CAPITAL STRUCTURE AND THE PERFORMANCE OF DEVELOPMENT FINANCE INSTITUTIONS IN NIGERIA

Anyam Ngutor[1*], Kwahar Nguwasen[2], Sev Joseph Teryima[3], Jato Paul Terungwa[4], Sev Sylvia[5]

[1, 2,3]Department of Business Administration, Joseph Sarwuan Tarka University, Makurdi, Benue State – Nigeria

[4,5]Department of Business Management, Benue State University, Makurdi - Nigeria

Corresponding Author:

ABSTRACT

The study investigated the effect of capital structure on the performance of selected Development Finance Institutions (DFIs) in Nigeria. The study specifically examined the effect of Total Debt to Total Assets (TDTA) on performance of selected of development finance institutions in Nigeria; and ascertained the effect of Total Debt to Total Equity (TDTE) on performance of selected development finance institutions in Nigeria. The study adopted an ex-post facto research design and data were collected from published annual financial records of the selected DFIs on both TDTA and TDTE, the independent variables and Return on Assets(ROA), the dependent variable, for a period of ten (10) years (2013-2022). The population of the study composed of seven (7) national DFIs namely: Central Bank of Nigeria (CBN), Bank of Agriculture (BOA), Bank of Industry (BOI), Development Bank of Nigeria (DBN), Federal Mortgage Bank of Nigeria (FMBN), Nigeria-Export-Import Bank (NEXIM) and the Infrastructure Bank Plc (IBN). The study sampled four (4) national DFIs using a purposive sampling technique, including CBN, BOI, FMBN and NEXIM. Computation of the relevant ratios were done for the independent variables (TDTA and TDTE); and the dependent variable (ROA). Data analysis was done using multiple regression and the econometric technique of Dynamic Ordinary Least Squares (DOLS) with the aid of E-Views Version 13. The study found that TDTA has a negative but significant effect on ROA, indicating that a percentage change in TDTA leads to lower ROA by -0.071551 and TDTE has a positive effect of TDTE on ROA, showing that a percentage change in TDTE will significantly increase ROA by 0.001696. The study concluded that the investigated DFIs have low equity capital which seems to hinder their ability to attract large loans for operations. The study recommended amongst others that DFIs should maintain a balanced total debt to total assets (TDTA) and ensure the regular monitoring of the debt-to-asset ratio to ensure it remains within a healthy range which will help maintain a balance between leveraging and risk.

Keywords: *Capital Structure, Total Debt to Total Assets, Total Debt to Total Equity, Organizational Performance, Return on Assets*

INTRODUCTION

To ensure the desired performance, organizations adopt various strategies, such as capital structuring. Capital has been identified as the lifeblood of business activities across the globe. The goal of capital structure decision is to determine the financial leverage that maximizes the value of the firm while minimizing the weighted average cost of capital. Capital structure determines the growth, development and sustainability of firms over time. It encompasses the overall sources of finance used by companies in financing their operations, including debt and equity finance. Capital structure is therefore considered as one of the most important factors in firm financing policy due to its crucial role in corporate performance, especially by development finance institutions (DFIs).

DFIs play important roles in providing support to public and private sector operations in developing countries. They are institutions established and owned by governments or charitable organizations to provide low-cost funds for capital projects. DFIs, such as the World Bank (WB); owned by 187 countries, therefore provide risk capital through equity investments (especially in sectors with initial high entrance costs or considered as security risks), guarantees and long-term loans, for economic development projects, usually on non-commercial basis (Massa, *et. al*., 2016). Because of the unique characteristics of DFIs, they have a comparative advantage in providing finance that is related to the design and implementation of reforms and capacity building programmes, usually adopted by governments (Attridge *et. al.*, 2019; Marbuah, *et. al*., 2022).

To maximize the value of DFIs, and achieve better organizational performance, their managers need to carefully consider the capital structure decision, which is a complex task; as an incorrect combination of debt and equity can negatively impact performance, and impede future survival (Shaqqour, 2016). As stakeholders are interested in the performance of a company, achieving a high net income and a high rate of return on investment is germane, so that the total assets correlation with net income and the rate of return on investment strengthens the financial position of the company (Shaqqour, 2019).

Organizational performance reflects the ability of organizations to achieve pre-determined goals, by using available resources in both an efficient and effective manner (Taouab & Issor, 2019). The indicators of organizational performance include profitability, return on assets, return on equity, market share, sales growth, operational efficiency, amongst others (Gutterman, 2023). Financial performance indicators of firms, such as return on assets (ROA), return on equity (ROE), profit before tax (PBT) and earnings per share (EPS), are influenced by the nature of capital structure. Return on assets (ROA) is used in this study as a measure of organizational performance. Capital serves as an engine in establishing and promoting businesses, including DFIs, which operate better with higher capital structures (Ogunsola & Ogheneoparabo, 2022). Prior studies have demonstrated a significant relationship between capital structure and organizational performance (Gharaibeh, 2015; Siddik, *et. al*., 2017; Ayomitunde, *et. al*., 2019; Ogunsola & Ogheneoparabo, 2022). However, there are mixed results illustrating the nature of the relationship between capital structure and the performance of development finance institutions in Nigeria. Anyam *et. al.* (2023) reported that DFIs in Nigeria are not too effective and efficient in their functions. Maimako & Oladele (2015) stated that poor management, lack of transparency and accountability as well as the tendency for DFIs to engage in window dressing financial statements hinders the attainment of corporate objectives and economic growth. Most rresearchers have relied on generalised statements from performance in the banking sector which do not represent a true picture of DFIs (Maimako & Oladele, 2015). To fill the gap in literature, this study is spurred to examine the effect of capital structure on the performance of organizational performance of selected development finance institutions (DFIs) in Nigeria.

