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Sensitivity of Capital Structure Decisions on Financial Performance of Domestic Systemically Important Banks (D-Sibs) In Nigeria

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Abstract
Background: *Domestic Systemically Important Banks (D-SIBs) are banks whose failure can generate severe externalities that could disrupt the stability of entire financial system. Therefore amidst the dwindling oil prices and current economic recession confronting Nigeria, the sensitivity of the capital structure of these banks to withstand the impending shock is crucial. The objective of this study is to empirically investigate the effect of capital structure decisions on the financial performance of D-SIBs in Nigeria. The investigation has been performed using panel data procedures on a sample of 6 D-SIBs in Nigeria during the year 2006-2021.*
Methodology: *The study adopted* ***ex-post facto*** *design. Secondary data was generated from the annual financial statements and accounts of the sampled banks. Internal funding (retained earnings, reserves, provisions) to assets ratio, External funding (deposits and debts) to asset ratio and debt to equity ratio were used as proxies for the capital structure will return on asset (ROA) and return on equity (ROE) were proxies for financial performance. The natural logarithm of bank size and growth rate was introduced as control variables. The random effect panel multiple regression was used to test the hypotheses.*
Results: *The result shows that internal funding has a positive significant effect on ROA and ROE ($p<0.05$); external funding has a negative significant effect on ROA and ROE ($p<0.05$); debt to equity ratio has a negative non-significant effect on ROA ($p>0.05$) but is significant on ROE ($p<0.05$).*
Conclusion and Recommendation: *Internal funding has significant positive effect on financial performance whereas external funding and debt to equity ratio have negative significant effect on financial performance. Based on these results the study recommends adequate monitoring of the capital structure and strict compliance with statutory reserves and provisions among others.*
Key Words: ***Domestic Systemically Important Banks; Internal Funding; External Funding; Debt to Equity Ratio; Return on Assets, Return on Equity.***

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I. Introduction

Globally, the importance of sound financial institutions cannot be overemphasized. Countries need banks as a channel of growth because of the valuable role they place in the economy. They provide a variety of payment channels and infrastructure that support the entire financial system and serve as a medium for governments to impose their monetary policies. Through the banks also the government ensures financial system stability. Operationally, banks are entities that pooled resources from the surplus units and provide them to the deficit units in an economy (Dai, 2017), and through this means they generate income.

In Nigeria, the banking sector has consistently witnessed significant advances and challenges over the years. Before the banking sector consolidation in Nigeria, Ugwu *et al* (2016) noted that the Nigerian banking system was characterized by structural and operational weaknesses of low capital base, insolvency, poor asset quality, the dominance of few banks, illiquidity, and a system with low depositor confidence among others. Soludo (2004) cited in Ugwu *et al* (2016) maintained that the purpose of bank consolidation reform was to reposition Nigerian banks as the catalyst of reliable and sound economic development. In 2004, the consolidation exercise transformed the Nigerian banking sector and reduced the banks from 89 to 25 through merger and acquisition (Sanusi, 2010). The positive impact of this was the inclusive spread of bank branches from 2009 in 2005 to almost 5500 by the second quarter of 2009.

Meanwhile, as the consolidation exercise was going on, other events which put the banking sector at unprecedented risk started unfolding within the sector and the entire economy. There was an extraordinary

boom in the oil price which attracted a huge inflow of foreign exchange in the economy and unexpected economic growth together with an appreciable level of foreign direct investment (Sanusi, 2010). He inferred that the excess liquidity which couldn't be absorbed by the real sector of the economy found its way into the stock market as witnessed in stock prices from 2006 to 2008 which allows banks to raise new capital. This considerable increase in capital with huge liquidity posed significant pressure on banks to diversify and drive product innovation. Consequently, there were tremendous advances in capital market deepening and banks were positioned to participate in a wide range of activities particularly margin lending and the oil sector (Sanusi, 2010).

