The Influence of Treasury Management on the Performance of Listed Deposit Money Banks in Nigeria

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Abstract

This study explores the influence of treasury management on the performance of listed deposit money banks in Nigeria. A multiple regression model consisting of hypothesised treasury management and performance was formulated and subjected to various diagnostic and robustness tests to ascertain the Best Linear Unbiased Estimators (BLUE) in the model. Treasury management was proxied by Credit Ratio, Loan-to-Deposit Ratio (LDR), and Loan-to-Asset Ratio (LAR), while bank performance was the dependent variable. Using regression analysis on cross-sectional data from listed Nigerian DMBs, diagnostic tests including the Breusch-Pagan/Cook-Weisberg test, Hausman specification test, and Lagrange Multiplier test were conducted to validate the model choice. The pooled regression results reveal that treasury management explains approximately 48% of the variation in bank performance. Specifically, Credit Ratio and Loan to Asset Ratio exhibit positive and statistically significant effects, while Loan to Deposit Ratio shows a negative and insignificant relationship with performance. The findings imply that asset composition and effective credit allocation are critical determinants of bank profitability, whereas aggressive loan expansion relative to deposits does not guarantee improved outcomes. Comparative evidence from international studies further supports these conclusions, highlighting that profitability is more strongly associated with prudent asset-liability management and quality asset deployment than with high Loan to Deposit Ratio levels. The study concludes that sustainable performance of Nigerian DMBs is best achieved through optimizing the mix of earning assets, strengthening credit appraisal and monitoring, and maintaining robust liquidity and risk management frameworks. It recommends that both bank managers and regulators focus on enhancing asset quality and aligning treasury practices with international best standards, rather than relying on deposit-driven lending ratios as performance benchmarks.

Keywords: Treasury management, Credit ratio, Loan-to-deposit ratio, Loan-to-asset ratio, Bank performance, Nigeria

1.0 Introduction

In banking and other businesses nowadays, treasury refers to an entity's funds. In the same vein, treasury management refers to making the most of those funds. The term may sound robust, but in fact treasury management can be remarkably modest to implement and sustain (ICSI, 2024, p.398). In essence, some good treasury management amenities can all but run itself. That means less work and, often, lower cost, which translates to higher earnings. Treasury management is no longer the exclusive domain of corporate giants that can afford in-house departments; even small to midsize companies can have easy, low-cost access to proficient treasury management tools. All it takes is a Nigerian deposit money bank that is forward-thinking enough to provide them. The right mix of treasury management services can help simplify and accelerate the day- to-day financial operations of any business (Gyamfi, 2017, p.2); however, getting the right mix of treasury management tools being used and how they affect performance needs to be empirically substantiated; this motivates the epistemological need to propose for exploring the study variables within the demographic realms of listed Nigerian deposit money banks as a service to fundamental research.

Treasury management is synonymous to planning, organising and controlling cash and borrowings so as to optimise interest and cash flows, and minimise the cost of handling funds; in the same vein, it also refers to the handling of all financial matters involving the generation of external and internal funds for business, the management of currencies and cash flows, and the complex strategies, policies, and procedures associated with corporate finance (ICSI, 2024). It involves ensuring that proper funds are available with the company at the time of outflow required and also that funds are not kept unutilized for a long time unnecessarily, which requires investing/divesting funds in open ended mutual fund schemes. The scope of treasury management includes the management of cash flows, banking, money-market and capital-market transactions, as well as the effective control of the risks associated with those activities in the pursuit of optimum performance consistent with those risks. It is against this backdrop, that in this proposition, liquidity, current ratio, loan to deposit ratio and loan to asset ratio were sought to be adapted as metrics for treasury management in this study (Aleksandra, 2021; Gyamfi, 2017). By and large, liquidity measures a bank's ability to pay short-term liabilities or obligations as they fall due; however, current ratio draws attention to the ability of a financial institution to manage withdrawals and deposits such that equilibrium is established; meanwhile, loan to deposit and loan to asset ratio is a capital structure variable and a common indicator of capital adequacy (Wangui, 2019; Gyamfi, 2017; Aleksandra, 2021). Jensen and Meckling (1976) defined such a problem (treasury management, firms attribute and Performance) as a principal-agent problem which could affect firm performance and value, where the principal is the shareholder and the agent is the board management. Taking these conflicts into consideration, rules and guidelines are needed to ensure that firms are well governed by the board and directed to achieve success and stability, as without such guidelines and regulations, these conflicts will affect firm performance.