OBJECTIVES OF THE STUDY

The main objective of the study is to investigate the effect ofcapital structure on organizational performance of selected development finance institutions (DFIs) in Nigeria. Specifically, the study is carried out to:
i.   determine the effect of Total Debt to Total Assets (TDTA) on performance (proxied by ROA) of selected of development finance institutions in Nigeria.
ii. ascertain the effect of Total Debt to Total Equity (TDTE) on performance (proxied by ROA) of selected development finance institutions in Nigeria.

REVIEW OF RELATED LITERATURE
CAPITAL STRUCTURE

A firm's capital structure refers to the combination of its financial liabilities. Habimana (2014) defined capital structure as the proportion of debt and equity that a firm uses to finance its operations. Suardi & Noor (2015), posit that capital structure is basically a firm's financial framework: a combination between debt and equity capital maintained by a firm; and a mixture of various long-term sources of funds and equity shares including reserves and surpluses of an enterprise.

Dada & Ghazali (2016), describe capital structure as a system in which equity as well as debts are employed for funding the firm's activities to yield optimum returns for the stakeholders to maximize firm's returns, given a level of risk.

Etale & Ekpulu (2019), affirmed that capital structure embodies the financial framework of corporate entities which comprise of the debt and equity employed to finance the firm assets and overall operations. The decision on capital composition is a continuous process, mostly when the need for financing new projects emanate. From the above definitions of capital structure provided, this study adopts Habimana (2014), who defined capital structure as the proportion of debts (which include long term debt, short term debt) as well as equities that a business uses to finance its operations.

DIMENSIONS OF CAPITAL STRUCTURE
The dimensions of capital structure include Long Term Debt to Total Assets (LTDTA), Short Term Debt to Total Assets (STDTA), Total Debt to Total Assets (TDTA) and Total Debt to Total Equity (TDTE) (Dahiru, 2016; and Siddik, *et. al.*, 2017). This study however, used Total Debt to Total Assets (TDTA) and Total Debt to Total Equity (TDTE) as the dimensions of capital structure.

TOTAL DEBT TO TOTAL ASSETS (TDTA)
Total Debt to Total Assets (TDTA) shows the degree to which a company has used debt to finance it assets. Shahfira & Hasanuh (2021); and Hayes (2023) note that the ratio reflect how financially stable an organization is. The higher the ratio, the higher the degree of leverage (DOL) and, consequently, the higher risk of investing in that company. It is the ratio of total debt, the sum of current liabilities and long-term liabilities and total assets as well as the sum of current asset, fixed assets and other assets such as goodwill, trade mark, research and development. The TDTA ratio is calculated by dividing total liabilities by total assets. Both of these numbers can easily be found in the balance sheet. In this study total debt to total assets entails the measurement of the ability of business enterprise to use its total debt to finance its assets and other expenditures in order to improve performance of the firm.

TOTAL DEBT TO TOTAL EQUITY (TDTE)
Total debt to total equity refers to the ratio of debt-to-equity capital of a company. Nukala & Rao (2021) defined total debt to total equity as a measure of how much a firm uses equity and debt. Dahiru (2016) explained that the total debt to total equity is expected to have an influence on a firm's performance. Total debt to total equity ratios measures the proportion of creditors fund in relation to shareholder's fund. Creditors would like this ratio to be lower; because the lower the ratio the higher the level of a firm's financing that is being provided by shareholders and the larger the cushion (margin of protection) in the event of shrinking asset values or outright losses. In view of the above, therefore, this study adopts the definition of TDTE provided by Sawir (2014) as a ratio that describes the debt and equity incorporated in a funding structure and shows the ability of the company's own capital to meet its obligations.

ORGANIZATIONAL PERFORMANCE
Organizational performance is the ability of a business enterprise to make good use of its current assets to meet the objectives of the organization. It measures the outcome of a firm's activities over time, which include financial and non-financial performance. Agbonrha-Oghoye & Umoru (2022), defined financial performance as profit: the excess of income generated over expenses incurred in a given period; being the "raison d etre" of business or what it is set up to accomplish. Financial performance is a sign of the financial stability for a given period of time for a firm, and can be used to compare firms in the same line of operations or to compare industries or sectors in total to enable a business plan on how they can improve the conditions at stake with an aim to achieve the business objectives. Organizational performance, measured by financial indicators such as ROA and EPS shows how well a firm can use assets from its primary mode of business to generate revenues. It is also used as an overall measure of a company's financial health over a particular period of time (Gharaibeh, 2015; Almagtone & Abbas, 2020; and Choiriyah, *et. al*., 2021). Mutegi (2016) stated that financial performance is how current assets of a firm can be utilized optimally in the course of normal business activities and raise income for the business. It provides a guideline that allow for future decisions relating to business developments, assets acquisitions and managerial control.

