CAPITAL MIX AND FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract
This study looked at how the banking sector's capital composition affected its performance in Nigeria. The objectives of the study were to examine how debt-to-equity ratio affects credit to the private sector (CPS), and evaluate how debts-to-total assets relate to CPS in Nigeria. The study used annual data from 1960 to 2021, sourced from World Development Indicators. It adopted autoregressive distributed lag (ARDL), fully modify ordinary least square (FMOLS) and generalized method of moment (GMM).The results showed that effective management of debt finance can greatly increase private sector's access and availability to credit, which may in turn foster economic expansion. The CPS is positively impacted by both ratios of debt-to-equity and debt-to-total assets, and hence conclude that the crowding-out theory does not hold in Nigeria. The paper argues that tax benefits play a crucial role in driving the increased use of debt for credit provision. Policymakers should boost tax incentives for debt financing while ensuring robust risk management practices that prevent excessive leverage and maintain financial stability. Regulatory authorities, like Nigeria's Central Bank (CBN), should set up guidelines that promote optimal leverage ratios, striking harmony between debt and equity to support long - term financial results.

***Key words:** Capital mix, Deposit money banks, financial performance, Credit to private sector.*

Introduction

Economic growth in developing countries like Nigeria depends on factors such as industrial development, agricultural modernization, stable politics, and efficient financial operations. Deposit money banks (DMBs) play a pivotal role in enhancing economic efficiency through financial intermediation, transferring funds from surplus to deficit units for investment (Akintola & Adesanya, 2021). The effectiveness of DMBs in providing credit to the private sector is critical. A stable financial system, led by the banking industry, underpins economic prosperity, aligning with the financial system's evolutionary progression (Goldsmith, 1967; Tekat *et al.*, 2019).

The financial sector is fundamental to any economy, expected to efficiently mobilise and distribute capital resources to drive growth (Eke, 2022). Deposit money banks (DMBs) are central to economic development, providing essential funding for entrepreneurial ventures that might otherwise remain unrealized (Akintola & Adesanya, 2021; Shekoni, 2019). Bank capital, critical for stability and safety, serves as a buffer against unforeseen losses, protecting depositors' funds in competitive and unpredictable environments (Torbira & Zaagha, 2016; Yunisa & Shekoni, 2020). Given that DMBs source capital from diverse investors with varied claims on cash flows, regulatory requirements are continually upgraded to measure, manage, and regulate capital for greater functionality (Copeland & Weston, 1992; Takon *et al.,* 2021). Investors face different risks, requiring varied returns, while shareholders balance concerns over firm safety with decisions on new projects aimed at maximizing wealth (Eke *et al.,* 2020; Copeland & Weston, 1992). Bank capital thus underpins both stability and economic growth.

The capital of deposit money banks (DMBs) represents the rights of creditors and owners, requiring projects to generate risk-adjusted returns to meet investors' expectations and reserve for shareholders (Eke *et al.,* 2020). Financing decisions, including expected and project-specific returns, are crucial and often precede investment decisions (Copeland & Weston, 1992). The capital-mix hypothesis highlights funding sources as vital to financial development. DMB performance fosters stakeholder trust, ensuring debt repayment, depositor safety, shareholder returns, job stability, and tax compliance (Aliyu, 2022). Thus, positive financial performance is essential for maintaining confidence and supporting broader economic stability and growth.

Nigeria's private sector suffers when deposit money banks (DMBs) fail to operate efficiently, with irregular performance reflecting unrealized capital potential and inefficiency (Sanyaolu *et al.,* 2021). Persistent capital adequacy issues, evidenced by indicators like return on equity and private sector lending, highlight ongoing instability in DMBs (Abiola *et al.,* 2021). Despite reforms, including the CBN's 2004 consolidation aimed at stabilizing the banking sector and boosting investor and consumer trust, challenges remain. These reforms sought to ensure sufficient capital and exceptional performance, yet fluctuating DMB efficiency underscores the need for effective strategies to optimize value, reduce risk, and stabilize Nigeria's banking industry.

The Nigerian banking industry has undergone reforms since 1956 to align with international best practices, strengthen the system, and safeguard depositors' funds. Bank nationalization enhanced government control, preventing financial crises and ensuring deposit safety (Ogunleye & Akinbode, 2017). Centralized bank control improved coordination and monetary policy implementation (Aluko & Akomolafe, 2019). Despite these efforts, challenges like poor corporate governance and non-

performing loans persisted, highlighting the need for ongoing measures to ensure a resilient and efficient banking system (Adegbaju & Joshua, 2017).

Deposit money banks (DMBs) aim to optimize their capital mix to meet shareholder expectations and maintain public trust in Nigeria's competitive and regulated banking sector (Attah & Nwankwo, 2021). Capital mix identifies financing combinations that enhance returns with minimal risk. While advanced economies have studied optimal capital combinations, Nigerian-specific research remains limited (Nasimia, 2016). Most studies used short- and long-term data, but this investigation emphasizes aggregate and time-based data for better performance evaluation. Further research is needed to determine the ideal capital mix for maximizing financial performance in Nigeria's banking industry. Attah and Nwankwo (2021) suggest using metrics like return on assets, return on equity, and credit to the private sector (CPS) to assess deposit money banks' (DMBs) performance in Nigeria. Research emphasizes the unique capital mix of banks as intermediaries critical to economic systems. While the 2004 to 2005 consolidation aimed to improve DMBs, its effectiveness remains uncertain (Hassan & Miko, 2016). The 2007–2008 financial crisis further questioned the link between DMBs' capital mix and CPS. This study investigates how debt-to-equity and debt-to-total assets ratios affect Nigeria's CPS and broader financial performance across sectors like manufacturing and agriculture.

