The Impact of Tangibility, Leverage, and Liquidity on the Profitability of Listed Deposit Money Banks in Nigeria

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Abstract

This study examines the influence of firm-level attributes—leverage, tangibility, and liquidity—on the profitability of listed deposit money banks in Nigeria. Using panel data and applying Generalized Least Squares (GLS) regression under the Fixed Effects specification, the analysis accounts for heteroscedasticity and potential endogeneity through diagnostic tests, including the Hausman specification test. The results reveal that tangibility and liquidity exert positive and statistically significant effects on profitability, while leverage has a negative but insignificant relationship with profitability. The model explains approximately 57% of the variation in profitability, confirming its robustness and explanatory power. The findings suggest that Nigerian deposit money banks rely more on tangible assets and liquidity management to enhance performance, whereas high leverage does not contribute significantly to profitability in the current financial environment. The study provides policy implications for bank regulators, emphasizing optimal capital structuring and the maintenance of adequate liquidity buffers under Basel III requirements.

Keywords: Profitability, Leverage, Tangibility, Liquidity, Deposit Money Banks

1.0 Introduction

Company attributes are those distinctive features peculiar to companies by which they can be identified with and can be viewed from different perspectives that may be performance or structural perspective: Performance attributes in terms of liquidity, asset performance attributes in terms of tangibility, ownership structure attributes in terms of leverage, audit structure attributes in terms of the structure of audit committee among others. Performance attributes are those attributes that differ by time and allow one to identify a firm's performance, while company structure attributes are those attributes that are widely known and considered stable over time (Naser, Al-Khatib & Karbhari, 2022). The relative importance of company attributes to the survival, growth and development of a company both in the short-run and long-run is one of the motives for this study. Firm attributes are referred to as those incentive variables that are relatively sticky at firms' level across time; they are variables that affect the firm's decision both internally and externally (Shehu, 2022). The incentive variable ranges from ownership structures, firm size, leverage, profitability, Liquidity, firm growth among others. In view of the fact that Firm attributes plays an astute role in restraining managers from maneuvering the accounting figures which will eventually enhance the quality of reported accounting earnings. To this end, there have been inconclusive findings and divergent view in extant literatures as to whether Firm attributes have effect on profitability.

Profitability on one hand, is the primary goal of all business ventures especially when it involves debts financing (leverage), without profits businesses will not survive over time. Hence, measuring profits over time is very essential. On the contrary, a business that is highly profitable has the ability to reward its owners with a large return on their investment (Hofstrand, 2009). As shareholders evaluate their investments to know their financial situation, liquidity serves a vital role. Basically, liquidity means the ability of the company to convert liquid asset into cash within a short period of time, thus giving the owner of the asset greater financial freedom while assessing the financial health of their investments. Tangible assets are one of the two types of assets a business may own in its ownership structure (Investopedia, 2016). These assets contribute meaningfully to the value of the company over time. Leveraging tangibles makes companies financially strong for ease of access to external debts. For that reason, tangibility ratio as a company attribute represents banks worth and collateral for debts when the need arise.

From the foregoing, it is clear that liquidity, leverage and tangibility are essential company attributes in relation to profitability as it involves a wide variety of policy concern which may be external to the control of the management. It is against theses background and considering the huge financial ramifications of not getting the balance of company attributes in relation to profitability, which this study sought to examine the impact of

tangibility, leverage and liquidity on the profitability of listed DMBs in Nigeria. Several studies have been carried out on company attributes and profitability. Yet, consensuses have not been reached among the scholars. There are a number of notable contributions on firm attributes and profitability in developed, as well as developing countries, and these include that of Chen and Chen (2011), in Taiwan, Rajhans and Kaur (2013), in India, Hermuningsih (2013), in Indonesia, Granath and Thorsell (2014), in USA, Abdallah (2014), in Saudi Arabia, Kumar (2015), in U.A.E, and Abdullahi (2016), in Nigeria among others. However, most of these studies used limited number of firm attributes. The current study employs data comprising three different firm attributes, so as to have a robust result. It is therefore distinguished by the large variables that are considered.