MEASURES OF FINANCIAL PERFORMANCE
Siddik, *et.al.* (2017), argue that the dimensions applied in measuring financial therefore include the Return on Equity (ROE), Returns on Asset (ROA) and Earnings Per Share (EPS) and Net Profit Margin (NPM). In this study, only ROA is used as a measure of financial performance.

RETURNS ON ASSET (ROA)
Return on asset (ROA) is a return on investment return (ROI) of sort (Lakshmi, 2019). It gives information about the amount of money returned to an investor for every Naira invested in a business or DFI. ROA demonstrates the capacity of a business to produce profits utilizing its assets. In some sectors, ROA is greater than others because the amount of capital invested in assets varies (Gharaibeh, 2015). The company's operational efficiency is affected by the use of resources, which is seen in the net profit margin. Success and failure are not necessarily tied to high and low profit margins

(Shahfira & Hasanuh, 2021). A business may have low margins yet still be successful if it is creating a high return on its investments and assets. The two factors used to calculate a company's total operational efficiency are combined in ROA index. Asset turnover calculates how well an organization utilizes its assets, while net profit margin evaluates how profitable the company's sales are (Shahnia, *et. al*., 2020).

NEXUS BETWEEN CAPITAL STRUCTURE AND ORGANIZATIONAL PERFORMANCE (ROA)

Various studies conducted on capital structure and firm performance in developed and developing countries have found a significant and positive relationship between capital structure and firm performance Adesina, *et. al*., 2015; Dinh & Cuong, 2020; David, *et. al*., 2020; and Evbayiro-Osagie & Enadeghe, 2022) while others have found a negative association between capital structure and firm performance (Kasasbah, 2021; Ogunsola & Ogheneoparobo, 2022; Michael & Babajide, 2022; and Tesema, 2024). Also, some studies reported a mixed relationship between the variables (Marigu & Gerald, 2020; Ihejirika, *et. al*., 2020; Sani, *et. al*., 2021; and Eyong, *et. al*., 2021). It is reported that a high TDTA indicates a company's increased reliance on debt financing, which can lead to decreased ROA. Contrarily, a low TDTA suggests an organization has a more conservative financing approach, potentially leading to higher ROA (Eyong, *et. al*., 2021). Ogunsola & Ogheneoparobo (2022); Julius & Lucky (2020); and Adesina, *et. al*., (2015), reported that TDTA has positive and significant impact on organizational performance as proxied by ROA. Conversely, Evbayiro-Osagie & Enadeghe (2022), found that TDTA has significant but negative effect on performance (ROA) of firms studied.

THEORETICAL FRAMEWORK

This study is anchored on the Pecking order theory. The theory was developed by Donaldson (1961) and modified by Meyers & Majluf (1984).The theory states that companies prioritize their sources of financing (from internal financing to equity) according to the cost of financing, preferring to raise equity as a financing means of last resort. Internal funds are used first, and when that is depleted, debt is issued, and when it is not sensible to issue any more debt, equity is issued. The theory assumes a perfect capital market where shares are issued to raise equity.

The theory assumes that there is information asymmetry between managers (insiders) and external investors and managers have better information about the true value and prospects of the firm compared to external parties. As a result, managers prefer internal capital, followed by loans and avoid external financing, such as issuing new equity, to prevent the release of negative signals to the market. Secondly, managers act in the best interest of shareholders. Thirdly, obtaining and conveying information about a firm's financial condition can be costly. External financing, especially equity issuance, is seen as costly due to potential signalling effects. This assumption implies that firms prefer to use internal funds and debt, which are perceived as less costly in terms of signalling and information asymmetry (Nguyen & Nguyen, 2020). Fourth, firms prefer financial stability. By relying on internal funds and debt, firms aim to maintain a stable financial structure without signalling adverse information to the market. Lastly, a hierarchy or pecking order of financing sources show that internal funds do not send negative signals, while debt is considered less costly than equity in terms of signalling and adverse selection. Pecking order theory is relevant to this study because capital structure is a mix of debt and equity, with managers preferring a higher ratio of debt to equity as a general rule, as shown in this study.

EMPIRICAL STUDIES

Tesema (2024), investigated the effect of capital structure on performance of manufacturing companies in Ethiopia. The study utilized total debt ratio (TOD) and long term debt ratio (LTD) as measures of capital structure; while operating performance and financial performance were measured by Net Operating Profitability (NOP) and Return on Assets (ROA), respectively. Four hundred and twenty five (425) panel observations were obtained using the annual financial statements of a sample of 85 manufacturing enterprises for five (5) years from 2017 to 2021. The study employed descriptive statistics of mean, standard deviation, minimum, and maximum value, Pearson's correlation analysis, robusted random effect, and two step system Generalized Moment Method (GMM) model to analyse the data. The study result revealed that TOD and LTD have negative and significant effects on NOP and ROA.

Chiechezolam & Doubra (2024) investigated the relationship between capital structure and financial performance of breweries listed on the Nigerian Stock Exchange (NGX), with the moderating factor of firm size. Both the population and sample size of the study consisted of the five (5) breweries listed on the Nigerian Stock Exchange as at 2021. The study employed correlational design with generalized mean, standard deviation and multiple regression with the aid of Statistical Package for Social Sciences (SPSS) to analyze the secondary data extracted from the annual financial records of the study breweries. Capital structure predictor variables were proxied by equity financing and debt financing; while performance variables were measured by return on asset (ROA) and return on investment (ROI). The study found that capital structure has a positive and insignificant relationship with financial performance of listed brewery companies in Nigeria with a weak and insignificant effect on ROA.