Despite the recapitalization, the second phase of the global economic meltdown hit Nigeria with severe adverse effects on the capital market and the oil and gas sector. According to Sanusi (2010), Nigerian banks have approximated exposure of ₦1.6 trillion in these sectors coupled with the poor risk management practices prevalent at that time. The consequence was liquidity crises, deterioration in assets quality and distress of most banks. Most of the immediate remedial actions taken by the central bank of Nigeria [CBN] were short-term to solve the liquidity problem such as the reduction in the liquidity ratio (LR), cash reserve ratio (CRR) and monetary policy rate (MPR). Interestingly, Sanusi noted that long-term remedy to those challenges requires strategic measures based on enhancing the banks' quality, sustaining financial system stability, and ensuring consistent financial sector evolution and contribution to the economy. But this remedy cannot be achieved if the bank's capital structure does not foster financial prosperity. From a theoretical perspective, there exists a hierarchical preference for financing options which promote financial performance.

As a consequence, most of the banks that emerged in the consolidation exercise could not survive for at least a decade. By 2014, the few banks' dominance manifested. According to the Nigerian Deposit Insurance Corporation [NDIC] 2014 annual reports, 5 banks control more than 50% of the industrial total assets while 10 banks control close to 80%. The aftermath of these whole events led to the frame for regulation and supervision of domestic systemically important banks (D-SIBs) in Nigeria by the Central Bank of Nigeria (CBN) in conjunction with NDIC (Tokunbo, 2014). D-SIBs are banks whose failure will generate severe detrimental externalities that include disruption of the entire financial system and the real economy. As the crisis in the banking sector worsens coupled with challenges of cyber-security risk, technological infrastructures, and the worsening condition of the entire Nigerian economy, the CBN further reviewed the criteria for inclusion in the D-SIBs. The 2021 report was based on six months of continued maintenance of at least 5% of the industrial assets and at least 6% minimum of total credit and deposits (https://proshare.co/articles/tier). As such, amidst the current dwindling oil prices and economic recession in Nigeria, the sensitivity of the capital structure of these banks to impending shock is very crucial.

Observably, almost all the financial statements of banks showed that the proportion of deposits is so significant and the equity is much low; without the regulation of minimum capital base, it would have even got lower. This suggests that a huge proportion of the funding of the banks is coming from deposits and in times of distress, the risks to depositors will be huge. For this reason, the capital structure of banks is so unique when compared to other firms. Several studies have opined that the capital structure of the banks is a major challenge (Diamond & Dybvig, 1983; Diamond, 1984 in Dai, 2017; Duenya & Dugugh, 2018; Adeoye & Olajede 2019). Dai (2017) believed that the imposition of regulations and sanctions to solve financial crisis challenges was positive thinking but argued that challenges connected to the financing decisions of banks could be resolved by optimal of the capital structure.

In capital structure decisions, organizations are faced with the challenges relating to maintaining an "optimum capital mix", that is a proper mix of debt and equity to ensure the trade-off between the risk and return to the shareholders. Capital structure decision is the mix of debt and equity that a company uses to finance its business opportunities (Damodaran, 2001 in Birru, 2016). In line with the pecking hierarchical order, the bank's business model permits capital funding from internal sources (retentions and reserves), deposits, debt or borrowings, and share capital accounts (Dai, 2017). However, the challenge emanates from what combination of these funding sources is optimal to reduce risk and maximize return.

Studies such as Mwangi *et al* (2014), Birru (2016), Dai (2017), Hashim and Hassan (2017), Nassar (2018), Adeoye and Olojede (2019), Singh and Bagga (2019), have tried to establish the link between capital structure and financial performance of firms. Hashim and Hassan (2017) averred that when capital structure decisions are not properly planned, it results in a high cost of capital which adversely impacts profitability. Therefore, the onus lies on the banks to determine the appropriate financing decision for profit maximization and sustenance of their competitiveness. Evidence from previous studies also proved that both theoretical and empirical finding on the relationship between capital structure and the financial performance of a firm remains vague even in developed economies. The peculiarity of developing economies such as Nigeria characterized by policies, and political, social, and economic instabilities worsened the situation. Based on extant literature, studies that examine the capital structure of the dominant banks in Nigeria are either scarce or lacking. These reasons provide an incentive for further studies. Therefore, the objective of this study is to determine the effect

of capital structure decisions on the financial performance of D-SIBs in Nigeria. Drawn from the general objective, the study specifically seeks to:

i. Determine the degree of the effect of the internal funding to assets ratio on the financial performance of D-SIBS in Nigeria.

ii. Evaluate the magnitude of the effect of the external funding to assets ratio on the financial performance of D-SIBS in Nigeria.

iii. Investigate the extent to which the debt-to-equity ratio affects the financial performance of D-SIBS in Nigeria.