These postulations made provides the need for more investigations into the corporate attributes phenomena in Nigeria's Deposit Money Bank and how it impacts the relation among firms' attributes and sustainability of the firms. Hereafter, using different variables, method, scope, and domain from the ones in the extant literature on study variables; there is an epistemological need to investigate the phenomena, tangibility, leverage, liquidity and how they actually affects the profitability of Nigerian Deposit Money Banks; these problems were mindfully identified in cognisance with the philosophy of positivism and critical realism. It is against these backdrop and considering the huge economic importance of tangibility, leverage, liquidity, and sustainability disclosure of Deposit Money Banks to the Nigerian Banks and coupled with the raising insecurity bedeviling Nigeria as a result of underemployment-driven socio-economic problems that this study examines the influence of tangibility, leverage, and liquidity on the profitability of Deposit Money Banks in Nigeria.

2.0 Literature Review and Hypothesis

Hassan et.al (2016) investigates the relationship between debt and profitability of firms with empirical evidence from the non-financial sector of Pakistan; using panel data of 10 years, ranging from 2003-2012. Random effect regression analysis is used to find out the impact of debt on profitability. Results indicate a significant but negative relationship between short term debt, long term debt, total debt, and return on assets. Similarly, Kajirwa (2015), sought to determine the effects of debt on firm performance. A survey of commercial banks listed on Nairobi Securities Exchange in Kenya. The study used a longitudinal research design in collection of data. The data was analysed using inferential statistics; correlation and regression model. The study found that debt negatively affects firm performance though not statistically significant as measured by ROA. Another study by Mohammad and Jaafer (2012) on 39 Amman Stock Exchange based companies analysed the role of debt on profitability. Their results establish significant negative relationship between short term debt, long term debt, total debt, and return on equity.

Maina and Kondongo (2013) in an attempt to validate Modigliani and Miller (1963) theory in Kenya, they examined the effects of debt-equity ratio on performance of firms listed at the Nairobi Securities Exchange for the period 2002- 2011. The study finds that firms listed at Nairobi Securities Exchange rely more on short term debt. The result also reveals that significant negative relationship exists between debt-equity ratio and all measures of performance. The result also provides support for MM theory that capital structure is relevant in determining the performance of a firm. In the same token, Ebaid (2009) investigate the impact of choice of capital structure on the performance of firms in Egypt. ROE, ROA, and gross profit margin were used as proxies for performance while financial leverage was measured using short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression technique was applied to determine the relationship between the leverage and performance. The result reveals that leverage has no impact on a firm's performance.

In the same vein, Rajkovic (2020, p.12) discovered that the existence of a principal autonomous executive on the company panel is positively related with venture efficacy; also, the outcome was found to be more evident in companies with fragile Corporate Governance ethics, unfair economic confession, and more economic constrictions. The chief executive panel title role was found to be positively connected with impending corporate performance that was utilized as control variable in the study. This studies under review affirms the inconsistency in findings on board characteristics and performance as suggested as part of the problem in chapter one of this dissertation. Problems associated with developed and developing country findings lack of consensus were also laid bare, hence, the need for this study.

Bhushen and Mahinder (2016), used Debt To Equity, Debt Ratio, Gross Profit Ratio and Return on Capital Employed on Profitability proxy by ROE to measure the impact of capital structure on firm's profitability on listed cement industries India and found a significant negative relationship between debt and profitability meaning that companies with higher proportion of debt tend to have low profitability. These findings are in support of the pecking order theory expected standard signs on the relationship between leverage and profitability, which are contrary to that of trade-off and agency theory with positive signs. Positive relationship were also established by Patel (2014) on the relationship between return on capital employed (ROCE), return on equity (ROE), return on assets(ROE) and earnings per share(EPS) with operating leverage, financial leverage and total leverage. Regression model was employed and found that the overall model is statistically significant; the coefficient of DOL, DFL and DTL is positive with ROE but not significant. However, the overall model is statistically significant, the coefficient of DOL and ROA is significant positive, coefficient of DFL and ROA is negative and

coefficient of DTL and ROA is positive but not significant. The result concluded that Sabar Dairy used the operating leverage, financial leverage and total leverage satisfactorily.