Chart1 displays domestic private sector loan as a percentage of GDP between 2012 and 2021. According to the figure, Nigeria continuously maintained the lowest CPS amongst the chosen African nations. One significant effect of this means, despite been Africa's largest economy as at 2023, Nigeria may not have realized her potentials through the CPS to further incentivize economic activities to advance her economic profoundly relative to colleagues throughout Africa (Eke, 2022).

Chart 1: Nigeria's private sector share of GDP in comparison to its African peers

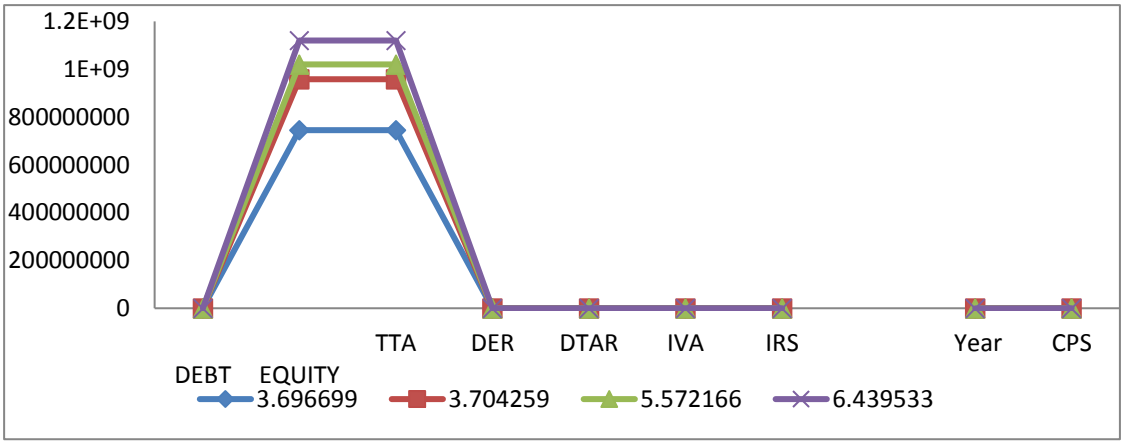


Chart 1: Nigeria's domestic private sector credit as a percentage of GDP in comparison to its African counterparts(South - Africa, Kenya, Egypt and Nigeria); TTA is total Assets, DER is debt to equity ratio, industrial value added (IVA), interest rate spreads (IRS), and debt to total assets (DTAR), CPS is credit to private sector. The figure 6.4395 is for South Africa, 5.5722 for Kenya, 3.7043 for Egypt and 3.6967 for Nigeria. The vertical line represents percentage growth in GDP while horizontal line represents leverage contribution to credit to private sector of those countries. **Source:** Prepared by the authors (2024)

This study investigates the impact of capital-mix on Nigerian deposit money banks' (DMBs) performance, focusing on the effects of debt-to-equity and debt-to-total-asset ratios on credit to the private sector (CPS). The null hypothesis posits no significant effects. Poor economic performance is linked to DMBs' unmet potential to drive growth, as their capital mix—balancing debt and equity—aims to reduce costs and maximize returns (Ganiyu, 2015; Odebode & Yunisa, 2020). While optimal capital structures enhance profitability and stakeholder wealth, high debt levels increase insolvency risks (Michael & Babajide, 2021). Financial performance is assessed via CPS proportions (Torbira & Zaagha, 2016; Nwannunu, 2022). DMBs' intermediation ensures resource allocation between surplus and deficit units, supporting private sector growth and regulatory compliance (Aliyu *et al.,* 2020).

This study is significant as it contributes to the existing literature, bridges the gap between theoretical models and real-world applications, and lays the groundwork for further research in banking, finance, investment, insurance, and related fields. Regulatory agencies stand to benefit from insights into stronger regulatory and legal frameworks. Moreover, policymakers can use the findings to support capital formation strategies that protect depositor funds and enhance DMB performance in Nigeria.

Therefore, this work provides insight into the connection between DMB performance and leverage in Nigeria. The research scope is restricted to how the capital-mix affected DMB performance in Nigeria between 1960 and 2021. This is due to availability of data and to accommodate periods before, during and after banks recapitalization in Nigeria. The remainder of this work is structured thus; the theoretical framework, methodology, findings and their implications, literature review, summary, conclusion, and suggestions come after the introduction.

Theoretical Review

Relevant to the bank capital -mix and performance study isthe trade-off hypothesis, which has its roots in the writings of Miller (1977), Scott (1977), Kim (1978), and Kraus and Litzenberger (1973).Bank management will always have to decide between debt and equity to fund operations, according to the capita-mix trade-off assumption. This can be accomplished by weighing the advantages and disadvantages of each identifiable and accessible source of funding. Given Nigeria's high corporate tax rates, banks may obtain substantial tax incentives when they use debt financing to fund their operations (Sadiq, Waseela, & Friday, 2021). However, without spending monitoring and obligation costs, the principle cannot guarantee that the agent will act in the principal's best interests (Zogning, 2017).