II. Literature Review

2.1.1 Capital Structure

Capital structure is defined as the combination of debt and equity to finance a firm's operations (Edim *et al*, 2014; Dai, 2017). Capital structure is a mix of long-term financing options (debenture long-term debt, preference share capital) and equity share capital including reserves and surpluses (Pandey, 2010; Pratheepkanth, 2011 in Edim *et al* 2014). According to Abor (2005), capital structure is a specific mix of debt financing used by a firm. In finance, the capital structure was defined by Modigliani Miller as a technique through which a corporation finances its assets through a combination of equity, debt, or hybrid securities (Burri, 2016). But studies relating to the banking sector recognized the uniqueness of financial institutions and highlights banks are funded mostly from retention and provision, deposits, debt or borrowing, and share capital (Dai, 2017).

Internal Funding: Internal funding is the aspect of financing a business with part of the profit generated instead of distributing it to the equity owners as a dividend. Another source of providing funding for a business is through provisions. The provision for depreciation and general loan loss provision is a means of setting aside some proportion of the business-earned income in case of asset replacement and loan losses. The ratio of these funds to the total assets shows the proportion of the business that is financed from internal sources.

External Funding: In the banks' business model, external funding includes deposits and debt financing. The ratio of these funds to the total assets shows the proportion of the business that is financed from external sources. Debt is borrowing and other deferred liabilities of the firms. The company's debt might include both short-term debt and long-term debt (such as mortgages). Some other long-term obligations such as deferred tax and staff retirement obligations are also included.

Debt to Equity Ratio: The debt-to-equity ratio is the proportion of the borrowed funds deflated to the owners' equity. The debt-to-equity ratio highlights firms' dependency on borrowed funds and their ability to meet those financial obligations. This ratio also called risk ratio or "gearing" is also a leverage ratio that calculates the weight of total debt and financial liabilities against total shareholders' equity. This ratio highlights how a firm's capital structure is titled either towards debt or equity and equity, including common stock, preferred shares and retained earnings.

2.1.2 The Measure of Financial Performance

The financial performance of a firm is regarded as the ability of the firm to utilize its available assets and resources to make a profit. Profitability is measured using ratios relating to several indices of the business (Heikal *et al*, 2014). They noted the most popular measure of financial performance is Return on Assets (ROA) and Return on Equity (ROE). They further stressed that while ROA measures the effectiveness of a company to utilize the assets to create profit, ROE measures the return on investment to the shareholders. According to Chadha and Sharma (2014), ROA helps investors measure how management is using its assets or resources to generate more income while ROE helps investors to gauge how their investments are generating income. ROA and ROE are calculated by dividing the profit after interest and tax income by the total assets and equity of the firm respectively. A high ROA shows that the company is capable of generating profits likewise a high return on equity shows efficient utilization of shareholders' funds.

2.2 Theoretical Review

This study is anchored on the Pecking Order Theory. The Pecking order theory which is popularized by Myers and Majluf (1984) assumed that there are preferences in the hierarchy of financing options by firms. Myers and Majluf contend that there is a pecking order of financing; retained earnings known as the internal source of funding, borrowings, and issuing new equity in that sequence. They further argued that when managers who are better informed than the investors about financial well-being choose the equity option, they send the wrong signal to the investors who believe that the firm is over-valued and even their voting rights may be diluted, thus they will place less value on the new equity. As a result, the managers will prefer internal and debt financing to equity. In the case of the banks, increasing deposits are still much easier compared to issuing new equity, because it is a function of the banks.

Another major theory consistently used in explaining the capital structure mix is the Jensen and Meckling (1976) agency theory. The theory stated that managers and shareholders do have a conflict of interest. This concept brought the principal-agent problems. Jensen and Meckling contend that debt financing is used to balance the interest of the two. When a firm starts to use borrowings, they have to comply with the lender's regulations. Thus, they have to increase their transparency to meet the requirements which may reduce the principal-agent problem. Thus, debt is perceived as a method through which the shareholders reduce the agency cost and exercise control over managerial behaviour (Boodhoo, 2009 Dai, 2017). As observed by Dai (2017), this mechanism is more complicated for banks. The bank must maintain its good reputation for safety to attract more customers. When banks have more deposits (increasing leverage) which means they have more customers, their exceeded funding will be bigger; therefore, they need to improve their corporate governance and improve their management to maintain their operations.