So also, Idode et al., (2014) examines the influence of capital structure on profitability of listed Nigerian banks, data was obtained from the listed banks on the Nigeria Stock Exchange (NSE) from 2008 to 2012 covering a period of five years. For this study, expo-factor descriptive research design was adopted and multiple regression technique was applied. The dependent variable for the study is Return on Assets (ROA) measured as Earnings before tax (EBT) divided by total assets. The independent variables are total debts to total assets ratio (LEVI) and equity to total assets (LEVII). The findings of this study show that capital structure has a significant positive influence on the profitability of Nigerian banks during the period of study. Likewise, Al-shamaileh and Khanfar (2014) find the existence of a statistically significant impact for the independent variables (financial leverage and ROI) of the Tourism companies on the Profitability. Moreover, this study concluded that the independent financial variables explain the 4.4% percentage of changes occurring in the Profitability since they are considered as the dependent variable. Furthermore, the results indicate the presence of a statistically significant impact for the financial leverage on the Profitability of the Tourism companies listed in the Amman Exchange.

One of the few studies in Nigeria from the early years of this past decade was authored by Amedu (2016); results of the study reveal that when the possible effect of firm size was controlled for, CEO power has a significant positive effect on company financial performance as measured by share price performance, ROA and Tobin's Q. These results support the theories of agency, entrepreneurial, institutional, resource based, leader life cycle and contingency. They results support theoretical explanations and views that powerful CEOs are more likely to be innovative, to give force and direction to corporate sustainability strategy thereby increasing entrepreneurialism, to take risky strategic decisions that generate an average higher profits for shareholders than are less powerfully positioned CEOs. This Nigerian study was carried out on one component of Corporate Governance mechanism, there is need to improve on this by increasing other variable as there are other company attributes as captured in section one of this proposition; hence, utilized as one of the variable gap that needs to be augmented. It is against these background and considering the sensitivity of tangibility, leverage and liquidity to the perpetual sustenance of profitability in the Nigerian banking sector that this study sought to examine the effect of tangibility, leverage, and liquidity on the profitability of Deposit Money Banks in Nigeria. It is against these backgrounds that; the adjoining hypothesis was formulated for the study.

H_0: Tangibility, Leverage and Liquidity does not significantly influence the profitability of Nigeria's deposit money banks.

3.0 Theory and Methods

Agency theory posits that an agent-type relationship exists between shareholders and managers; managers as agents of shareholders are required to act in the interest of the latter. However, managers do not always act in the interests of shareholders, but seek a range of personal benefits (higher salaries, additional earnings, job security and sometimes securing assets or cash flow). Recent research has shown that, although shareholders can deter such transfers of value (through the oversight, monitoring and control mechanism), the perfect monitoring of managers remains an unattainable goal.

Jensen and Meckling (1976) predicted the choice of leverage based on the existence of agency costs, i.e. costs due to conflicts of interest. According to them, there are essentially two sources of conflicts. Conflicts between shareholders and managers arise since managers have an incentive to consume on perquisites while putting less effort on maximizing profit for the firm. This is because managers bear the entire costs of pursuing profit maximization while they do not receive the entire gain. By increasing the level of debt, this agency cost of managerial discretion can be mitigated.

However, increasing debt level may give rise to another type of agency cost, namely conflicts between shareholders and debt-holders. The conflicts arise due to shareholders' incentive to invest in suboptimal projects. Returns to debt-holders are fixed. If an investment earns a return well above the face value of debt, shareholders would receive most of the gain, but if the investment fails debt-holders will bear all the cost because the maximum amount that shareholders can lose is the amount of their investments (limited liability). Consequently, shareholders will have preference for investing in highly risky projects even though they are value-decreasing. This agency cost of debt financing is referred to as "asset substitution effect". Accordingly, the optimal capital structure choice involves balancing the trade-off between the benefit of debt arising from mitigating the agency cost of managerial discretion against the agency cost of debt arising from "asset substitution effect".