Dabi, *et. al.,* (2023) examined the effect of capital structure on financial performance and sustainability of Micro-finance Institutions (MFIs) in Ghana. The study investigated the role of debt-to-equity ratio (TDTE), debt-to-asset ratio (TDTA), and deposit-to-loan ratio in guaranteeing financial performance and sustainability. The study implemented multiple

regression methods to investigate the relationship between the observed performance indicators and a set of explanatory variables. The empirical analysis involves 51 MFIs reporting on the MIX market in Ghana. Findings of the study showed a strong empirical support for the notion that asset size is significantly and positively related to asset returns (ROA), self-sufficiency, and financial sustainability. Also, capital structure variables are strongly associated with profitability but exert insignificant impacts on operational self-sufficiency and financial instability of MFIs. The study used similar variables related to the current study, but, it focused on micro finance banks in a different geographical location.

Al-Taani (2023) investigated the relationship between capital structure and firm performance across different industries using a sample of 45 Jordanian manufacturing firms in Jordan. The annual financial statements of the companies listed on the Amman Stock Exchange were used for the study which covered a period of five (5) years from 2005-2009. Multiple regression analysis was applied on performance indicators proxied by Return on Asset (ROA) and Profit Margin (PM); while capital structure was surrogated by Short-term Debt to Total Assets (STDTA), Long Term Debt to Total Assets (LTDTA) and Total Debt to Equity (TDTE). The study found a statistically negative and insignificant relationship between STDTA and LTDTA, and ROA; while TDTE was found to be positively related with ROA.

Aliyu & Eliphus (2022) researched on capital structure and financial performance of commercial banks in Nigeria. The data for the study was collected from five (5) commercial banks quoted on the Nigerian Stock Exchange using Judgemental sampling technique for the period of ten years (2010 to 2019). Data were collected from financial statements of selected banks. The data was analyzed using E-View 2010. Unit root test, Granger causality test and panel regression analysis was conducted in the study. The study found that, capital structure variables used are good predictor and significant with financial performance of commercial banks in Nigeria. In addition, Debt to Equity Ratio, Total Debts and Total Equity over the period under study, do not contribute to the financial performance (Return on Assets) of commercial banks in Nigeria.

Evbayiro-Osagie & Enadeghe (2022) examined the effect of capital structure on the performance of non-financial firms in Sub-Sahara Africa. The study looked at the impact of capital structure on return-on-assets (ROA) performance of non-financial firms in Sub-Sahara Africa for a period of nine (9) years (2012-2020). A total of forty (40) non-financial firms were studied using their capital structure variables of long term debt to equity (LTDTE), total debt (TD), total debt to equity (TDTE), and total debt to total assets (TDTA) as well as their ROA performance. The panel data analysis technique was employed. It was found that LTDTE, TD and TDTE have positive impact on ROA performance; while TDTA has a negative impact on ROA performance, and all variables were significant at 1 percent level.

Olayemi & Fakayode (2021) examined the effect of capital structure on financial performance of quoted manufacturing companies in Nigeria. The study covered ten companies for a period of seven years from 2013 to 2019. Panel data analysis was used to test the hypothesis. The independent variables used are total debt to total asset ratio (TDTAR), long-term debt to total assets (LDTAR), short-term debt to total assets (SDTAR) and total debt to total equity (TDTER) while the dependent variables are return on asset (ROA) and return on equity (ROE). The results of the study showed, amongst others that SDTAR and LDTAR have positive but insignificant effects on ROA, and TDTAR has a negative significant effect on ROA and ROE respectively.

METHODOLOGY
The study adopted an ex-post facto design which follows a quantitative methodology (using multiple regression analysis). The use of ex-post facto research helped in the collection of published annual financial records of the selected DFIs on both the independent variable (TDTA and TDTE) and the dependent variable (ROA). Published financial records of the study DFIs were obtained for a period of ten (10) from 2013 to 2022. The population of the study composed of seven (7) national DFIs namely: Central Bank of Nigeria (CBN), Bank of Agriculture (BOA), Bank of Industry (BOI), Development Bank of Nigeria (DBN), Federal Mortgage Bank of Nigeria (FMBN), Nigeria-Export-Import Bank (NEXIM) and the Infrastructure Bank Plc (IBN). The study sampled four (4) national DFIs using a purposive sampling technique. The DFIs selected include Central Bank of Nigeria (CBN); Bank of Industry (BOI); Federal Mortgage Bank of Nigeria (FMBN); and Nigeria Export Import Bank (NEXIM). Data of interest used to compute the variables of the study was sourced from the published audited annual financial statements of the sampled DFIs, either as collected from their accounts departments by the researcher or from their respective company websites. The raw data in the form of quantitative figures was extracted from the said financial statements. Computation of the relevant ratios were done for the independent variables (TDTA and TDTE); and the dependent variable (ROA). The ratios were rounded up to the nearest decimal places, where necessary. The information was recorded in the data sheets developed by the researcher for the period of the study.