Crowding-Out Theory

is from the classical school. The theory's premise is that when the government actively engages in the economy through expansionary fiscal policy, business investment and firm profitability decline. As a result, after-tax income declines and wages and interest rates rise. Government involvement may boost output, but businesses will not grow, resulting in short-term improvements that eventually drive out private investments. This exposes the ineffectiveness and self-defeating nature of government fiscal policy because it does more harm than good to the economy (Akanbi, 2020).It serves as the study's anchor theory since it contends that significant government intervention in the economy will distort the price system and result in ineffective distribution of the limited financial resources to prudent economic use.

Framing the Theory

Anecdotally, the arrangement of a firm’s financing structure determines project profitability, stability, and return on assets. Financing theory enquires that the layering of a firm’s capital matter, and that whether a firm could affect its total value by changing its arrangement. Therefore, the financing structure framework may assume as follows:

Value = f (financing mix)…….(1)

It implies that dynamic DMBs’ capital-mix system may impact the economy, increase CPS, tame the business cycle, and enable national growth. Moreover, in its original form, the progenitors of capital structure theory, Modigliani-Miller (M&M) (1958), assumes perfect information among capital market participants, such that capital structure of a firm does not affect its value or cost of capital. In its simplest form, capital-

mix of the firm as theorized by M&M theorem can be expressed mathematically in its original form as follows:

$$V_t = D_t + E_t \quad \text{.....(2)}$$

Where:

V = Total value of the firm; D = Market value of debt; E = Market value of equity

The theorem assumes that the value of the firm is equal to the sum of its debt and equity, regardless of the capital structure. It implies that in a perfect capital market, the proportion of debt and equity in a bank's capital-mix may not affect its overall value. However, in the context of deposit money banks in Nigeria, where market imperfections and regulatory constraints exist, the M&M theorem may need modification of these factors. Aside from the theory of imperfect capital market affecting the capital structure is the theory of optimal capital structure; given its complex tax effect context.

The study of the cost of capital is implicit in the relationship of the firm's financing and investment decisions. M&M claim that should the cost of capital be efficiently minimized via judicious mixture of debt and equity financing, it maximizes the value of the firm, hence optimize the firm's capital structure at that point.

While appraising the value of a levered firm, M & M theorem among others, assumes that all firms belong to the same risk class, which would imply that the expected future cash-flows for all firms would only vary by a scale factor (Copeland and Weston, 1992), i.e. implying that the expected cash-flow ($\tilde{Cf}$) from firms' i and j projects would be perfectly correlated by a factor λ, as follows:

$$\tilde{Cf}_i = \lambda \tilde{Cf}_j \quad \text{.....(3)}$$

By this assumption, the two cash-flows may have same distribution of returns, same risks, and same required rate of expected return. For an unlevered firm, its value (V^U) would be the discounted net operating income *(NOI)* cash-flow, with no debt as follows:

$$V^U = \frac{E(\tilde{NOI})}{\rho} \quad \text{.....(4)}$$

Should the firm issue debt, the after-tax cash flow would be split between debt holders and shareholders. While the equity holders receive net cash flow after interest, taxes, and replacement investment, bondholders receive interest on debt, $k_d D$ discounted by the before -tax cost of risk-free debt, k_b. The value of the levered firm (V^L) now becomes the addition of the discounted value of the two cash flows (Copeland and Weston, 1992):

$$V^L = \frac{E(NOI)(1-\tau_c)}{\rho} + \frac{k_d D \tau_c}{k_b} \quad \text{.....(5)}$$

Empirical Tests

Nwannunu (2022) adopted a panel regression technique to assess the capital structure of firm against their performance in Nigeria from 2018 to 2021.Eight randomly chosen firms out of 10 were employed to look at the nexus. Hypothesis testing was through least-squared dummy variables (LSDV) method. The findings indicated that company capital arrangement as well as stock performance (ROA plus ROE) had a favourable and statistically significant link. Among other things, the study recommended using bigger samples of the units and temporal dimensions in the policy prescription.

Takon*et et al.* (2021) examined how the sufficiency of capital framework affected Nigerian DMB performance. Determining the role of equity capital in DMB performance and evaluating the impact of the bank's total assets on DMB performance in Nigeria were the specific objectives of the study. The work used the desk survey approach, and the technique of least squares multiple regression was employed to examine secondary data that came from bank reports, the CBN Statistical Bulletin, and journal publications. The analysis's findings demonstrate a substantial and positive relationship between Access Bank plc's total assets along with return on equity, as well as between return on equity and equity capital. The study suggests monitoring core capital, making adequate provisions for regulatory capital, and regularly evaluating it for potential growth.

Adeniyi *et al.* (2020) looked into the Nigerian commercial banks' performance and capital structure. Profit after tax and profits per share were employed as performance metrics in the study, which employed the panel regression technique as an analytical tool on data collected from fourteen Nigerian listed commercial banks between 2009 and 2016.The findings indicated that there was a substantial correlation between Nigerian commercial banks' debt and profitability. The investigation found that debt can have a big impact on liquidity and shareholders' wealth. Therefore, instead of depending

exclusively on debt as a source of funding for banks' capital structure, the study recommended that retained earnings be considered first, followed by debt.