The "Theory of irrelevance" put forward by Modigliani and Miller (1958) held that businesses have a definite set of predicted cash flows. Therefore, the preferred mix of debt and equity is ascertained by simply dividing the cash flow between the investors. The basic assumption of this theory is that investors and corporations have similar access to financial markets.

2.3 Empirical Review

Several scholars have committed huge efforts to empirical studies to examine the relationship between capital structure and the financial performance of firms across the globe. One such study is Rakesh (2013). The study evaluated the impact of capital structure on the financial performance of listed firms in the Bombay Stock Exchange (BSE) from 2009 to 2012. Data was generated from the financial statements of the firms and analyzed using correlation and regression analyses. The results show that there exists a negative insignificant relationship between the capital structure and financial performance in the business firms in India. Leon (2013) employed correlation and regression analysis to examine the effect of capital structure and the financial performance of listed manufacturing firms in Sri Lanka from 2008 to 2012. The study fathom that there was a significant negative relationship between leverage and return on equity; and no significant relationship between leverage and return on assets. Habimana (2014) conducted an empirical study on the relationship between capital structure and the financial performance of firms in an emerging market using selected firms in Africa, the Middle East, Asia, Eastern Europe, Russia, and China. The study employed the Ordinary Least Squares technique of data analysis on a large cross-sectional dataset of 18,876 firms compiled by Cap IQ and Bloomberg dated January 2014 and found that capital structure influences financial performance. Results also revealed that Leverage is negatively and significantly related to performance, and positively related to systematic risk.

Adesina *et al.* (2015) used the Ordinary Least Square (OLS) technique to examine the impact of the capital structure of Nigerian deposit money banks on their financial performance from 2005 to 2012. The results revealed that the correlation between capital structure measured by equity and debt and profit after tax is positively strong. In Ethiopia, Birru (2016) investigated the impact of capital structure on the financial performance of commercial banks from 2011-2015. Return on capital employed (ROE) and return on assets (ROA) were proxies for financial performance while debt ratio (DR), debt to equity ratio (DER), loan to deposit (LD), bank size (SIZE) and asset tangibility (TANG) the dependent variables. The result of the study further revealed that financial performance measured by ROA is negatively related to capital structure indices DER, SIZE, and TANG while DR and LD have a positive relationship with ROA. The study also revealed that DR, DER, and LD are positively related to ROE while SIZE and TANG are negatively associated with ROE.

Likewise in Rwanda, Mauwa *et al*. (2016) adopted a mixed design to assess the relationship between capital structure and the financial performance of listed firms in the Rwanda Stock Exchange (RSE). Return on asset (ROA) and return on equity (ROE) were proxies for financial performance while financial leverage was used for capital structure. Results revealed that the association between capital structure and both ROA and ROE is negatively significant. Dahiru *et al*. (2016) adopted panel multiple regression techniques to investigate the relationship between capital structure and the financial performance of listed manufacturing firms in Nigeria from 2009 to 2014. The study found that the total debt to total assets ratio and long-term debt to total assets ratio has a significant negative impact on financial performance while the short-term debt to total assets ratio has a significant positive impact on the financial performance of listed manufacturing firms in Nigeria. The study also found a negative insignificant effect of the total debt to total equity ratio on the financial performance of listed manufacturing firms in Nigeria.

Akingunola *et al.* (2017) also used panel multiple regression techniques empirically investigated the relationship between capital structure and the financial performance of firms in Nigeria from 2011 to 2015. The results revealed that total assets (LTDTA) have a significant positive effect on ROA while total debt to total the ratio of short-term debt to the total asset (STDTA) and total debt to total equity (TD/TE) have a significant negative effect on performance using ROA. The ROE model (panel B) revealed that short-term debt to the total asset (STDTA) and long-term debt-equity (TD/TE) has a significant negative effect. Firm size has a significant

