CAPITAL STRUCTURE AND PROFITABILITY OF LISTED DEPOSIT MONEY BANK IN NIGERIA

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Abstract

The paper examines capital structure and profitability of listed deposit money banks in Nigeria. This study therefore investigates how capital structure affects the net interest margin of Nigerian deposit money banks. In achieving this, 14 banks that are listed on the Nigeria Stock Exchange (NSE) make up the study's population. The sample consists of the six (6) systemically selected banks in Nigeria for a period of 2012 to 2021. Panel data analysis, the fixed effect and random effect models were used. The findings shows that long term debt to total asset and total debt to total asset are statistically significant determinants of the net interest margin in Nigerian deposit money banks while total equity to total asset, total asset, risk and income tax expenses to earnings before taxes are not statistically significant determinant of deposit money banks' net interest margin in Nigeria. This reveals that long-term debt and equity statistically influence the net interest margin of deposit money institutions in Nigeria. Because capital structure leverage has a key role in determining a bank's net interest margin, the study therefore advised Nigerian deposit money banks to be cautions of it.

Keywords: Capital Structure, Debt, Risk, Interest, Income Tax, Profitability.

Introduction

Simply because banks are more focused on profitability and liquidity than they are on long-term liabilities, investors are more interested in the banking sector. Deposits have few fixed costs, are receivable on demand, and have low operating leverage in comparison to other variables in other economic sectors. As a result, according to bank management and funding sources, capital structure is of utmost importance because using the incorrect mix of capital structure could negatively impact a bank's performance and ability to survive. The banking sector directs the flow of money toward productive endeavors

and is also responsible for paying back the excess sector from bank profits (Mutairi & Naser, 2015).

The choice of a company's capital structure affects how many different sources of funding it can use to finance operations and investments. The financing options accessible to firms to fund their activities are the problems of capital structure. These include accounts payable (creditors), line of credit, retained earnings, equity (share) sales, bonds, and bank loans, among others, as well as potential future interest-bearing debts (Rossi, Schwaiger & Winkler, 2009).

The capital market is skewed toward equity means of financing, which come with a higher cost of capital and significant financing constraints for firms, raising money on the Nigerian capital market has consistently remained a problem (Kolawole, Ijaiya, Sanni & Aina, 2019). For instance, in order to recapitalize Nigerian banks in 2011, Asset Management Corporation of Nigeria (AMCON) also invested N679 billion; nonetheless, several banks are still running on negative shareholder money. Nigeria's high unemployment rate and the rising number of non-performing loans contributed to the country's depreciating currency and precarious financial conditions. Following the special assessment, eight commercial banks in Nigeria wrote off loans totaling N279.6 billion in 2017, which is equal to 66% of their capital. The impact of capital structure on the net interest margin of deposit money banks in Nigeria is a research subject that warrants a solution in light of the aforementioned arguments (Kolawole et al., 2019; Dao & Ta, 2020). Therefore, the goal of this study is to examine how the capital structure of Nigerian deposit money banks affects their net interest margin.

Several studies, likes Kumar (2015), Muraleetharan (2013), Onoja & Ovayioza (2015), and Sakr & Bedeir (2019) that focused on long-term sources of funding while neglecting short-term sources of financing, studied the impact of capital structure on the performance of banks. Since interest is the primary source of income for deposit money institutions, this study aims to further the conversation by building on earlier research by taking the net interest margin variable into account.

The ignored area that has been highlighted by other studies is crucial, making it one of the research gaps taken into account in this study. Financial managers in banks would be able to know how to resolve their quandary on which investments policy is anchored. thanks to the study's results, which are vital to

policy makers for policy guidance. This study, which focused on Nigeria's six systemically important banks, covers the years 2012 through 2020.

The Asset Management Corporation of Nigeria (AMCON) chose to recapitalize Nigerian banks in August 2011 with N679 billion, however as of the time the study was conducted, the 2021 annual report of the selected institutions had not yet been published. Activities like Total Debt to Total Assets (TDTA), Long Term Debt to Total Assets (LTDA), Total Equity to Total Asset (TETA), Net Interest Margin Proxy by Risk, and Income Tax Expenses to Earnings before Tax are examples of important variables that were chosen for this study (ITE). The panel data regression technique was used in the study. The study is a good fit for the panel data technique because panel data estimate produces more reliable results than time-series estimation.

Review of Related Literature

Capital structure refers to the combination of internal and external funding sources used by organizations to finance their business activities (Amara, 2014). Capital structures of corporations are derived from a variety of sources and are often disclosed in the financial status statement (Modugu, 2013). According to Vu Thi and Huang (2003), a firm can raise capital in three different ways: internally (via retained earnings and stock), externally (through debt instruments), and a combination of both.