MODEL SPECIFICATION
The independent variable (capital structure) is proxied TDTA and TDTE while the dependent variable (organizational performance) is measured by yearly ROA the DFIs. The relationship between the variables is as expressed in the following models. This in its implicit form is as follows:
$$ROA = f(TDTA, TDTE) \qquad\qquad (i)$$
where,

TDTA   = Total Debt to Total Assets
TDTE   = Total Debt to Total Equity
ROA   = Return on Assets
Explicitly, the relationship is of the nature:

$$ROA_t = \beta_0 + \beta_1 TDTA_t + \beta_2 TDTE_t + \varepsilon_t \qquad \text{(ii)}$$

where,
βs =   Regression Coefficients
β_0 =   Regression intercept
ε, μ = estimates of the stochastic term, and
t =   time period measures in financial years.

RESULTS AND DISCUSSION

The analysis is based on the relationship between the dependent variable, organizational performance [proxied by return on assets, (ROA)] and the independent variable (capital structure), proxied by Total Debt to Total Assets (TDTA), and Total Debt to Total Equity (TDTE). The results of the descriptive statistics employed in the estimations by the study are presented in Table 1.

Table 1: Descriptive Statistics Results

	ROA	TDTA	TDTE
Mean	0.032531	0.907221	10.74200
Median	0.013005	0.889730	3.538990
Maximum	0.367403	1.674644	43.57210
Minimum	0.000673	0.287312	0.403139
Std. Dev.	0.062088	0.331370	14.13008
Skewness	0.209671	0.210834	0.314212
Kurtosis	2.54247	2.656675	3.011307
Jarque-Bera	7.655954	0.492794	5.514573
Probability	0.062547	0.781612	0.283160
Sum	1.301233	36.28882	429.6801
Sum Sq. Dev.	0.150344	4.282436	7786.704
Observations	40	40	40

Source: *Author's computations using Eview. 13*

As seen from the values in Table 1, the variables, ROA, TDTA, and TDTE have respective mean values of 0.032531, 0.907221, and 10.74200. Their median values are 0.013005, 0.889730 and 3.538990 respectively. It should be noted that the median is a robust measure of the centre of the distribution that is less sensitive to outliers than the mean. Another important characteristic of the data worth noting is the standard deviation (SD), which measures the dispersion spread in each of the series. For the variables of the study, the SD are 0.062088 for ROA, 0.331370 for TDTA and 14.13008 for TDTE. Again, one important observation from Table 1 is that the skewness, which is a measure of asymmetry of the distribution of series around its mean, are positive and about 0 for the variables. This means that the other variables have distributions that are neither skewed to the left nor right, but have normal tails. The Kurtosis statistic that measures the peakedness or flatness of the distribution revealed that the values for the variables are about 3, meaning that the distribution is highly peaked (Leptokurtic) relative to normal. Based on the Jarque-Bera test of normality, the null hypothesis of normality in the distribution of the series could not be rejected since the p-values are all greater than 0.05 (the significance level set for the study). This means that variables have the quality of normality.

Table 2: Pesaran Test For Cross-Sectional Dependence

Variable	C-D Test	*p*-values
ROA	1.281786	0.1999
TDTA	1.155451	0.2505
TDTE	1.399521	0.2027

Source: Author's computations using Eview. 13

The results of the Pesaran cross-sectional dependence test in Table 2 suggest the acceptance of the null hypothesis of no cross-sectional dependence in all the variables across the firms in the panel, at least at a 10% level of significance. This implies the absence of cross-sectional dependence in the model. This then satisfies the condition of the first-generation panel unit root tests which assume independence of cross-sections, which may not hold when there is cross-sectional dependence in the panel data, requiring the use of second-generation panel unit root tests that account for this dependence.

Table 3: Result of Panel Stationarity (Unit-Root) Tests

	@ Levels		@ First Difference	
Levin, Lin & Chu test				
Variable	**Without Trend**	**With Trend**	**Without Trend**	**With Trend**
ROA	-2.11809**	-11.7224***	-5.55909***	-7.27076***
TDTA	-1.53726*	-2.05495**	-3.84541***	-4.64543***
TDTE	-0.24525	-3.04810***	-3.38323***	-2.40078***
ADF-Fisher Chi-square test				
Variable	**Without Trend**	**With Trend**	**Without Trend**	**With Trend**
ROA	15.3661*	20.7652***	25.3222***	21.7599***
TDTA	8.44312	16.5830**	12.3869	7.48262
TDTE	7.45781	13.4997**	11.2424	4.34917

Note: ***, ** and * indicate rejection of the null hypotheses at the 1%, 5%, and 10% significant levels respectively.

Source: Author's computations using Eview. 13

Due to the absence of cross-sectional dependence in the series, the first-generation panel unit root tests were used. The Levin, Lin & Chu and ADF-Fisher Chi-square tests were conducted to check the stationarity of the data. Considering the results from Levin, Lin & Chu test (see Table 3), all the variables were stationary at least at 10% significance level, computed with and without trend. Exception is, however, for TDTE which was not stationary at level when measured without trend. With the ADF-Fisher Chi-square test, all the variables attained stationarity at level at least at 10% significance level measured with trend. This meant the rejection of the null hypothesis that a unit root exists in the series. The implication is that these variables have the mean reverting ability such that any perturbation to the series will fade out with time.