Research methodology was explained by Saunders et al. (2016, p.55) as a "strategy that guides the research process, which include the bases upon which a researcher proposes to gather data, how data will be described and analysed". It also refers to the general plan and conditions for data collection and analysis, relevant to the research purpose. A combination of quantitative, descriptive and exploratory research designs will be utilised in the study. This qualitative and descriptive design was chosen because numerical data proposed to be collected and described in a quest to answer the research questions. Epistemologically, an archival research strategy (ex facto/non-survey) and deductive approach are adopted for this study. The choice was borne out of the fact that the study will utilise archived secondary data. Likewise, this study is a longitudinal time-horizon single-country study. By and large,

facts for this study will be collated from the financial records of the Deposit Money Banks listed on the Nigerian Exchange Group for epoch of twelve years (2014 - 2024).

The working population (sample) to be extracted from the population of Deposit Money Banks listed on the Nigerian Exchange Group will be filtered based on some criteria's (a purposive sampling technique). The under listed criteria as adapted from the works of Rodriguez et al., (2020); Derashid and Zhang, (2003); and Zimmerman (1983), will be:

i. Banks that are not listed within these period are excluded.
ii. Banks without financial data required for exploration are going to be excluded.
iii. Banks with so many omitted information as well as those with no reported activity from 2014-2024 are going to be excluded.

The earliest and last filter condition will be to safeguard the comprehensive reflection of the disclosure behavior of Banks in the whole period captured by the study as well as to satisfy the minimum requirements of an archival study. The application of the above criteria results will lead to the emergence of the working population to be utilized for the study.

Multiple Regressions Analysis and all it associated robustness tests will be utilized to examine the affiliation amongst the moderating, explained and explanatory variables. Panel data analysis is proposed for data analysis due to longitudinal nature of the data. The Multiple Regressions are proposed to test all the hypotheses of the study due to Prior studies of corporate attributes such as Zangina (2024), Baba et al., (2023), Bempah (2023), and Zimmerman (1983).

Model Specification

$ROA = \beta 0 + \beta 1it\ TNG + \beta 2it\ LIQ + \beta 3it\ LEV + \varepsilon$..... (1)

Where;

	B0..., βk is the regression model coefficients of the independent variables
x0..., xk	is the parameters of the explanatory variables
ε	is the random error term
it	at a given period or point in time

Where;

LEV= Leverage

TNG= Tangibility

LIQ= Liquidity

ROA= Return on Assets serving as a proxy for profitability

4.0 Findings and Discussion

The GLS regression result is presented after preliminary test of its assumption that affirms the heteroscedastic nature of the study model with a p-value of 0.012. In order to examine whether endogeneity exist, which could potentially lead to biased coefficient, a Hausman specification test to make the choice between Fixed Effect (FE) and Random Effect (RE) regression is performed. This test is necessary considering that there is a trade-off between the efficiency of the random effect and the consistency of the fixed approach. The test also determines whether the estimates of the coefficients, taken as a group, are significantly different in the two regressions. The result of the Hausman test reveals that fixed effect (FE) model is more efficient than the random effect (RE) model as evident by the p-value of 0.011 at 5% level of significance, hence, the random effect is rejected in favour of the fixed effect model. Therefore, Table 4.1 presents the coefficients of GLS regression result on leverage, tangibility, liquidity and return on assets (proxy for profitability).

Table 4.1: GLS Regression Results

Variables	**Coefficient**	**t**	**p>/t/**
Constant	128.5658	3.35	0.000
WLEV	-13.7593	-1.52	0.133
TNG	7.020156***	3.88	0.000
WLQD	2.287986***	6.18	0.000
Mean VIF			2.77
Hettest			0.012
Hausman			0.011
Xttest()			1.000
R^2			0.567
F(4, 58)			16.04
Prob > F			0.000

* p<0.05, ** p<0.01, *** p<0.001 mean significance at 5%, 10% and 1% level respectively