positive effect on both models (ROA and ROE). A study of construction firms in Malaysia by Hashim and Hassan (2017) on the effect of capital structure on profitability from 2011 to 2015 used a quantitative methodology. Capital structure decomposed into debt-to-asset ratio and debt-to-equity ratio while profitability measures were ROA, ROE, and NPM. The results showed that for all the proxies of capital structure the capital structure negatively impacts profitability indices used in that study. Dai (2017) used panel data techniques to empirically investigate the relationship between capital structure indices and the financial performance of listed banks in Thailand from 1997 to 2016. Assets tangibility, size, growth rate, loan/deposit ratio, and allowance for doubtful debt/Loan ratio were a measure of the capital structure while profitability was measured by return on assets and return on capital. The result proves that capital structure is significant and negatively correlated with profitability.

Nassar (2018) used multivariate regression analysis to investigate the relationship between capital structure and financial performance of industrial companies listed on the Istanbul Stock Exchange (ISE) from 2005-2012. The results showed that there is a negative significant relationship between Debt Ratio (DR) and Return on Asset (ROA), Return on Equity (ROE), and Earning per Share (EPS). Singh and Bagga (2019) employed panel multiple regression techniques to investigate the relationship between capital structure and profitability of listed companies in the National Stock Exchange in India from 2008 to 2017. The study found that capital structure has a significant positive impact on profitability. Adeoye and Olojede (2019) evaluated the effect of capital structure on the financial performance of selected listed deposit money banks in Nigeria Exchange Group (NGX) from 2012 to 2018. Panel multiple regression analysis, correlation analysis, unit root test, and granger causality tests were employed for data analyses. Results revealed that debt to equity ratio impacted negatively on the returns on assets and return on equity, no direction of causality between debt to equity ratio, age of banks, asset tangibility and return on asset of banks, a one-way causality running from asset tangibility to debt-equity, firm age, harms the return on equity and return of asset of the bank but only significant with the return on asset of the bank while asset tangibility harms the return on equity and return of asset of the bank but only significant with the return on asset of the bank.

In summary, evidence from the above literature review suggests a mixed outcome from the previous studies. Though the majority of the studies found a negative significant effect of capital structure indices on the financial performance of firms, some of the studies found a positive significant relationship while a few were indifferent. These mixed outcomes created a gap in the existing literature and signal for further study. Secondly, it was obvious that since the consolidation exercise of banks in Nigeria, an extensive study on the effect of capital structure on the profitability of banks has not received maximum attention. Therefore, these gaps in the empirical studies necessitate the present study.

III. Methodology

This study adopted *ex-post facto* design and panel data analytical techniques. The population of this study comprises the seven (7) D-SIBs in Nigeria; Access bank Plc, Eco Transnational Incorporated, Zenith International Bank Plc, United Bank for African Plc, First Bank Holding Nigeria Plc, Guarantee Trust Corporation Plc, Fidelity Bank Plc. However, Eco Transnational Incorporated was not selected because of the paucity of data. Hence, six banks were studied. Data was collected from the annual reports of the selected bank from 2006 to 2021.

3.1 Model Specification

To estimate the effect of capital structure on the financial performance of banks in Nigeria, we adopted the model used in Dai (2017) as follows:

$Y = f(INTA, EXTA, TDEQ)$ Eq 1.

Hence, the pooled effect estimation model is mathematically expressed as presented below:

$Y_{it} = \alpha + \beta X_{it} + U_{it} + \varepsilon_{it}$ Eq 2.

Where Y denotes the dependent variable, β is the coefficient of independent variable X, α symbolizes an intercept, U represents between entity errors, ε represents within entity error, i represents the cross-sectional units and t is the period. We included control variables Growth rate and firm size in the model to eliminate the effect of some banks' specific factors which might impact financial performance indicators during the period. Hence the models are represented as follows:

$ROA_{it} = \alpha + \beta_1 INTA_{it} + \beta_2 EXTA_{it} + \beta_3 TDEQ_{it} + \beta_4 LnBS_{it} + \beta_5 GR_{it} + \varepsilon_{it}$ Eq 3.

$ROE_{it} = \alpha + \beta_1 INTA_{it} + \beta_2 EXTA_{it} + \beta_3 TDEQ_{it} + \beta_4 LnBS_{it} + \beta_5 GR_{it} + \varepsilon_{it}$ Eq 4.