Table 4: Test of the Effect of Total Debt to Total Assets (TDTA), and Total Debt to Total Equity (TDTE) on Return on Assets (ROA)

Variables	Return on assets (ROA)
TDTA	-0.071551* (-3.831190)
TDTE	0.001696* (4.041963)
Total panel (balanced) observations	40
Adjusted R^2	0.975500
Wald Test	17.35851*
p-value	(0.0001)

Source: Author's computations, using Eviews 13.

The panel dynamic ordinary least squares (PDOLS) was used to estimate the effect of TDTA, and TDTE on ROA. The model was used to specify and estimate the various relationships. The effect of TDTA and TDTE on ROA was estimated by the model. In this model, return on assets (ROA) was used as a measure of organizational performance (OP). The results revealed that TDTA had negative and significant on ROA while TDTE had a positive insignificant effect on ROA. The estimated coefficients show that, a percentage change in TDTE will significantly increase ROA by 0.001696% while a percentage change in TDTA will lower ROA by -0.071551%. The implication is that capital structure is effective in enhancing return on assets (ROA) thus improving performance of the DFIs. The negative effect of the TDTA strand of capital structure is overshadowed by the positive contributions of TDTE, hence overlooked. Indeed, assets are grown principally through reserves created from profits made by the DFIs. However, as noted in the study, the DFIs are not strictly profit entities. Therefore, when total debts become are large, then, it is expected that return on assets (ROA) could reduce or become negative.

TEST OF HYPOTHESES

The null hypothesis (H_0) which stated that Total Debt to Total Assets (TDTA) has no significant effect on the organizational performance (ROA) of selected development finance institutions in Nigeria was rejected based on the regression analysis's t-value (and ρ-value), which were significant at a 5% level of significance. This led to the endorsement of the alternative hypothesis, which states that TDTA has a statistically significant effect on the performance of Nigerian development financing institutions.

The effect of Total Debt to Total Equity (TDTE) on organizational performance (ROA) of selected development finance institutions in Nigeria was measured with the ρ-value being significant at the 5% ($\alpha_{0.05}$) level. Based on the decision rule, since the computed ρ-value is less than the significance level of 0.05, the null hypothesis was rejected and the alternative hypothesis (Total Debt to Total Equity (TDTE) has significant effect on organizational performance of selected development finance institutions in Nigeria) was sustained.

FINDINGS

The findings revealed that TDTA has a negative but significant effect on ROA. The result shows that a percentage change in TDTA leads to lower ROA. This findings agree with previous studies by Ogunsola & Ogheneoparobo (2022); Henry & Anyamaobi (2021); and Olayemi & Fakayode (2021) who found that TDTA positively improve financial performance. The result is conformed with the findings of Sani, *et. al.* (2021); David, *et. al.* (2020); Julius & Lucky (2020); Olaniyi *et al.* (2020); Michael & Babajide (2022); Etale, *et. al.* (2020); and Marigu & Gerald (2020), among others, whose studies equally revealed a negative effect of TDTA on ROA. The implication of the finding is that high levels of debt can lead to higher interest expenses, which reduce net income, which would negatively impact ROA.

The result of test of hypothesis two revealed that Total Debt to Total Equity (TDTE) has a significant effect on organizational performance of selected development finance institutions in Nigeria. The result showed a significant positive effect of TDTE on ROA. The estimated coefficients show that a percentage change in TDTE will significantly increase ROA. This is in consonance with Sani, *et. al.* (2021); David, *et. al.* (2020); Julius & Lucky (2020); and Olaniyi, *et. al.* (2020) who established similar results. This implies that by using debt effectively, the DFIs can leverage their operations, generating higher returns on the assets financed by debt. This leverage effect can boost ROA, assuming the company earns more from its assets than the cost of the debt. Equally, the positive effect on ROA suggests that the DFIs are efficiently using their assets to generate profits. Debt can be a tool for financing growth and expansion, leading to higher income from the increased asset base.

CONCLUSION AND RECOMMENDATIONS

The study examined the effect of capital structure on organizational performance of Development Financial Institutions (DFIs) in Nigeria for a period of ten (10) years (2013 to 2022). Findings of the study indicated that there is a significant effect of capital structure on the performance of development financial institutions in Nigeria. The study concludes that TDTA significantly affects the performance of selected development finance institutions in Nigeria. The study also concludes that the role of TDTE on ROA is positive.

Based on the findings of the study, the following recommendations are made that:

i. The studied DFIs should maintain a balanced TDTA and ensure the regular monitoring of the debt-to-asset ratio to ensure it remains within a healthy range which will help maintain a balance between leveraging and risk. This can also be done by enhancing the utilization of assets financed by debt to ensure they generate sufficient returns to cover the cost of the debt.

ii. The DFIs should maintain a healthy TDTE that will raise equity financing to maintain a healthy balance between debt and equity. This can reduce reliance on debt and lower financial risk. Equally, developing a risk management framework that considers the implications of high debt levels on equity and overall organizational stability is required of the DFIs.

REFERENCES

[1] Adesina, J. B., Nwidobie, M. & Adesina, O. O. (2015). Capital Structure and Financial Performance in Nigeria. *International Journal of Business and Research*, 5 (2): 32-48.

[2] Agbonrha-Oghoye, I. I. & Umoru, D. (2022). Capital Structure and Firm Financial Performance in Nigeria: Empirical Evidence of the Causal Link. *The Journal Contemporary Economy,* 2 (4): 70-75.