Table 4.1 present the coefficients and t-statistics of GLS (fixed-effect) regression result on leverage, tangibility, leverage and profitability. The GLS regression results reveal the cumulative R^2 (0.57) which is the multiple coefficient of determination that gives the proportion or percentage of the total variation in the dependent variable (profitability prixied by return on assets) explained by leverage, tangibility, and leverage. Hence, it signifies that 57% of the total variation in profitability of listed deposit money banks on the Nigerian Exchange Group are caused by leverage, tangibility, and leverage; while the remaining 43% of the total variation in the total profitability was caused by factors not explained by the model. This indicates that the model is fit and the company attributes variables are properly selected, combined and used as substantial determinants of profitability for listed deposit money banks in Nigeria. This can be confirmed by the p-value statistics of 0.000 at 5% level of significance, confirming the rejection of the null hypotheses and acceptance of the alternate hypotheses, that, tangibility, leverage and liquidity does significantly influence the profitability of Nigeria's deposit money banks. The coefficient of leverage is negative (-13.76) but statistically insignificant ($p = 0.133$). This implies that higher levels of leverage tend to reduce profitability, though the effect is not statistically strong. This finding aligns with pecking order theory, which suggests that excessive reliance on debt financing increases interest obligations and financial risk, potentially eroding profitability (Myers & Majluf, 1984; Modigliani & Miller, 1963). The coefficient of tangibility is positive and highly significant ($\beta = 7.02$, $p < 0.001$). This indicates that banks with higher tangible asset holdings tend to achieve greater profitability. Tangible assets provide collateral for debt financing and signal financial strength, consistent with prior empirical findings (Abubakar, Sulaiman, & Haruna, 2018; Rajan & Zingales, 1995). Liquidity has a positive and significant effect on profitability ($\beta = 2.29$, $p < 0.001$). This suggests that banks with stronger liquidity positions are better able to meet short-term obligations, fund lending operations, and capture profitable opportunities, ultimately enhancing their returns.

5.0 Conclusion and practical policy implications

The regression analysis provides strong evidence that tangibility and liquidity are critical determinants of profitability in Nigerian deposit money banks, while leverage has a negative but statistically insignificant effect. The significance of tangibility highlights the strategic role of physical and financial assets in supporting banking operations and enhancing profitability. Liquidity, on the other hand, emerges as a vital determinant, reinforcing

the need for banks to maintain adequate short-term assets to meet obligations and pursue profitable opportunities. These findings have both theoretical and practical implications. Theoretically, they validate aspects of the trade-off and pecking order theories of capital structure, suggesting that while assets and liquidity can enhance firm performance, reliance on debt financing may erode profitability in volatile financial environments like Nigeria (Myers & Majluf, 1984; Modigliani & Miller, 1963). Practically, the results point to the need for prudent liquidity and asset management as part of banking strategy to ensure sustainable profitability. From a policy perspective, regulators such as the Central Bank of Nigeria should continue to emphasize liquidity adequacy requirements under Basel III principles while also encouraging optimal capital structuring among deposit money banks. For bank managers, the evidence suggests that growth strategies should prioritize strengthening tangible assets and liquidity reserves while exercising caution in debt financing. In summary, the findings demonstrate that the profitability of Nigerian deposit money banks is driven more by asset tangibility and liquidity management than by leverage. This reinforces the argument that effective internal financial management and asset structuring are crucial for sustaining bank performance in Nigeria's dynamic financial sector.

Practical and policy implications that arise from this study include firstly bank managers, who may perhaps prioritize strengthening liquidity positions and maintaining robust tangible asset bases to enhance profitability. Secondly, regulators like the Central Bank of Nigeria (CBN) may perhaps continue enforcing prudent capital adequacy and liquidity requirements that is consistent with Basel III provisions, to safeguard financial stability and bank performance. Finally, the results caution against indiscriminate borrowing, encouraging banks to balance debt financing with internally generated funds to avoid eroding profitability. By and large, the study establishes that profitability in Nigerian banks is strongly conditioned by how institutions manage their assets and liquidity buffers, while heavy leverage remains a less reliable performance driver. These insights provide a foundation for managerial decision-making, regulatory oversight, and future empirical studies in developing financial markets.

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