Where:

ROA = Return on Asset calculated by Profit after tax/Total Assets;
ROE: = Return on Equity calculated by Profit after tax/Total Equity;
INTA: = Retained Earnings plus Reserves plus Vostro account/Total Assets;
EXTA = Total debt plus Deposits/Total Assets;

TDEQ = Total debt plus Deposits/Owners Equity;
LnBS = Natural logarithm of total assets and;
GR = Assets of the current year minus assets of the previous year divided by the assets of the current year.

IV. Data Analysis

The specific diagnostic tests for heteroskedasticity, multicollinearity, serial autocorrelation and unit root test were performed. The results are depicted in table 2.

Table 2: Regression Diagnostic Test Results

Regression Diagnostics Tests:		**Return on Assets**		**Return on Equity**
Levin-Lin-Chu unit-root test for all Variables Stationary at lag 1: P-value 0.000 – 0.035				
Xthetest:	$Chi(1)^2$ =	*10.28*		*196.43*
	$Pr > Chi(1)^2$	*0.0013*		*0.0000*
Mean VIF			*1.38*	
Range			*1.25 -1.53*	
Dubin-Watson		*1.52*		*1.41*

Source Stata 14.2 Output

The Levin-Lin-Chu unit root test conducted revealed that all the variables are stationary at lag 1 with p-values ranging from 0.0000 – 0.0315. The Breusch-Pagan/Cook-Weisberg test of heteroskedasticity suggested a P-value > chi^2 of 0.0013 and 0.0000. The null hypothesis of this test is such that the standard deviation of the data over the period is statistically constant (homoscedasticity). The significant result suggests that the null hypothesis be rejected and the alternative is held. Thus, the data has a heteroskedasticity problem. Also, the result of the multicollinearity test suggests VIFs values of between 1.25 to 1.53 for all the explanatory variables and a mean of 1.38. The above outcome suggested that the data is free from multicollinearity issue because all the value is significantly closer to 1 than 10. Finally, the Durbin-Watson statistics show a mild serial-autocorrelation with values 1.52 and 1.41 which is less than 2.

This outcome suggests that there is no unit root problem in the data set. The Hausman test for random and fixed effect suggests the rejection of the fixed effect model Pr > Chi^2 at 0.0000 and 0.0111 which is less than 5% for return on assets and return on equity respectively. Also, the Breusch and Pagan Lagrange Multiplier test for random and pooled ordinary least square regression model favoured the random effect with Pr > $Chibar^2$ at 1.0000 for both dependent variables, the preferred models that were used the hypotheses proposed in this study is the random effect model.

4.1 Test of Hypotheses

H_0. The internal funding to assets ratio has no significant effect on the financial performance of D-SIBs in Nigeria.
H_1. The internal funding-to-assets ratio has a significant effect on the financial performance of D-SIBs in Nigeria.

As depicted in table 3, the result of the panel multiple regression of the random effect shows a significant positive effect with p-value (0.000 & 0.012 < 0.05) and Z (5.84 & 2.51 > 1.96) for return on assets and return on equity respective. Based on this outcome, we rejected the null hypothesis and upheld the alternative which states that internal funding has a significant effect on the financial performance of the domestic systematic important banks in Nigeria. This result supported the findings of Adesina *et al.* (2015) which revealed that the correlation between owners' equity and profit after tax is positively strong.

Table 3: ***Panel multiple regression of the effect of capital structure on financial performance***

Regressors \ **Method**		***Return on Assets (ROA)***			***Return on Equity (ROE)***		
		Pooled OLS	**Fixed Effect**	***Random Effect (Preferred Model)***	**Pooled OLS**	**Fixed Effect**	***Random Effect (Preferred Model)***
	p-value	0.000	0.000	***0.000****	0.014	0.111	***0.012****
inta	t-statistic	5.84	3.64	***5.84***	2.51	1.61	***2.51***
	coefficient	.1908421	.1073187	***0.1908421***	1.282634	.9860732	***1.282634***