[3] Aliyu, A. A. & Eliphus, J. (2022). Capital Structure and Financial Performance of Commercial Banks in Nigeria. *Global Journal of Management and Business Research,* 22 (1):33-39.

[4] Almagtone, A. and Abbas, Z. F. (2020). Value relevance of financial performance measures: An empirical study, *International Journal of Psychosocial Rehabilitation,* 24 (7): 6777-6791.

[5] Al-Taani, K. (2013). The Relationship Between Capital Structure and Firm Performance: Evidence from Jordan. *Journal of Finance and Accounting*, 1 (3): 41-45.

[6]   Anyam, N., Hanmaikyur, T. J. & Kwahar, N. (2023). Organizational Structure and Performance of Development Finance Institutions (DFIs) in Nigeria. *International Academy Journal of Business Administration Annals*, 9 (5): 68-90.

[7]   .Attridge, S., Te Velde, D. W. & Andreasen, S. P. (2019). Impact of Development Finance Institutions on Sustainable Development: An Essay Series. Overseas Development Institute (ODI) and the Association of Europena Development Finance Institutions (EDFI).

[8]   Ayomitunde, A. T., Zannu, S. M. & Adedayo, A. (2019). Capital Structure and Fiancial Performance of Quoted Firms in the Nigeria Stock Exchange: An Econometric Approach. *Saudi Journal of Business and Management Studies*. 4 (3): 834-838.

[9]   .Chiechezolam, B. K. & Doubra, A. (2024). Capital Structure and Financial Performance of Listed Brewery Firms in Nigeria. *British Journal of Multidisciplinary and Advanced Studies: Business and Management Sciences*, 5 (1): 90-115.

[10] Choiriyah, C., Fatimah, F., Agustina, S. & Ulfa, F. A. (2021). The Effect of Return on Assets, Return on Eqity, Neet Profit Margin, Earnings Per Share, and Operating Profit Margin on Stock Prices of Banking Companies in Indonesia Stock Exchange. *International Journal of Finance Research*, 2 (1): 103-123.

[11] Dabi, R. S. K., Nugraha, D. & Maya, S. (2023). Capital Structure, Financial Performance and Sustainability of Micro-finance Institutions (MFIs) in Ghana. *Cogent Economics and Finance*, 11 (2): 1-15.

[12] Dada, A. O. & Ghazali, Z. B. (2016). The impact of capital on firm performance: Empirical evidence from Nigeria. *Journal of Economics and Finance,* 7 (1): 23-30.

[13] Dahiru, I. (2016). *Capital structure and financial performance of listed manufacturing firms in Nigeria.* Unpublished master's thesis, Ahmadu Bello University, Zaria.

[14] David, H., S., Oluoch, O. & Joshua, M. W. (2020). Effect of Long-Term Debt on the Financial Growth of Non-Financial Firms Listed at the Nairobi Securities Exchange. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 11(5): 01-09.

[15] Dinh, H. T. & Pham, C. D. (2020). The Effect of Capital Structure on Financial Performance of Vietnamese listing pharmaceutical enterprises. *Journal of Asian Finance, Economics and Business,* 7 (9): 329–340.

[16] Donaldson, T. & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Reviews,* 20 (1): 65-91

[17] Etale, l. M. & Ekpulu, G. A. (2019). Capital structure composition and financial performance: Empirical evidence from quoted deposit money banks in Nigeria. *International Journal of Interdisciplinary Research Methods,* 6 (5): 27-39.

[18] .Evbayiro-Osagie, E. I. & Enadeghe, I. B. (2022). Capital Structure and Performance of Non-Financial Firms in Sub-Sahara Africa. *International Journal of Finance Research*, 3 (1): 49 - 62.

[19] Eyong, I. O., Ebieri, J., Adanna, J. N. & Oti, I. (2021). Effect of Capital Structure on Financial Performance of Listed Consumer Goods Companies on the Nigeria Stock Exchange. *International Journal of Social Sciences and Humanities Reviews,*11(1): 251 – 258.

[20] .Gharaibeh, A. M. O. (2015). The Effect of Capital Structure on Financial Performance of Listed Companies in Bahrain Bourse. *Journal of Finance and Accounting*, 3 (3): 50-60.

[21] Gutterman, A. S. (2024). Organizational Performance and Effectiveness. https://www.researchgate.net/Publication/372935897. Downloaded 19/5/2024.

[22] Habimana, O. (2014). Capital structure and financial performance: Evidence from firms operating in emerging markets. *International Journal of Academic Research in Economics and Management Sciences,* 3 (6): 159-166.

[23] Hayes, D. (2023). Total-Debt-To-Total-Assets Ratio: Meaning, Formula, and What's Good. Investopedia.

[24] .Ihejirika, P., Ndugbu, M., Mbagwu, I. G. & Ojiegbe, J. (2020). Capital Structure Decisions and Financial Viability of Firms Quoted on the Premium Board Segment of the Nigeria Stock Exchange.*Journal of Asian Business Strategy*, 10 (2): 192-203.

[25] Julius, O. E. & Lucky, E. U. (2020). Effect of Capital Structure on Corporate Performance in Nigeria. *International Journal of Management and Marketing Systems* 13 (7): 29 – 47.