Odebode and Yunisa (2020) investigated the effects of co-integration and debt financing on the short- and long-term financial results of manufacturing companies in Nigeria. Secondary panel data from 15 manufacturing companies' 2008 to 2018 annual reports was used for the study. To analyse the data gathered for the investigation, the Vector Error Correction Mechanism method (VECM) was employed. It was found that the return on equity of Nigerian manufacturing enterprises was significantly impacted by the positive total debt ratio. Additionally, liability financing had an impact on the return on equity in Nigeria over both the short and long term. The study suggested less debt financing since too much debt can reduce return on equity. To get the best possible finance mix, the study advised that the industry be recapitalized.

Oyedokun *et al*. (2018) evaluated how Nigerian manufacturing enterprises' financial performance was impacted by their capital structure. Out of all the manufacturing companies registered on the Nigerian Stock Exchange, ten were chosen. To examine the impact of capital structure on a company's performance, four models were employed. For the study, an ex-post facto research design was employed. Balance panel data of ten listed manufacturing companies from 2007 to 2016 was used. The study's analytical techniques were a regression model and descriptive statistics. However, the results showed that capital structure had inconsistent statistical effects on the variables being examined. The study suggested that manufacturing organizations use a balanced capital structure approach to maximize both their corporate value and performance.

Nasution, Putri, and Dungga (2018) looked into how Indonesian automakers' and parts manufacturers' return on equity was affected by the ratio of debt to equity and turnover of total assets. The study's objective was to determine the partial and simultaneous effects of the debt-to-equity ratio and total asset turnover. Ten of the mentioned automakers and their parts on the IDX were chosen for the study using purposive sampling. Multiple linear regressions were employed as an analytical method in the investigation. According to the study's statistical test, DER and TATO were both partially and simultaneously significant for ROE.

Methodology

The analysis used yearly secondary data from the World Bank's World Development Indicators (WDI).The study measures the performance of Nigerian deposit money banks using credit to the private sector (cps), and the leverage of Nigerian banks is measured using the debt-to-equity ratio (der) and the debt to total asset ratio (dtar). Both industrial

value-added (iva) and interest rate spreads (irs) are employed as variables of control in the study. Details of data descriptions, source, measurement and justifications are presented in the Table 1.

Table1. Data Description, Sources, and Justification

Description	Sources/ Measurements	Literature/ Justification
Cps = Credit to private sectors	Bank Performance; WDI	Olowofeso *et al.* (2015)
Der = Debt-equity ratio	Leverage; WDI	Hesborn &Wafula (2023)
Dtar = Debt-to-total assets	Leverage; WDI	Iqbal & Usman (2018)
Iva = Industrial value added	WDI/ control variable	Okorie & Chikwendu (2019)
Irs = Interest rate spread	WDI/ control variable	Berko *et al.* (2022); Eke (2017)

Sources: Compiled by the authors (2024)

The study adopted autoregressive distributed lag (ARDL), fully modified ordinary least squares (FMOLS) and the generalized method of moments (GMM) to determine the effects and relationships amongst the variables and after the pre-estimation test to ascertain the trendiness or otherwise of data used.

Based on the work of Takon *et al.* (2021), the investigation is modeled as follows, adhering to the simplified theoretical framework in section 2.2:

$$CPS = f(CS) \quad \text{..... (6)}$$

Leverage determines the private sector's credit.

$$CPS = f(DER, DTAR) \quad \text{.....(7)}$$

Credit to private sector is influenced by debt equity ratio and debt to total asset ratio

Equation 7, which adds more control variables and uses CPS as a proxy for DMB performance, is expressed as:

$$CPS_t = \beta_0 + \beta_1 DER_t + \beta_2 DTAR_t + \beta_3 IVA_t + \beta_4 IRS_t + u_t \quad \text{..... (8)}$$

Equation 8 is converted to econometric form by taking the lag of dependent variables and stating it as:

$$CPS_t = \beta_0 + \beta_1 CPS_{t-1} + \beta_2 DER_t + \beta_3 DTAR_t + \beta_4 IVA_t + \beta_5 IRS_t + u_t \quad \text{..... (9)}$$

Equation 9 presents the variables and their *a-priori* expectations as follows:

$$CPS_t = \beta_0 + \beta_1 \sum CPS_{t-1} + \beta_2 \sum DER_t + \beta_3 \sum DAT_t + \beta_4 \sum IVA_t + \beta_5 \sum IRS_t + u_t \quad (10)$$

$$+ \qquad + \qquad + \qquad + \qquad -$$

Where: Private Sector Credits (as a proportion of GDP) = CPS Debt = Claim on other domestic economic sectors (as a percentage of broad money, given as an annual rise); Industrial value added is represented by IVA, interest rate spread by IRS, error term by μ, constant by β0, bank capital to assets ratio (%) by equity, debt to equity ratio by DTE, and debt to total assets ratio by DTAR.

Findings and Conversation

Correlation result: Table 2 contains the correlation results.IVA and CPS have a negative and significant negative connection, meaning that a rise in CPS is associated with falls in IVA of the economy. This implies that a unit increase in CPS will attract 75% fall in IVA in the economy. Although there is a slight but positive association between IRS and CPS, it suggests that rising IRS causes economic CPS to rise. Additionally, there is a positive correlation between DER and CPS, meaning that rising DER causes rising CPS. Additionally, there is a positive association between DTAR and CPS. CPS rises in response to an increase in DTAR.

