firms' performance is the monetary result of their operations over time. Financial managers used different ratios to assess a company's financial performance (Watson & Head, 2007; Bhunia, et al., 2011). Similarly, Ross, et al., (2002) viewed profitability as the extent to which a corporation can create profit from its operations, as one of the primary elements used in evaluating financial success. Profitability is the primary goal of all business undertakings, as their long-term viability is dependent on their capacity to generate profits. Its measurement is the most illustrious metric of company performance. Return on assets (ROA), return on equity (ROE), and return on uncontrolled investment accounts (ROUIA) were used to quantify financial performance.

The CBN underlined the importance of the net interest margin (NIM) as a metric of bank performance in 2013. Because capital structure has an impact on a company's worth, it is a crucial decision for a bank's existence and financial performance. Debt and equity have been

used as essential components in previous research (e.g., Sadiq et al., 2015; Ronoh & Ntoiti, 2015) to measure the capital structure of businesses. To better understand the relationship between capital structure and financial performance, the components of capital structure are examined separately to show how each component affects financial performance.

2.6. Empirical Review

Tanko, Akeem and Paul (2021) investigated how the board's financial literacy affected capital structure and firm performance in Nigeria. The ratios of long-term debts to total assets, short-term debts to total assets, and equity to total debt ratios were used to determine the capital structure, while the ratio of board members with professional and academic qualifications in accounting, finance, and economics was used to determine board financial literacy. Panel Least Square was introduced to analyzed data drawn from the sampled firms' accounts. According to the study, long-term debt and ROA have a positive and significant relationship. It also demonstrates that the board of directors' financial literacy has a significant impact on capital structure and firm performance. The capital structure of Nigerian listed non-financial firms should be adjusted, according to the research, to improve financial performance. They can do so by optimizing their capital structure, with current and non-current debts outnumbering equity. The result encouraged the Board of Directors should be concerned about long-term and short-term debt levels, and include members who are financially literate and can contribute to the company's financing decisions to create an optimal capital structure for improved financial performance. This indicated that long-term debt, short-term debt, and financial success had a strong positive moderating relationship.

Eyong, Ebieri, and Josephine (2021), between 2016 and 2020, investigated the impact of capital structure on the financial performance of consumer products companies listed on the Nigerian Stock Exchange. The study is quantitative, and the analytical tool used for the analysis is multiple linear regression. Financial performance was significantly influenced by capital structure characteristics. This indicated a strong correlation between capital structure components and return on assets, according to the t-test hypothesis (return on assets). As a result, to achieve adequate asset returns, public consumer products companies should use an appropriate combination of capital structure components.

Tretiakova, Shalнева1 and Lvov (2021) evaluated the relationship between key performance measures (ROA, ROIC, change in market capitalization, and price-to-book ratio) and a firm's capital structure in the UK pharmaceutical business from 2009 to 2019. The study provided evidence on the effect of external financing on firms performance, as well as a test of the pecking order theory's relevance to the enterprises studied. The effect of capital structure on financial indicators of company performance was determined and studied using panel data regression and the Wald test. The study looked at 185 pharmaceutical firms in the United Kingdom. According to the study, the stock has a negative impact on the price-to-book ratio and ROA while having a favourable impact on market capitalization change. Whereas long-term debt has a positive impact on price-to-book ratio and market capitalization change. Short-term debt shows a negative influence on market capitalization change, return on assets, and return on investment capital. The findings are partially in line with the pecking order notion.

Nini & Agus (2020) for four years, from 2014 to 2018, investigated the effects of capital structure on the performance of Indonesian manufacturing companies. The capital structure was determined using Market Total Leverage (MTLEV), Market Long-Term Leverage (MLLEV),

and Market Short-Term Leverage (MSLEV). Whereas, measurements like ROE and price to book value are used to assess a company's financial success (PBV). The study's samples were chosen using a purposive selection method with a total sample size of 333 company years. Multiple regression analysis methodologies were employed in conjunction with secondary data from IDX. According to the conclusions of the investigation, the capital structure has a negative and considerable impact on the company's financial performance in each model.