The capital structure of a corporation is made up of its financial sources, which also show who owns the company. Net interest margin is a well-considered measure for tracking the profitability of bank lending and investment over a given time frame. In addition to the transaction fees and taxes that are paid directly by savers and borrowers, it also shows the difference in interest rates between loans and deposits (Abubakar, Jagongo, Almadi & Muktar, 2014). Net interest margin, as defined by Hijazeen (2017), is the ratio of a bank's net interest income to its average earning assets.

Theoretical Framework

The trade-off theory

The trade-off theory theorizes why a business will borrow money up to a particular margin where interest payments are tax deductible. Whereas the value loss brought on by agency costs associated with issuing risky debt and the cost of eventual liquidation or reorganization more than makes up for the

current value of the interest tax shield. According to Miller's (1977) theory, the trade-off between the current tax benefit of a debt shield and the higher cost of bankruptcy as a result of a higher level of debt determines the best capital structure of a firm. This is predicated on the notion that businesses will weigh the marginal present values of interest tax shields against the costs of financial crisis.

In a similar spirit, the trade-off model suggests that an ideal capital structure can be achieved by starting with a specific level of debt and working your way up to the desired level. The tradeoff between the effects of personal and company taxes, agency costs, and bankruptcy costs is part of a corporation's ideal capital structure. The trade-off theory includes agency-based and tax ideas (Cheng & Tzeng, 2010; Harris & Raviv, 1991; Jensen & Meckling, 1976; Omollo, Muturi & Wanjare, 2018). It is important to remember that tax benefits are crucial for regulated, large, and dividend-paying firms. These corporations may have higher corporate tax rates and receive significant tax incentives when borrowing money (Desai & Hines Jr, 1999; Graham & Harvey, 2001).

Empirical Review

Ramli, Latan, and Solovida (2019) used PLS SEM to empirically evaluate the capital structure determinant and financial performance of firms in Malaysia and Indonesia. Asset structure, growth potential, liquidity, non-debt tax shelter, business leverage, and interest rate are the variables employed in the study. Findings show that a company's capital structure has a detrimental impact on its success. Le and Phan (2017) assessed capital structure and business performance from a developing nation's perspective. Book leverage, market leverage, firm characteristics including growth, investment, liquidity, risk, dividend, ROA, ROE, Tobin Q, and cash flow are all cited as variables that were considered in the study. The study demonstrates the existence of a negative influence of capital structure on company performance using panel data analysis.

A 2015 empirical study of Nigeria's petroleum industry's capital structure and enterprises' performance was conducted by Oladeji, Ikpefan & Olokoyo (2015). The study used panel data analysis and the variables used were business size, tax, return on asset, and ratio of total debt to total asset. The analysis demonstrated a positive correlation between firm performance and the explanatory variables (firm size, tax, and lagged return on asset), but a negative correlation between leverage and firm performance. The panel

cointegration model, completely modified ordinary least square, and error correction model analyses of the long- and short-term dynamics of debt on firm performance show that there is a long-term relationship between debt and company performance (Ibrahim & Nageri, 2020).

Abubakar and Olowe (2019) evaluated the effect of capital structure on a sample of listed enterprises' financial performance in Nigeria as part of their studies on Nigerian businesses. The variables included in the study were return on equity, short-term debt, long-term debt, and debt/equity; analyses were conducted using the Ordinary Least Squares method (OLS). Findings show that short- and long-term debt as well as the debt-to-equity ratio has positive and notable effects on financial performance.

This study contributes to the body of literature by using net interest margin as a measure of profitability that only applies to banking financial institutions. While the majority of studies primarily conduct regression analysis or generalized method of moments (GMM) and similar analysis using panel data, this study does both.

Methodology

The model specification, data sources, data analysis method, data description, and apriori expectations are all included in this section. Fixed and random effect models were used in the panel data analysis. Depending on the analysis's goal and any issues with the exogeneity of the explanatory variables, one may choose between fixed effect and random effect models.

The model utilized to accomplish the goal was updated and stated as follows based on the study conducted by Ajibola, Wisdom & Qudus (2018).