Appreciating different aspects of performance measurement and choosing relevant measures are essential for pursuing research objectives. Performance measurements offer insights into appropriate measures for answering research questions. However, it is not always agreed on what performance measures should be employed and used (Haniffa & Hudaib, 2006). The outcomes obtained from prior studies are neither conclusive nor definitive; for that reason, the contribution of new evidence from the perspective of Nigerian DMBs will improve the state of knowledge vis-à-vis the questions raised in this exploration; in essence, to know whether the composition of the board affects performance and, furthermore, determine if that composition affects the relationship between treasury management and performance of the firm is a posteriori quest to expand the barrier of knowledge as a service to basic research.

In recent times, treasury management has often been in the news particularly in situations where things have gone wrong especially within the Nigerian Banking sector. For instance, losses of billions of Naira over un-colatarised loans and dude assets that led to the emergence of Asset Management Corporation of Nigeria in 2010 as well as increase in their capital base (that indicate weaknesses in the bank’s internal controls, especially in currency risk management) with a view for more efficient treasury management by the CBN in the sector constitute a major problem that justifies the need for proposing an empirical exploration of whether there is an association between treasury management and performance of listed deposit money banks in Nigeria. Additionally, the apprehension is that DMBs hold larger deposits compared to other financial or noncommercial banking institutions. Thus, efficient management of the treasury has an impact on the sustainable growth of the banking industry and the economy at large (ICSI, 2024; Aleksandra, 2021; Osibanjo, et al., 2020).

For that reason, any problem in the treasury management of DMBs have an immediate effect on financial markets, and financial systems at large; which can indirectly influence the country’s economic system. On the other hand, there is an apparent paucity in the extant literature on the mixture of liquidity, current ratio, loan to deposit ratio and loan to asset ratio as combined and used as treasury management metrics like in this study to be examined against performance of Nigerian banks; in this proposition, this provides a literature and variable gap in knowledge that needs to be explored within the Nigerian DMBs context. The banking industry in Nigeria is currently going through transformation due to the new products and services being introduced by the banking industry as a result of globalization and the adoption of new technologies. It is therefore imperative that every bank operates at optimum efficiency to keep up with the growing demand. However, the literature, variable, demographic and methodological gaps identified within the extant literature provides a gap in knowledge that needs to be filled within the realms of positivism in critical realism. It is for this reason that the researcher undertakes this study to help in expanding the barrier of knowledge within epistemological research paradigm of basic research (Aleksandra, 2021; Tabacllnick & Fidell, 2019; Gyamfi, 2017; Saunders, Lewis, & Thornhill, 2016). It is against these background and considering the huge amount of resources in form of agency costs that shareholders commit to good treasury management that provides an effective treasury control that enriches the relation between firm attributes and performance for the sake of sustainability and posterity, that this study sought to examine the influence of treasury management on performance of listed deposit money banks in Nigeria.

2.0 Literature Review and Hypothesis

Treasury management has become a crucial component of the financial performance and sustainable growth of banks. Consequently, difficulties with treasury management practices have an immediate impact on the banking industry and financial system as a whole, which can have an indirect effect on the economic growth and development of the nation. Olugbenga (2023) study used secondary data extracted from annual reports of quoted deposit money banks (DMBs) in Nigeria. Panel data analysis was utilized. Descriptive statistics, correlation matrix and ordinary least square (OLS) were employed. The explanatory variables in his study were bank deposit liabilities and earning assets whereas return on assets (ROA) and return on equity (ROE) were used as proxies for bank financial performance. The DMBs' data was evaluated using appropriate statistical methods. According to the findings of the study treasury management practices influence the financial performance and sustainability of Nigerian DMBs. He argued that, given the highly competitive nature of the industry and the demands for financial performance, the study concluded that there is a need for a strong, effective and efficient treasury management strategy that will maximise returns, increase the value of the company's shares and maximise shareholder wealth (Olugbenga, 2023). It is against this background, and considering the variable gap in knowledge going by the proxies used to define TM by Olugbenga and the theoretical and literature gaps identified within the extant literature and as captured in chapter two of this study that warrants the need for this study.