A similar study on capital structure and corporate performance were conducted by John, Nicholas, and Wainaina (2020). The study, which is based on agency cost theory, is supported by static trade-off and pecking order theories. According to the study, financial leverage has a positive and considerable impact on corporate success. Furthermore, the research reveals a correlation between capital structure and financial success. The company's capital structure exerts a significant impact on financial performance. According to the findings, every firm requires a healthy financial structure to make a profit and maintain a successful organization.

The impact of capital structure on the performance of diverse Nigerian manufacturing enterprises was explored by Arikekpar, Obaima, and Ateibueri (2020). This study looked at the annual financial statements of five listed manufacturing businesses in Nigeria from 2014 to 2018. Return on asset (ROA), return on equity (ROE), and earnings per share (EPS) were used to assess firm performance, while equity and debt ratios were used to assess the capital structure. According to the study, capital structure has a significant favourable impact on the financial performance of selected Nigerian businesses. According to the study, manufacturing companies should adopt policies that encourage higher profit after tax, dividends, and turnover because these factors can considerably boost the company's performance and market capitalization value.

Yunusa (2020) investigated the impact of capital structure on the financial performance of Nigerian publicly traded industrial goods firms. A correlation approach was employed to analyse the data acquired from accounts of the sampled industrial goods companies for five years, from 2015 to 2019. The Generalized Least Square (GLS) and Random Effect Regression techniques were used to examine the study's data. After accounting for firm size, the study found that long-term debt has a small positive impact on the financial performance of Nigeria's listed industrial goods companies. Equity and liquidity ratios have also been proven to have a considerable negative impact on the financial performance of Nigerian listed industrial goods companies. According to the study, the capital structure of listed industrial goods businesses in Nigeria has a considerable impact on financial performance. This indicated that the management of Nigerian industrial products companies should maintain a substantial overall asset base. This will expand their business's scale, resulting in improved financial results. According to the trade-off approach, which favours internal financing over external financing, Nigerian industrial products companies should seek to keep a large number of liquid assets on hand to satisfy short-term obligations when they become due.

The influence of capital structure on Nigerian DMBs was investigated by Sanusi, Stephen, and Vivi (2020). The research employed an ex-post-facto to look at capital structure variables such as long-term debt to asset (LTD/TA), short-term debt to a total asset (STD/TA), total debt to a total asset (TD/TA), and financial performance measured by Return on Asset (ROA) (ROA). The study used a convenient sampling approach to collect secondary data, which was based on the availability of data at the time of the investigation. These figures came from the yearly financial reports of five Nigerian DMBs that were sampled between 2009 and 2018. The data were

analyzed using descriptive statistics (mean and standard deviation) and inferential statistics (i.e. Pearson correlation and regression analysis). It has been observed that STDTA (= 0.936554, p0.05) and TDTA (= 0.310692, p0.05) have a considerable beneficial impact on ROA. While LTDTA has a moderate impact on ROA (= 0.08686, p> 0.05). these statistics indicated that stakeholders in Nigerian deposit money banks should stress the usage of short-term debts as part of their capital structure, as well as the technique of utilizing resources while developing the banks and the ratio of fixed-asset investment to short-term debt.

2.7. Theoretical Framework

Different theories of capital structure have been discussed concerning how decision-makers might finance a new project and these include any of the following:

2.7.1. Traditional Theory

The standard technique is used to describe the debt-to-cost-of-capital relationship (Lumby and Jones, 2007). As a result, it states that as a company's debt grows, its gearing grows as well. The cost of capital will decrease in lockstep with the cost of borrowing. As a result, the company's market value will improve. However, if debt levels continue to rise, the low-debt advantage may become a disadvantage as financial risk rises, and regular shareholders expect bigger returns as a result. As a result, executives and decision-makers should consider how to balance the capital structure, the firm's value, and the dividend policy of the organization (Lumby and Jones, 2015).