[26] .Kasasbeh, F. I. (2021). Impact of financing decisions ratios on firm accounting-based performance: evidence from Jordan listed companies. *Future Business Journal,* 7 (15): 542–546.

[27] Lakshmi, B. (2019). A study on financial performance evaluation using DuPont analysis in select automobile companies. *International Journal Management Technology and Engineering*. 9:1–9.

[28] Maimako, S.S. & Oladele, K.O. (2015). Impact of Corporate Restructuring on Value Creation in the Nigerian Banking Industry. *Journal of Management, 2(3):*77-89.

[29] Maasa, I., Mendez-Parra, M. and Te Velde, D. W. (2016). The Macroeconomic Effect of Development Finance Institutions in Sub-Saharan Africa. London, Overseas Development Institute.

[30] Marbuah, G., Te Velde, D. W., Attridge, S., Lemma, A. & Keane, J. (2022). Understanding the Role of Development Finance Institutions in Promoting Development: An Assessment of Three African Contries. SEI Report. Stockholm. Stockholm Environment Institute.

[31]   Marigu, L. M. & Gerald, K. A. (2020). Capital Structure and Financial Performance of Companies listed under Manufacturing and Allied Sector at Nairobi Securities Exchange in Kenya. *Stratford Peer Reviewed Journals and Book Publishing Journal of Finance and Accounting,* 4 (1): 24-38.

[32]   Michael, O. O. & Babajide, F. F. (2022). Capital Structure and Firm Performance: Evidence from Nigerian Consumer Goods Manufacturing Firms. *Academy of Accounting and Financial Studies Journal*, 1 (2): 149-167.

[33]   Mutegi, L. M. (2016). *Effects of Capital Structure on the Financial Performance of Firms Listed at the Nairobi Securities Exchange.* Unpublished Master's Thesis, School of Business, University of Nairobi, Kenya.

[34]   Myles, S. C. & Majluf, N. (1984). Corporate Financing and Investment Decision When Firms Have Information that Investors Do Not Have. *Journal of Financial Economics*, 13 (2): 187-221.

[35]   Nguyen, H. T. & Nguyen, H. A. (2020). Capital Structure and Firm Performance of Non-Financial Listed Companies: Cross-Sector Empirical Evidences from Vietnam. *Accounting*, 6: 137-150.

[36]   .Nukala, V. B., & Rao, S. S. P. (2021). Role of Debt-to-Equity Ratio in Project Investment   Valuation, Assessing Risk and Return in Capital Markets. *Future Business Journal*, 7 (13).

[37]   Ogunsola, A. & Ogheneoparabo, A. D. (2022). Capital Structure, Asset Liquidity and Financial Performance of Listed Deposit Money Banks in Nigeria, African Journal of Accounting and Financial Research, 5 (2): 16-29.

[38]   Olayemi, O. O. & Fakayode, O. P. (2021). Effect of Capital Structure on Financial Performance of Quoted Manufacturing Companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 9 (5): 73-89.

[39]   Omokore, D. E, Njogo, B. O, Omankhanlen, A. E, Islaka, M, & Akinjare, V. A. (2024). Impact of Capital Structure on Financial Performance of Firms in the Nigerian Health Sector. *Journal of Comprehensive Business Administration Research*, 1 (2): 105-112.

[40]   Sani, L., Muhammad, S., Yasir, H. & Ismail, G. S. (2021). Impact of Capital Structure on Financial Performance of Listed Building Materials Companies in Nigeria. *World Academic Journal of Management,* 9 (4): 39-43.

[41]   Sawir, A. (2014). *Financial performance analysis and corporate financial planning*. UtamaJakarta: PT Gramedia Pustaka.

[42]   Shahfira, D. & Hasanuh, N. (2021). The Influence of Company Size and Debt-to-Assets Ratio on Return on Assets.*Jurnal Akuntansi dan Kenangan*, 8 (1).

[43]   Shahnia C, Purnamasari, E. D, Hakim, L. & Endri, E. (2020). Determinant of profitability: Evidence from trading, service and investment companies in Indonesia. *Evidence Trading Service Investment Companies Indonesia*, 6 (5):787–94.

[44]   Shaqqour, O. F. M. (2016). The Impact of the Ownership Structure on Earnings Management" An Empirical Study on the Hotels Listed in ASE. *Zarqa Journal for Research and Studies in Humanities*, 16 (2): 91-100.

[45]   Shaqqour, O. F. (2019). The Impact of Accounting Performance on Structure of Ownership and Accounting Conservatism, Case of Jordan. *Academy of Strategic Management Journal*, 18 (5): 1-8.

[46]   Siddik, M. N. A, Kabiraj, S. & Joghee, S. (2017). Impacts of capital structure on performance of banks in a developing economy: Evidence from Bangladesh. *International Journal of Financial Studies,* 32, 1314 – 1322.

[47]   Suardi, I. & Noor, K. D. (2015). The impact of capital structure on financial performance of the listed agriculture companies in Indonesia. *Global Journal of Business and Social Science Review,* 3 (1): 9-17.

[48]   Taouab, O. & Issor, Z. (2016). Firm Performance: Definition and Measurement Models. *European Scientific Journal*. 15 (1): 89-93.

[49]   Tesema, T. N. (2024). The Effect of Capital Structure on Performance: Empirical Evidence from Manufacturing Companies in Ethiopia. *Cogent Economics and Finance, 12 (1).*