However, as the correlation matrix shows, the variables included in the study do not run the danger of multicollinearity. This is because the coefficient of correlation between the variables was moderate, low, and a small number of them were weak

Table 2: Correlation test

Variable	Cps	Der	Dtar	Irs	Iva
Cps	1.000				
Der	0.081	1.000			
Dtar	0.259	0.076	1.000		
Irs	0.394	0.091	0.126	1.000	
Iva	-0.745	-0.117	-0.195	-0.667	1.000

Source: Authors' computation (2024)

Lag length order: The majority of criteria select a maximum lag order of one, which is the degree of constraint on the given autoregressive distributive lag.

Unit root result: The unit root result presented in table 3 indicates that there are mixed differences among the investigated variables. The variable's mixed stationary characteristics point to the long-run test using autoregressive distribution lag (ARDL) techniques which are backed by bound tests.

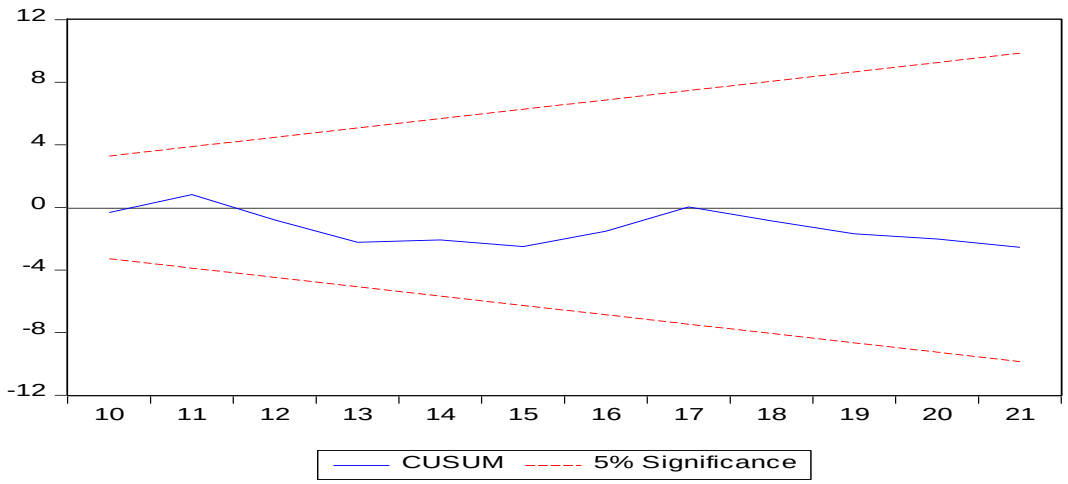
Table 3: Unit-level tests

Methods	Augmented Dickey – Fuller		Phillips – Perron	
Variables	Test stat.	Station @	Test stat.	Station @
Cps	-6.604	I(1)	-10.873	I(0)
Der	-5.597	I(0)	-9.950	I(1)
Dtar	-8.682	I(1)	-6.364	I(0)
Irs	-8.234	I(1)	-14.774	I(1)
Iva	-14.730	I(2)	-8.858	I(1)

Source: Authors' computation (2024)

Cusum test result: Cusum test presented in figure 1accounts forthe model's test for stability.The trend curve was confined by two lines and with the presence of the blue inside the 5% critical bounds, as indicated by the blue lines between the red lines. This suggests that there is no structural instability in the model throughout the study period.

Figure 1: Cusum Stability Test



Source: Authors' computation (2024)

Analysis of regression results

Table 4 contains the empirical results of three techniques used for the study. In the first hypothesis on the effect of the debt-to-equity ratio (DER) on the financial performance of deposit money banks, measured by credit to private sector (CPS) in Nigeria, the results are mixed. Against a priori expectation, the GMM coefficients reveal negative functional sensitivity on CPS while FMOLS is though positive and follow a priori expectation but not statistically significant. ARDL result with a stronger positive correlation and statistically significant at 1% seems to be more realistic out of the three techniques. This result indicates that for each 1% rise in debt- to- equity ratio, credit to private sector by banks in the economy, will increase by 0.645 and statistically significant. The tax relief of debt attracts its use over equity which in turn enhances performance of credit to private sector in the economy like Nigeria, hence debt financing significantly contributes to profitability of Nigerian commercial banks (Adeniyi *et al.*, 2020). This implies that a rise in debt could decrease the utilization of equity since more money is required to improve intermediation performance for financial gain.

Hypothesis Two propose that there is no discernible long-term effect of debt to total assets deposit money banks' financial performance, measured by credit to private sector in Nigeria. The outcome is displayed in Table 4. All the outcomes of the three methods satisfy a- priori which reveals that debt to total assets is a positive function of credit to private sector (cps). This result also seems plausible as it suggests that a 1percent increase in leverage (Dtar) may proportionately induce increase in credit to private sector by 66.1 percent. The result of FMOLS technique reveals highest positive

function, with though all insignificant. This result supports the work of Debode and Yunisa (2020) that total debt ratio positively influence return on manufacturing firms in Nigeria.

On interest rate spreads on credit to private sector, the results are uniform; with all the techniques satisfies a priori expectation, which suggest that interest rate spreads is a negative function of credit to private sector, with GMM technique having the highest. The result seems to be plausible that a 1 percent increase in interest rate can discourage private sector from credit in proportion of 24.4 percent. The results of all the techniques are uniform on industrial value added with all significantly negative. GMM with the highest result reveals that a 1 percent increase in credit to private sector will proportionally reduce industrial value added by 57.3 percent with the GMM technique. This seems plausible and support a priori expectation which suggest that credit to private sector will be counterproductive where cost of funds is negatively impacted on credit in the economy, industrial value added will proportionally and possibly fall.