It was argued that, retail banks use Asset Liability Management (ALM) to hedge interest rate risk associated with differences in maturity and predictability of their loan and deposit portfolios. However, the opposing goals of profiting from maturity transformation and hedging interest rate risk while adhering to numerous regulatory constraints make ALM a challenging problem. Englisch, et al., (2023) formulate ALM as a high-dimensional stochastic control problem in which monthly investment and financing decisions drive the evolution of the bank's balance sheet. To find strategies that maximize long-term utility in the presence of constraints and stochastic interest rates, they train neural networks that parametrize the decision process. Their experiments provide practical insights and demonstrate that the approach of Deep ALM deduces dynamic strategies that outperform static benchmarks in TM.

Meanwhile, a Kenyan study suggests that Treasury management importance cannot be underestimated particularly for sustained financial performance of commercial banks. The study was guided by risk management theory and liquidity preference theory. 43 licensed commercial banks in Kenya were studied to achieve the study objectives. Data was obtained from secondary data sources and primary data sources using a questionnaire. The findings were that four main treasury management practices were adopted by the commercial banks and included funding strategies, investment strategies, liquidity management and risk management. The treasury management practices studied were perceived to explain 67.6% of the financial performance of the studied commercial banks in Kenya. The number of significant treasury management practices reduced with increase in bank size. The study concluded that funding strategies, investment strategies, liquidity management and risk management strategies were the main determinants of financial performance among commercial bank. However, evaluation of the size of the commercial banks was concluded to be paramount during the formulation and integration of the treasury management decisions. The study recommended that treasury management practices should be a target mainly for small and medium commercial banks that seek to increase their financial performance. Additionally, the researcher recommended that the management of the banks should institute appropriate internal mechanisms to put mechanisms of having periodic and regular review of the treasury practices in line with their bank size. The study ensured originality in defining the research and adopted content where all sources were fully recognized. The study limitations included data collection confidentiality concerns and extracting of data from the financial statements due to varying reporting by commercial banks (Wangui, 2019). It is against these background and considering the huge amount of resources in form of agency costs that shareholders commit to good TM structure for the sake of sustainability and posterity vis-à-vis performance that prompts the need to propose with a view to study the influence of TM on performance of listed DMBs in Nigeria. It is against these backgrounds that; the adjoining hypothesis was formulated for the study.

Ho: Treasury Management do not significantly influence performance of listed deposit money banks in Nigeria.

3.0 Theory and Methods

Exploration design was explained by Saunders et al. (2016, p.55) as a "strategy that guides the research process, which may include the bases upon which a researcher proposes to gather data, how data is collected and analysed". It also refers to the general plan and conditions for data collection and analysis, relevant to the research purpose. A triangulation of quantitative, descriptive and exploratory research designs is utilised in the study. This qualitative and descriptive design was chosen because numerical data were collected and described in a quest to answer some of the research questions. Epistemologically, a survey strategy and deductive approach was adopted for this study. Likewise, this study is a cross-sectional time-horizon single-country study. The working population (sample) is 193 staff out of all the staff of DMBs quoted on the NEG as filtered based on some purposive criteria's (a purposive and non-probabilistic sampling technique). Multiple regression" examines the affiliation between the dependent variable (performance) as well as autonomous variables (Treasury Management) in an exploratory research of this nature. The multiple regressions was utilized in examining all the suppositions of this explorations due to previous explorations of performance and treasury management as Chu et al., (2020); Rajkovic, (2020); among others cited in their studies.

Model Specification

1) ROA = β0+β1CRit+β2LDRit+β3itLAR+ ∑………. (1)

Where;

β0…, βk is the regression model coefficients of the independent variables

x 0…, x k is the parameters of the explanatory variables

∑ is the random error term at a given period or point in time

Where;

ROA = Return on Assets.

X_1 = CR = Credit Ratio

X_2 = LDR = Loan to Deposit Ratio

X_3 = LAR = Loan to Assets Ratio

4.0 Results and Discussion of Findings

The study's hypotheses were set to examine the influence of the components of treasury management on the performance of listed deposit money banks in Nigeria using regression analysis as a test tool. It investigates the relationship between the predicting and predictor variables. Therefore, the following preliminary assumptions on the study hypotheses were put to test to fulfil the study expectations;

Heteroscedasticity Test

The result of the Breusch-pagan/Cook-Weisberg test for heteroscedasticity reveals that the data is heteroscedastic and not homoscedastic. This is evidenced by the significant p-value of 0.0287, suggesting that Ordinary Least Square (OLS) is not the Best Linear Unbiased Estimator (BLUE hereafter) for this model, suggesting the need to deploy General Least Square (GLS) as the BLUE. There is a trade-off between the efficiency of the GLS random effect model and the consistency of the GLS fixed effect model; hence, there is a need to adopt the Hausman specification test to help choose between the two GLS models (Gujarati, 2003; Tabacllnick & Fidell, 2019).