2.7.2. Pecking Order Theory

Researchers revealed that when a company needs money to fund a new project (Myers & Majluf, 1984). Therefore, it is preferable to use the company's resources (internal financing), and if the retained profit is inadequate to finance, it is preferable to issue debt (bonds) rather than additional stock shares. The cost of capital structure is the most important component because internal sources of funding are prioritized; the second most important factor is the lowest cost (debt); and the final alternative is to issue extraordinary shares, which has a high cost (Muritala, 2012). The two theories (traditional and pecking theory) are used in this study because they better describe the notion of capital structure by focusing on internal sources of capital structure and the consideration given to debt as a source of financing and the benefits that come with it.

3. Methodology

A longitudinal research design was adopted in this study. Annual reports and accounts of the sampled firms were used to compile the data. The population consists of the 24 DMBs listed in the Nigerian Exchange Group as of December 2020. The population were grouped into three (3) categories based on size, profitability and customer base. The first group consist of the top eight (8) Deposit Money Banks. The second group consist of the middle eight (8) Deposit Money Banks, and the last group consist of the low eight (8) Deposit Money Banks. Purposive sampling was used to select two (2) Deposit Money Banks from each of the three groupings. The research was conducted over five years, from 2016 to 2020. Panel regression technique was used in the analysis of the data and the testing of hypotheses.

Table 1.1: Variables Measurement

Short Term Debt (Independent Variable)	It is calculated using the ratio of total short-term debt to total assets.
Long Term Debt (Independent Variable)	It is calculated using the ratio of total long-term debt to total assets.
Net Interest Margin (Dependent Variable)	It's computed as interest earned on assets minus interest paid on borrowed funds divided by interest-earning assets.

Source: Author's Composition 2021

3.2 Model Specification

3.2 Model Specification

The panel regression model assumes that the panel companies are all the same and the model is given thus:

$$NIM_{it} = \beta_0 + \beta_1 SHTDR_{it} + \beta_2 LGTDR_{it} + \epsilon_{it} \dots\dots\dots(i)$$

Where:

- NIM_{it} = Net Interest Margin
- β₀ = Constant
- β₁, β₂ = Variable that varies across companies
- SHTDR = Short Term Debt Ratio
- LGTDR = Long Term Debt Ratio
- ε_{it} = Error term

4. Results and Discussions

This section presents the results and discussion of descriptive statistics, correlation matrix, variance inflation factor and regression results of dependent and independent variables. Table 2.1 present the descriptive analysis of the variables under study.

Table 2.1: Descriptive Statistics

Variables	Mean	Std Dev.	Variance	Skewness	Kurtosis
NIM	0.0547	0.1724	38.37	0.0000	0.0000
SHTDR	0.6574	0.2934	6.83	0.1055	0.3000
LGTDR	0.1032	0.0375	11.86	0.0004	0.4085

Source: STATA 14.0 Output

The descriptive statistics of the variables under investigation were shown in Table 2. The Performance of the sampled DMBs expressed by NIM shows a mean value of 0.0547, indicating that the average of all 6 DMBs is centred on that number. In addition, the mean, which represents the average of the SHTDR, was 0.6574 with a standard deviation of 0.2934. The LGTDR has a mean value of 0.1032 and 0.0375 as value of the standard deviation. The standard deviation exerts that the variables are widely distributed.

The Kurtosis was used to test the data's normality based on the results of the descriptive statistics. Data is considered normally distributed if the Kurtosis is greater than 0.30 (Koop, 2009). The Kurtosis values of 0.4085 and 0.3000 shows that the data is normally distributed. Skewness analyses revealed that SHTDR and LGTDR are both fairly skewed, indicating that they are skewed to the right with a value of 0.1055 and 0.0004 respectively.