Table 4: Capitals – Mix on Performance of DMBs in Nigeria

Dependent Variable cps	ARDL	FMOLS	GMM
CPS (-1)	0.697**	-	-
DER	0.645*	0.130	-0.047
DTAR	0.243	0.661	0.653
IRS	-0.210	-0.138	-0.244
IVA	-0.203*	-0.562**	-0.573**
R^2	0.771	0.576	0.588
Adj. R^2	0.750	0.546	0.560
Std. error or regression	1.663	2.242	2.229
S.D. of dep. Var. / Instr. Variable	3.327	3.327	3.359
Long – run Variance	-	6.700	-
F- Stat. / J- Stat.	37.020	-	0.000
Prob. (F-Stat.)	0.000	-	-

Source: Compiled by the authors (2024) * and ** are significant at 0.05% and 0.01% respectively

Policy Implications of Findings

The positive correlation that is substantial statistical relationship between the debt-to-equity ratio (DER) and private sector credit, as indicated by the ARDL results, highlights the critical role of debt financing in enhancing bank intermediation performance. This finding aligns with the work of Adeyemi, Olaleye, and Salako (2022) that tax benefits as a key factor drives the increased utilization of debt for credit provision. Policymakers should consider improving tax incentives for debt financing while ensuring robust risk management practices that prevent excessive leverage while maintaining financial stability.

Furthermore, the favourable correlation between the proportion of total assets to debt and private sector credit underscores the role of leverage in credit expansion. This is consistent with findings from Egbetunde and Adebayo (2021), where higher leverage is demonstrated to have enhanced lending capacity in Nigerian banks. Regulatory authorities, like the CBN, should develop guidelines to encourage optimal leverage ratios, ensuring a healthy ratio of debt to equity to promote sustainable financial success. Moreover, the uniformly negative association between interest rate spreads and private sector credit emphasizes the adverse effects of high borrowing costs on credit demand. This observation is corroborated by Onwe and Uchenna (2023), that found excessive interest rate spreads to be a discourage factor to private sector investment in developing economies such as Nigeria. To address this challenge, the CBN should implement strategies to reduce interest rate spreads, such as fostering competition among financial institutions particularly the banking sector and encourage their operational efficiency improvements.

However, the negative effects of private sector credit on industrial value-added highlights the counterproductive effects of high-cost funding on industrial growth. This finding aligns with the conclusions of Yakubu and Olayemi (2024), observed that elevated borrowing costs to often undermine industrial productivity in resource-constrained economies such as Nigeria. To mitigate these effects, policymakers should focus on reducing the cost of borrowing for industrial sectors by introducing targeted subsidies and concessional financing options for preferred sectors like Industries in the economy.

Summary and Conclusion

The study examined the impact of financial leverage on Nigerian deposit money banks, focusing on private sector lending. Findings reveal that effective loan financing management enhances credit access, fostering economic growth. However, high borrowing costs and wide interest rate spreads hinder industrial performance and economic progress. CPS is positively impacted by both ratios of debt-to-equity and debt-

to-total assets; hence the study concludes that the crowding-out theory does not hold in Nigeria in the Nigerian banking system.

Recommendations

The study recommends policy measures such as maintaining tax incentives for debt financing, reducing borrowing costs, increasing financial leverage, and ensuring accessible credit for industrial growth. These actions, alongside sound financial management and strategic policies, are vital for building a robust financial sector and driving sustainable economic development in Nigeria and similar economies. Policymakers should promote debt financing to boost private sector credit by maintaining or enhancing tax incentives, encouraging banks to utilize debt instruments effectively. Regulators must enforce strong risk management to mitigate excessive leverage risks, ensuring financial stability. The Central Bank of Nigeria (CBN) should encourage optimal leverage among financial institutions through clear frameworks balancing debt and equity financing. Initiatives guiding banks to maintain sustainable debt-to-total assets ratios will enhance loan availability while safeguarding the economy against systemic risks. These measures aim to expand credit access and ensure long-term financial stability in Nigeria's banking and financial sectors.

References

Abiola, K., Uwuigbe, M., Olajide, D., & Faith, O. O. (2021). Corporate governance, risk management, and financial performance of listed deposit money banks in Nigeria. *Cogent Business and Management, 8*(1), 1–14. https://doi.org/[Insert DOI]

Abughniem, M. S., Al Aishat, M. A., Hamdan, A., & Weshah, S. R. (2020).Capital structure, firm growth, and firm performance: Evidence from Jordan. *International Journal of Innovation, Creativity and Change, 10*(12), 655–667. https://www.ijicc.net/images/vol10iss12/101204_Manal_2020_E_R.pdf

Adegbaju, A. A., & Joshua, O. O. (2017). Recapitalization and bank performance: Evidence from Nigeria. *Journal of Accounting and Auditing: Research & Practice, 2017,* 1–10. https://doi.org/[Insert DOI]

Adeniyi, A. J., Marsidi, A., & Babatunji, A. S. (2020). Capital structure and commercial banks' performance in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 10*(1), 239–249.Sciences 10 (1): 239-249http://dx.doi.org/10.6007/IJARAFMS/v10-i1/7134)

Adeyemi, S., Olaleye, T., & Salako, A. (2022). The impact of debt financing on bank profitability in Nigeria. *Journal of Finance and Economics, 14*(3), 45–58.