Hausman Specification Test

Hausman specification test is performed to decide between fixed or random effect models. It tests whether the unique errors (term error denoted by ε) correlate with the regressors. The test reveals a p-value of 10.13, which indicates that the Random Effect model is selected as the most appropriate of the study models.

Lagrange Multiplier Test

The selection of the random effect model as above prompts the need to subject the model to the Lagrange Multiplier Test (LM Test) to confirm the appropriateness of the choice made by the Hausman specification test. The null hypothesis under LM is that the pooled regression model is appropriate, while the alternate hypothesis is that the Random effect model is more appropriate. Results from this study shows a P-value of 1.000; this suggests that the null hypotheses cannot be rejected; hence, the pooled regression model is adopted to test the study's model after satisfying all the assumptions for multiple regression. Hence, Table 4.1 shows the pooled regression model result used to examine the influence of treasury management tools (proxied by Credit Ratio, Loan to Deposit Ratio and Loan to Assets Ratio) on performance of listed deposit money banks in Nigeria.

Table 4.1: Pooled Regression Results for the Study Hypotheses

Variables	**Coefficient**	**t**	**p>/t/**	**Decision**
Constant	1.334056***	3.37	0.001	
Credit Ratio	0.120598*	1.82	0.081	+Significant (Rejected)
Loan to Deposit Ratio	- 0.1613824	-1.05	0.394	-Insignificant (Not Rejected)
Loan to Assets Ratio	0.5545182***	8.15	0.000	+Significant (Rejected)
Mean VIF			1.05	
Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity			0.0287	
Hausman Specification Test			10.13	
Breusch and Pagan Lagrangian Multiplier Test for RE			1.0000	
Adjusted R^2			0.4845	
Prob > F			0.0000	

* p<0.1, ** p<0.05, *** p<0.01 mean significance at 10%, 5% and 1% level respectively

Table 4.1 presents the coefficients and p-value of the pooled regression model result on the influence of treasury management (proxied by Credit Ratio, Loan to Deposit Ratio and Loan to Assets Ratio) on performance of listed deposit money banks in Nigeria. The results revealed an R^2 0.49, which is the multiple coefficient of determination that gives the proportion or percentage of the total variation in performance of banks explained by treasury management (explanatory/predictor variable). Accordingly, it indicates that 49% of the total variation in performance of listed deposit money banks in Nigeria is caused by treasury management. In comparison, the remaining 51% of the total variation in performance of banks is caused by factors not explained by the model. By and large, the positive coefficient (1.334) of the model regarding the influence of treasury management on performance in listed deposit money banks in Nigeria indicates that the higher the treasury management components, the greater the performance of listed deposit money banks in Nigeria. However, with a p-value of 0.0000 (less than 0.05), the null hypothesis is rejected and the alternate hypothesis is accepted, that treasury management significantly influence performance of listed deposit money banks in Nigeria.

Credit Ratio, as the first metric for treasury management in this study was found to have a positive and significant impact on performance, with a coefficient value of 0.1206 and a p-value of 0.081. The positive coefficient of credit ratio influence on performance indicates that the greater the credit ratio components mix, the greater the performance of listed deposit money banks in Nigeria. However, with a p-value of 0.081 (less than 0.1), the null hypothesis is rejected at 0.1. Hence, it is concluded that, credit ratio as a component of treasury management has a significant influence on performance of listed deposit money banks in Nigeria. Furthermore, implying that more effective allocation of credit resources supports performance. This is consistent with Nigerian literature (e.g. Olunuga et al., 2023) emphasizing the role of optimal credit deployment in achieving bank sustainability. This implies that higher credit allocation boosts bank performance, consistent with the findings of Olunuga et al. (2023), who emphasize the role of efficient treasury practices in improving bank sustainability. Similarly, Ele (2025) found that sound credit risk management, including adequate loan provisioning, is crucial in sustaining profitability among Nigerian banks.