4.2. Correlation Analysis

Table 3.1 depicts the relationship between the dependent and the independent variables of the study.

Table 3.1: Correlation Matrix of the Variables

Variables	NIM	SHTDR	LGTDR
NIM	1.0000		
SHTDR	0.0299	1.0000	
LGTDR	0.0330	-0.4551	1.0000

Source: STATA 14 Output

The correlation matrix reveals that the dependent variable NIM has a positive association with the independent variables SHTDR and LGTDR, with coefficient values of 0.0299 and 0.330, respectively. In addition, the data show that SHTDR and LGTDR have a negative connection, with a value of -0.4551. The results reveal that the variables are not connected in any way, as evidenced by the outcome. Because a correlation between any pair of variables is supposed to be less than 0.80, any number more than 0.80 indicates that pairs of independent variables are highly connected (Hinkle et al., 2003). Because the values of the independent variables range between 0.02 and 0.03 in the correlation matrix, the independent variables are not substantially associated.

4.3. Multicollinearity Test

Table 4.1 shows the results of the multicollinearity test of the variables under study.

Table 4.1: Multicollinearity Test

Variables	VIF	1/VIF
SHTDR	1.26	0.792841
LGTDR	1.26	0.792841
MEAN VIF	1.26	

Source: STATA 14.0 Version

Table 4.1 shows that the multicollinearity result of the independent variables are certainly in line with the variance inflation factors, based on the distribution of the values in the table (VIF). If the VIF is less than 10, this indicates that the data is distributed normally (Gujarati, 2003)

4.4. Regression Results

Table 5.1 depicts the regression results of the variables under investigation. The variables coefficients and the p-values were shown.

Table 5 Regression Results

Variable	Coefficient	P-value
Constant	0.0049	0.976
SHTDR	0.0333	0.795
LGTD	0.2705	0.787
R-Square	0.1036	
Adj. R- Square	0.4702	
Wild Chi 2	0.1783	
P>chi 2	0.9519	

Source: STATA 14.0 Output.

Even though the association was not statistically significant as evidenced by the p-value of 0.795, the regression findings of the independent variable show that SHTDR has a positive link with performance (NIM) with a coefficient of 0.2705. As a result, the null hypothesis is accepted, which assumes that there is no relationship between short-term debt ratio and profitability, indicating that an increase in SHTDR does not correlate with a reduction in performance (NIM). This is supported by the findings of Hafiz, Samaila, and Dalhatu (2018), as well as Anarfo (2015). Furthermore, the regression results of the independent variable demonstrate that LGTD has a positive association with profitability with a coefficient of 0.0333, although the link is not statistically significant as evidenced by the p-value of 0.787. As a result, the null hypothesis, which assumes that there is no relationship between short-term debt ratio and profitability, can be accepted, indicating that an increase in SHTDR does not correlate with a reduction in performance (NIM). Hafiz, Samaila, and Dalhatu (2018), as well as Anarfo (2018), support this conclusion (2015).

5.1. Conclusion and Recommendations

The study looked at the relationship between capital structure and DMB performance in Nigeria. As a result, the study found that debt accounted for a large portion of the total capital of DMBs in Nigeria during the study period. The reality that banks are heavily leveraged financial institutions is reaffirmed. The following recommendations are made based on the findings of the study.

- i. The analyses suggest that profitable DMBs do not only rely on SHTD or LGTD to fund their assets. As a result, to improve DMBs performance in Nigeria, bank management should evaluate a tradeoff between SHTD and LGTD when deciding on capital structure.
- ii. Similarly, bank management should provide more incentives to SHTD suppliers, particularly depositors, to encourage them to keep their deposits with DMBs for longer periods than is now the case. SHTDs' maturity structure need to be adjusted to provide DMBs with an additional asset financing instrument that could help them improve their performance.

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