Akanbi, A. (2020). Government domestic borrowing and private sector credit crowding out: Empirical evidence from Nigeria. *Journal of Investment and Management, 9*(4), 100–106. 10.11648/j.jim.20200904.12

Akintola, A. F., & Adesanya, O. A. (2021). Contribution of deposit money banks to economic growth in Nigeria (1994–2017). *International Journal of Scientific and Research Publications, 1*(1), 779–786.http://dx.doi.org/10.29322/IJSRP.11.01.2021.p10995

Aliyu, A. A. (2022). Capital structure and financial performance of commercial banks in Nigeria. *Global Journal of Management and Business Research, 22*(1), 33–41.Retrieved from https://journalofbusiness.org/index.php/GJMBR/article/view/102176

Aliyu, A. A., Abdullahi, N. A., & Bakare, T. O. (2020). Capital adequacy and financial performance of deposit money banks with international authorization in Nigeria. *International Accounting and Taxation Research Group, Faculty of Management Sciences, University of Benin,* 78–91.

Aluko, B. T., & Akomolafe, K. J. (2019). Nationalization, capitalization, and recapitalization: An empirical study of the Nigerian banking industry. *International Journal of Academic Research in Business and Social Sciences, 9*(7), 1232–1255.

Attah, E. V., & Nwankwo, O. (2021). Implications of capital structure on the performance of deposit money banks in Nigeria. *International Journal of Innovative Research and Advanced Studies, 8*(6), 63–80.

Berko D., Hammond P. & Amissah E. (2023). The effect of Interest Rate Spread on economic growth: Ghana's perspective. *International Journal of Business and Management Review*. 10(2).1-23. ECRTD-UK https://www.eajournals.org/ Journal Level DOI : https://doi.org/10.37745/ijbmr.2013

Bhunia, A., Mukhuti, S., & Roy, S. (2011). Financial performance analysis: A case study. *Current Research Journal of Social Sciences, 3*(3), 269–275.https://maxwellsci.com/print/crjss/v3-269-275.pdf

Binh, T. T. D., & Tram, D. N. T. (2019). A meta-analysis: Capital structure and firm performance. *Journal of Economics and Development, 22*(1), 111–129.

Central Bank of Nigeria. (2013).*CBN Briefs, 2012–2013.* Research Department.

Copeland, T. E., & Weston, J. F. (1992). *Financial theory and corporate policy* (3rd ed.). Addison-Wesley Publishing: 437-543 https://afajof.org/wpcontent/uploads/files/historicaltexts/Financial_Theory_and_Corpora.pdf

Egbetunde, T., & Adebayo, K. (2021). Leverage and credit expansion in Nigeria's banking sector. *African Journal of Economic Policy, 18*(1), 67–83.

Eke, P. O. (2017). Interest Rate Macrostructure, Corporate Bond Market Development, and Industrial Output in selected African Economies. Available, http://eprint covenantuniversity.edu.ng/12955/1Binder1.pdf

Eke, P. O. (2022). An assessment of central banking on unemployment and poverty: The case of Nigeria. *Journal of Management Info, 9*(1), 30–37. https://doi.org/10.31580/jmi.v9i1.2486

Eke, P. O., Achugamonu, B. U., Yunisa, S., & Osuma, G. O. (2020). Macroeconomic risks and financial sector stability: The Nigerian case. *Decision*, Springer. Indian Institute of Management, Calcutta. https://doi.org/10.1007/s40622-020-00248-4

Ganiyu, Y. O. (2015). Dynamic analysis of the impact of capital structure on firm performance in Nigeria. A Doctoral Thesis, De Montfort University, United Kingdom.

Giglio, F. (2022). The capital structure through the Modigliani and Miller model. *International Business Research, 15*(11), 11–16. https://doi.org/10.5539/ibr.v15n11p11

Goldsmith, R. W. (1969). *Finance structure and development.* New Haven: Yale University Press.

Hassan, U. S., & Miko, U. N. (2015). Impact assessment of bank consolidation on the performance of commercial banks in Nigeria. *Acta Universitatis Danubius Œconomica, 11*(5), 30–44.

Hesborn, M. A & Wafula, J. (2023) The effect of Debt-to-Equity on Financial performance of Microfinance Institutions in Kenya. *International Journal of Economics, Commerce and Management, United Kingdom*, 11(5.), 46 – 53.

Iqbal, U., & Usman, M. (2018). Impact of Financial Leverage on Firm Performance: Textile Composite Companies of Pakistan. *SEISENSE Journal of Management*, *1*(2), 70-78. https://doi.org/10.33215/sjom.v1i2.13

John, E., Simon, D. E., & Uchenna, C. E. (2020). Debt financing and firm's financial performance in Nigeria. *Account and Financial Management, 50*(2), 2106–2113. https://doi.org/10.xxxxx/yyyyyyyyy

Kim, E. H. (1978). A mean–variance theory of optimal capital structure and corporate debt capacity. *The Journal of Finance, 33*(1), 45–63.

https://doi.org/10.1111/j.1540-6261.1978.tb03388.

Kraus, A., & Litzenberger, R. H. (1973). A state–preference model of optimal financial leverage. *The Journal of Finance, 28*(4), 911–922. https://doi.org/10.1111/j.1540-6261.1973.tb01415.