Loan to Deposit Ratio, as the second metric of treasury management in this study was found to have a negative and insignificant impact on performance, with a coefficient value of -0.161 and a p-value of 0.394. The negative coefficient of loan to deposit ratio influence on performance indicates that the greater the loan to deposit ratio components mix, the lesser the performance of listed deposit money banks in Nigeria. However, with a p-value of 0.394 (more than 0.1, 0.05 and 0.01), the null hypothesis cannot be rejected. Hence, it is concluded that, loan to deposit ratio as a component of treasury management has no significant influence on performance of listed deposit money banks in Nigeria. This suggests that aggressive lending funded by deposits does not reliably boost performance and may strain liquidity or risk exposure. The result is in line with certain empirical studies in Indonesia, where LDR showed no significant effect on profitability (Steven & Nagian, 2020). Similarly, Rengasamy (2014) found mixed evidence from Malaysia (panel evidence) on the effect of LDR on profitability. Even globally, the MDPI study by Petriá, Schaeck & Čihak (2023) reports that while LDR influences profitability positively in many settings, its effect is context-sensitive and not uniformly robust across all banking systems.

Loan to Asset Ratio, as the third metric of treasury management in this study was found to have a positive and significant impact on performance, with a coefficient value of 0.555 and a p-value of 0.000. The positive coefficient of loan to asset ratio influence on performance indicates that the greater the loan to asset ratio components mix, the greater the performance of listed deposit money banks in Nigeria. However, with a p-value of 0.000, the null hypothesis is rejected. Hence, it is concluded that, loan to asset ratio as a component of treasury management has a significant influence on performance of listed deposit money banks in Nigeria. This underscores the importance of efficient asset utilization, where loans constitute the primary earning assets. Barakat et al. (2024) similarly note that while loans can boost performance, asset quality must be safeguarded, as deterioration in loan portfolios adversely affects profitability. Uguta et al. (2024) also found that treasury asset allocation, particularly investments in earning assets, enhances bank performance in the Nigerian context.

5.0 Conclusion and Recommendation

This study examined the relationship between treasury management components — Credit Ratio, Loan-to-Deposit Ratio (LDR), and Loan-to-Asset Ratio (LAR) — and the performance of listed Deposit Money Banks (DMBs) in Nigeria. The findings reveal that Credit Ratio and Loan-to-Asset Ratio are positively and significantly associated with bank performance, while Loan-to-Deposit Ratio has a negative and statistically insignificant effect. These results suggest that effective credit allocation and the optimization of earning-asset composition are reliable drivers of profitability in the Nigerian banking sector, whereas aggressive deposit-driven lending strategies (high Loan-to-Deposit Ratio) do not consistently enhance performance. Cross-referencing with international evidence affirms that this pattern is not unique to Nigeria. Global studies show that bank profitability depends more on prudent asset composition and credit quality than on Loan-to-Deposit Ratio, whose effect is highly context-dependent. In many banking systems, excessive reliance on deposits to fund loans has produced liquidity risks and mixed profitability outcomes. Conversely, higher proportions of earning assets, when supported by sound credit risk management and asset-liability balancing, consistently improve returns. Thus, the overarching conclusion is that bank performance is more sustainably driven by the quality and efficiency of asset deployment than by aggressive lending relative to deposits.

Recommendations

Based on the empirical evidence and conclusion reached, the following recommendations are offered:

1. Asset Mix Optimization: Nigerian DMBs may perhaps focus on increasing the share of high-quality earning assets (loans and advances) in their portfolios relative to total assets, while ensuring adequate diversification and credit monitoring.

2. Credit Appraisal and Monitoring: Expanding credit requires strong underwriting standards, periodic loan reviews, and effective provisioning policies to safeguard asset quality.

3. Liquidity and Risk Management: Regulators and bank managers may perhaps not equate high Loan-to-Deposit Ratio with profitability. Instead, banks ought to maintain robust liquidity buffers and strengthen asset-liability management to mitigate risks from volatile deposit bases.

4. Regulatory Calibration: The Central Bank of Nigeria (CBN) may perhaps tailor its prudential regulations to incentivize quality asset growth and prudent risk management, rather than setting rigid Loan-to-Deposit Ratio targets that may encourage unhealthy lending practices.

5. Benchmarking with International Best Practice: Nigerian banks should benchmark their treasury management frameworks against global standards, adopting flexible strategies that balance profitability, liquidity, and stability.

6. Future Research: Further empirical work could explore non-linear effects of Loan-to-Deposit Ratio, interactions between credit quality and profitability, and cross-country comparisons using African panel datasets to provide a more holistic picture of banking performance drivers.

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