	p-value	0.024	0.116	***0.021****	0.039	0.086	***0.036****
exta	t-statistic	-2.30	-1.59	***-2.30***	-2.10	-1.74	***-2.10***
	coefficient	-.0299528	-.0180385	***-0.0299528***	-.4264827	-.4105157	***-.4264827***
	p-value	.336	0.955	***0.333***	0.000	0.000	***0.000****
tdeq	t-statistic	-0.97	-0.06	***0.97***	28.58	19.67	***28.58***
	coefficient	0.0000445	-.0028606	***0.0000445***	.0205428	.0204923	***.0205428***
	p-value	.881	0.909	***0.881***	0.190	0.124	***0.187***
lnbs	t-statistic	-0.15	0.11	***0.15***	-1.32	-1.55	***-1.32***
	coefficient	-0.0001989	.0001368	***-0.0001989***	-.02742	-.0385246	***-.02742***
	p-value	.151	0.177	***0.148***	0.468	0.317	***0.466***
gr	t-statistic	1.45	1.36	***1.45***	-0.73	-1.01	***-0.73***
	coefficient	0.0089167	.0063114	***0.0089167***	-.0700862	-.0967933	***-.0700862***
	p-value	.870	0.254	***0.184***	0.039	0.034	***0.036***
_con	t-statistic	1.33	1.15	***1.33***	2.10	2.15	***2.10***
	coefficient	0.0260489	.0212071	***0.0260489***	.6418286	.8259521	***.6418286***
R-Squared:							
Within			***0.1708***	***0.1662***		***0.8552***	***0.854***
Between			***0.5545***	***0.6298***		***0.9827***	***0.9865***
Overall		***0.3478***	***0.3386***	***0.3478***	***0.9173***	***0.9164***	***0.9173***
F-statistic (Prob)/ Wald chi2 (Prob)		***9.60(0.0000)***		***47.99 (0.0000)***	***199.62(0.0000)***	***100.36(0.0000)***	***998.10(0.0000)***
Poolability Test (Breusch-Pagan LM)				*0.0000 (1.0000)*			*0.0000 (1.0000)*
Hausman test			*685.49 (0.0000)*			*14.83 (0.0111)*	
No of Observations = 96			***Number of Firms = 6***				
Dependent Variable: KCE, significant at *1%, **5%, z-statistics							

Source Stata 14.2 Output

H_0. The external funding to assets ratio has no significant effect on the financial performance of D-SIBs in Nigeria.

H_1. The external funding to assets ratio has a significant effect on the financial performance of D-SIBs in Nigeria.

The result of the test of this hypothesis showed a significant negative result with p-values (0.0210 & 0.0360) and Z (-2.30 & 2.10) for return on assets and return on equity respectively. This result implies that ratio of debt to assets ratio of the D-SIBs in Nigeria has a significant negative effect on the performance of the banks. This outcome is in agreement with the results of Dahiru *et al*. (2016), Hashim and Hassan (2017), Akingunola *et al.* (2017), and Nassar (2018) that found the effect of total debt to total assets ratio, long-term debt to total assets ratio has a significant negative impact on the financial performance.

H_0. The debt-to-equity ratio has no significant effect on the financial performance of D-SIBs in Nigeria.

H_1. The debt-to-equity ratio has a significant effect on the financial performance of D-SIBs in Nigeria.

The test of hypothesis 3 revealed a non-significant positive effect on return on assets with p-values (0.3330 > 0.05) and z (0.97 < 1.96) and a significant positive effect of return on equity with p-values (0.0000) and Z (28.58 > 1.96). These results also supported the finding of Akingunola *et al.* (2017), and Adeoye and Olojede (2019) debt to equity ratio impacted negatively the returns on assets and return on equity.

V. Conclusion and Recommendation

Internal funding through retention, reserves and provisions has a significant positive effect on the performance of D-SIBs in Nigeria; external funding through debt and deposits has a significant negative effect on the performance of D-SIBs in Nigeria, and the effect of debt to equity ratio on performance of D-SIBs in Nigeria is negative but non-significant to return on assets while significant to return on equity.

Based on these findings these recommendations were made:

1. D-SIBs in Nigeria should ensure compliance with the statutory reserves and provisions to improve performance and help absorb the shock in cases of distress.
2. D-SIBs in Nigeria should ensure that external funding through debt is monitored and improve the risk management measures to avert the negative effects of debt on their performance.
3. D-SIBs in Nigeria should regularly monitor the growth rate of its debt to equity to improve performance.

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