Michael, O. O., & Babajide, F. F. (2021). Capital structure and firm performance: Evidence from Nigerian consumer goods manufacturing firms. *Academy of Accounting and Financial Studies Journal, 25*(2), 1–10.

Miller, E. M. (1977). Risk, uncertainty, and divergence of opinion. *The Journal of Finance, 32*(4), 1151–1168. https://doi.org/10.1111/j.1540-6261.1977.tb03317.

Modigliani, F. & Miller, M. H. (1958). The cost of capital, corporation finance, and the theory of investment. *The American Economic Review, 48*(3), 261–297.

Nasimia, A. N. (2016). Effect of capital structure on firm profitability: Empirical evidence from London, UK. *Global Journal of Management and Business Research, 16*(4), 1–20.

Nasution, A. E., Putri, L. P., & Dungga, S. (2018). The effect of debt-to-equity ratio and total asset turnover on return on equity in automotive companies and components in Indonesia. *Advances in Economics, Business and Management Research, 92*, 182–188. https://doi.org/10.xxxxx/yyyyyyyyy.

Nwannunu, S. E. (2022). Capital structure and firm performance: Evidence from 2021 best-performed stocks in Nigeria. *International Journal of Research and Innovation in Applied Science, 7*(9), 65–75.

Nzotta, S. N. (2018). *Dynamics of banking lending and credit management.* Owerri: Treasure Books, Skillmark Media.

Odebode, F. A., & Yunisa, A. S. (2020). Debt financing and financial performance of manufacturing firms in Nigeria: A VECM approach. *KASU Journal of Economics and Development Studies, 8*(1), 223–235.

Ogbebor, P. I., Osho, L. A., & Oguntodu, J. A. (2020). Capital adequacy and return on capital employed of quoted deposit money banks in Nigeria. *International Journal of Advanced Research in Accounting, Economics and Business Perspectives, 4*(1), 111–120.

Oyedokun, G. E., Job-Olatunji, K. A., & Sanyaolu, W. A. (2018). Ogunleye, G. A., & Akinbode, S. O. (2017). Bank nationalization and financial performance in Nigeria: A panel data analysis. *IOSR Journal of Economics and Finance, 8*(2), 50–58.

Okorie, G. C. and Chikwendu, N. F. (2019) *Does Private Sector Credit Impact on*

Private Sector Investment in Nigeria? International Journal of Research and Scientific Innovation (IJRSI), VI (XII), 23-28.

Olowofeso, O. E., Bada, A. S., Adeboye, A. A., Adejo, V. T., Bassey, K. J., & Dzaan, K. S.(2015) Investigating the dynamics of bank credit in Nigeria: The role of bank consolidation.*CBN Journal of Applied Statistics* 6(1a) 133 – 151.

Onwe, C., & Uchenna, E. (2023). Interest rate spreads and credit accessibility in developing economies. *International Journal of Banking and Finance Research, 11*(4), 92–110.

Onyekwelu, U. L., Chukwuani, V. N., & Onyeka, V. N. (2018). Effect of liquidity on financial performance of deposit money banks in Nigeria. *Journal of Economics and Sustainable Development, 9*(4), 2222–2855.

Sadiq, O. A., Waseela, O. M., & Friday, A. (2021). Capital structure and profitability of listed deposit money banks in Nigeria. *Advances in Management, 20*(2), 235–242.

Sanyaolu, W., Siyanbola, T., & Innocent, O. (2021). Corporate governance and liquidity management: Evidence from Nigerian deposit money banks. *Iranian Economic Review, 25*(4), 791–801. https://doi.org/10.xxxxx/yyyyyyyyy

Scott Jr., J. H. (1977). Bankruptcy, secured debt, and optimal capital structure. *The Journal of Finance, 32*(1), 1–19. https://doi.org/10.1111/j.1540-6261.1977.tb03237.

Shekoni, N. A. (2019). Influence of capital adequacy on asset quality of microfinance banks in Nigeria. An unpublished Master dissertation, Lagos State University, Ojo.

Suhartono, M. A., & Notodihardjo, F. S. (2010). Bank claims on private sector and monetary policy channel. *Journal Keuangan dan Perbankan, 14*(3), 425–434.

Takon, S. M., Eba, A. O., Akagha, B. O., Matthias, S. A., & Chukwuma, C. C. (2021). Capital adequacy and the performance of deposit money banks in Nigeria. *International Journal of Economics and Financial Management, 6*(1), 50–61.

Tekatel, W. L. (2019). Financial performance analysis: A study on selected private banks in Ethiopia. (Executive Master of Business Administration, Andhra University, Visakhapatnam).

Tonbira, L., & Zaagha, S. (2016). Capital adequacy measures and banks performance in Nigeria. *Journal of Finance and Economic Research, 3*(1), 15–34.

Yakubu, S., & Olayemi, F. (2024). Cost of credit and industrial growth in sub-Saharan Africa. *Global Economic Review, 16*(2), 32–47.

Yunisa, A. S., & Shekoni, N. A. (2020). Influence of capital adequacy on asset quality of microfinance banks in Nigeria. *KASU Journal of Economics and Development Studies, 8*(1), 33–46.

Zogning, F. (2017). Agency theory: A critical review. *European Journal of Business and Management, 9*(2), 1–8. https://www.iiste.org/Journals/index.php/EJBM/article/view/34900/