NIM = f(LTDA,TDTA, TETA, TA, RSK, ITE)
Thus, the model is written in linear form as:
$NIM = \beta_0 + \beta_1 LTDA_{it} + \beta_2 TDTA_{it} + \beta_3 TETA_{it} + \beta_4 TA_{it} + \beta_5 RSK_{it} + \beta_6 ITE_{it}$ 3.2
Econometrically, it can be written thus:
$NIM = \beta_0 + \beta_1 LTDA_{it} + \beta_2 TDTA_{it} + \beta_3 TETA_{it} + \beta_4 TA_{it} + \beta_5 RSK_{it} + \beta_6 ITE_{it} + U_{it}$ 3.3
Where:
NIM= Net Interest Margin
LTDA= Long-term debt / Total assets
TDTA= Total debt / Total assets,
TA= Natural log of Total assets, and
RSK= Risk

TETA = Total Equity/Total Assets
TA= Natural logarithm to total assets,
ITE = Income tax expense/Earnings before taxes

Apriori Expectation

This study contributes to the body of literature by using net interest margin as a measure of profitability that applies to banking (financial institutions). While the majority of studies primarily conduct regression analysis or generalized method of moments (GMM) and similar analysis using panel data, this study does both. The model utilized to accomplish the goal was updated and stated as follows based on the study conducted by Ajibola et al. (2018).

Method of Data Analysis

Fixed and random effect models were used in the panel data analysis. Depending on the analysis's goal and any issues with the exogeneity of the explanatory variables, one may choose between fixed effect and random effect models. The 14 listed banks on the NSE make up the study's population. The analysis, which covered the years 2012 to 2021, was based on data from Nigeria's six systemically selected banks.

Results and Discussion

This section presents the analysis and results and the interpretation.
Table 1: Correlation matrix for multicollinearity test

Variables	LTDA	TDTA	TETA	TA	RSK	ITE
LTDA	1					
TDTA	-0.05	1				
TETA	0.29	-0.14	1			
TA	0.02	-0.16	0.10	1		
RSK	0.02	-0.10	0.04	0.46	1	
ITE	0.04	-0.31	-0.11	0.51	0.44	1

Source: Author's computation 2022 using STATA 14.2

In multiple regression models, multicolinearity is a major issue because it causes biased parameter estimations, which invalidates the regression results. To check for multicolinearity, a pair-wise correlation test was performed.

Table shows that none of the correlations demonstrated strong or pose a major multicolinearity concern. Less than 5% of the independent variables have correlation coefficients that indicate multicolinearity.

Table 2: Results of fixed and random effect regressions for Net Interest Margin

VARIABLES	(1) S fixed effect model for NIM	(2) random effect model for NIM
Long Term Debt to Total Asset (LTDA)	-0.00069*** (0.000026)	-0.00064*** (0.000030)
Total Debt to Total Asset (TDTA)	0.069* (0.037)	0.081*** (0.017)
Risk (RSK)	0.023 (0.030)	0.051* (0.029)
Total Equity to Total Asset (TETA)	-0.0026 (0.19)	0.0028 (0.19)
Total Asset (TA)	-0.0011 (0.047)	-0.016 (0.055)
Income Tax Expense (ITE)	0.18	0.19
	(0.17)	(0.19)
Constant	-0.57* (0.29)	-0.72] (0.47)
Observations	70	70
R-squared	0.196	
Number of cid	14	14

Robust standard errors in parentheses ***, ** and * denote 1%, 5% and 10% level of significance respectively
Source: Author's computation 2022 using STATA 14.2

The regression estimates for fixed effect and random effect models are shown in Table 2. Net interest margin is the dependent variable, whereas risk, total equity/total assets, the natural logarithm of total assets, income tax expense, and earnings before taxes are the independent factors. The dependent variable is net interest margin. The fixed effect model and the random effect model are both found in columns 1 and 2, respectively.

Nevertheless, as evidenced by the p-value of less than 5%, the result in table 2 reveals that Long Term Debt to Total Asset (LTDA) and Total Debt to Total Asset (TDTA) are the only statistically significant determinants of the net

interest margin in Nigerian deposit money banks. As a result, the variables significantly affect the Nigerian commercial banks' net income margin.

According to the estimated coefficients, a unit rise in LDA will result in a net income margin increase of roughly 0.00069 units. In contrast, a unit rise in the ratio of total debt to total assets will result in a 0.069 unit decline in the net income margin. Since the independent variables are those of capital structure, the finding suggests that capital structure has a considerable impact on the net income margin of Nigeria's deposit money institutions.

Conclusion

This study looked at how capital structure affects the net interest margin of deposit money banks in Nigeria. To measure how much capital structure variation affects net interest margin, panel regression with fixed and random effects was used. The study found a long-term correlation between capital structure and net interest margin of Nigerian deposit money institutions. It was also discovered that Long Term Total Assets (LTDA), Total Assets, and equity were significant in determining the deposit money banks in Nigeria's profit after tax and net interest margin.

Recommendations

As a result of the study's findings, deposit money banks in Nigeria are advised to pay attention to their level of debt because it has a major impact on their net interest margin. The pecking order theory suggests that financial management of banks in Nigeria should aim to finance from retained earnings rather than significantly depending on borrowed capital in their capital structure and utilize debt as a last resort.

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