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Determinants of Firm Value of Deposit Money Banks (DMBS) in Nigerian Exchange Group

Raimi Adoke Hameed
Department of Business Administration, Federal University Gusau, Nigeria
rahameed@fugusau.edu.ng

Samaila Iliyasu
Department of Business Administration, Federal University Gusau, Nigeria
smilelamoo@gmail.com

Abdullahi Abubakar Yabo
Admin Department, Usman Dan Fodiyo, Teaching Hospital Sokoto abdullahisarki27@gmail.com

Abstract

The firm value of money deposit banks in Nigeria has been an issue of concern among the depositors. There could be some factors that hinder such value. As such, this study's aim is to investigate the firm characteristics on the firm value of 13 deposit money banks that are listed on the 31st of December 2025 under the umbrella of regulatory Nigeria Exchange of Group. The period covered during this study is 10 years, which consists of 2016-2025. In terms of measurement, firm value was connected to value of market equity plus debts of total divided by the summation all assets. Firm characteristics measured are as follows; firm size, (natural log of total assets), firm leverage, (total debt/total assets), firm age, (the number of years when firms are listed in Nigeria exchange group and start operation). The research design of Ex-post facto was employed in this study. During data analysis the following were obtained because of the nature of the study; descriptive statistics, regression analysis, random effect, fixed effect and hausman test analysis. After testing the hypotheses, firm age was found to have a strong relationship with firm value. Meanwhile, other variables which include leverage and firm size are negatively related to firm value. Therefore, the study recommends the managers of these industries to effectively utilize the industry's resources by investing the shareholder's money into profitable ventures and to ensure better returns.

Keywords: Firm value, firm size, leverage, firm age

1.1 Introduction

Research into the determinants of business value has intensified over time, particularly due to its

significance for stakeholders and the broader economy. In the banking sector, firm value is integral to economic growth, competitiveness, and employment generation, with robust firm value linked to higher returns for shareholders and increased gross domestic product (Alwan & Risman, 2023). Conversely, diminished firm value can precipitate industry crises, jeopardising competitiveness and financial stability, and adversely affecting stakeholder returns (Rizqa, Giri, & Muhammad, 2023). To maximise stakeholder interests, managers must balance diverse group priorities, thereby mitigating potential negative outcomes and divergent reactions on financial performance (Panda, Nanda, Hegde, & Paital, 2024). Consequently, firm performance in the banking sector remains a central concern for researchers, practitioners, and policymakers.

Historically, the value of money deposit banks in Nigeria has been a contentious issue, especially during periods of economic challenge. Key firm characteristics such as size, leverage, and age are frequently cited as influential factors in determining firm value, particularly in turbulent contexts

like the COVID-19 pandemic. The literature highlights the importance of these variables, noting that Nigerian banks faced significant obstacles in meeting investor expectations during the pandemic, which negatively affected operational outcomes (Abosede & Ibrahim, 2022). For instance, banks experienced a decline in cash holdings and profit before tax, with figures dropping from N222 billion in April 2015 to N198 billion in April 2016. Additionally, measures of financial strength such as return on assets and return on equity also declined, underscoring the volatility of firm value during economic shocks.

The overall profit after tax for the banking sector in the first quarter of 2016 was N90.7 billion, a marked decrease from N100.59 billion in the same period in 2015, highlighting the direct impact on shareholder returns. These trends indicate that firm value in Nigerian deposit banks is a persistent concern for investors and industry participants. The challenges to firm value have been linked to profitability, sales growth, and asset growth, all of which require close attention to enhance organisational value. Therefore, this study aims to investigate the effects of firm size, leverage, firm age, board size, and their relationship to firm value among money deposit banks in Nigeria, addressing gaps in prior research and providing insights for both practitioners and policymakers.

2.0 Concept Review

2.0.1 Concept of Firm Value

Firm is said to have value when the share price and return on investment of the shareholders are appreciating. That is to say that, if the share price goes up, then the firm value will goes up too. Investors' will presume that this company will give them high return in the future. If the demand increases, there is every tendency that, more investors would be attracted to invest on that company (Alkhataybeh, AISmadi, Shakhatreh & Khataybeh, 2022). In other words, firm value is the investor's perception of the success of a company. The increase in stock prices shows investor confidence in the company. They are willing to pay more to get a higher profit. High stock prices can provide a good signal to attract investors' interest in making investment decisions (Chang & Yang, 2022). In this study, value of the firm is measured as the ratio of the market value of a company's shares (share price) over its book value of equity.

2.0.2 Firm Characteristics

In this study, firm characteristics serves as the independent variable.

Firm Size

The size of the firm can be expressed differently as a result of their assets base or capital structure. By virtue of conceptualization, firm size is defined in terms of total assets, sales, and market capitalization that a company possess within a period of time. It is the total reflection of the assets owned by a company. Large companies can finance their investments easily because they have high sales growth rates and little asymmetric information occurs. This is by the Trade-Off theory, the greater the company, the company can use more debt because the risk of bankruptcy of large companies is lower. Large corporate debt is lower than that of small companies, thus encouraging companies to increase the use of more debt, so it can be said that the size of the company influences capital structure (Davidson & Rasyid, 2020: Salas-Molina, Rodriguez & Guillen, 2023). This will attract investors because they will impact the company's value later, so it can be said that the size of a company directly affects the value of the company (Pietrucha & Maciejewski, 2020). It is measured as book value of total assets.

Leverage

Leverage refers to the degree to which a firm's capital structure consists of long term debt and equity. As on one of the characteristics that shape the value of the firm, it can viewed that the leverage of the firm constitute to the use of fixed costs in an attempt to increase profitability (Senan, Ahmed, Anagreh, Tabash & Al-Homaidi, 2021). It is the degree to which a company uses debt or external funding in its operation. In addition, leverage ratios measures the relationship between the funds provided by the owners (shareholders) of a firm and funds provided by the creditors of the firm (Saona & Martín, 2018). It is measured as the long-term debt to total equity.

Age of the Firm

By virtue of definition, age is the length of time a firm has been in operation. By extension, a firm age is seen as a concept that attract customers to patronize such company because of their longevity in the business (Ryu & Won, 2022). For example, companies like peak-milk industry and first bank of Nigeria have both stayed for a longer period of time and are considered as the blue chip companies. It is measured as the time between the initial creation of a firm and the present time when the firm is still in operation (Yang, Hua & Hua, 2022).

2.1 Theoretical Review

Theory of agency cost is used to underpin the study (TOAC). The rationale behind using such theory over others is because of extant literature reviewed. The theory explains the relationship between firm characteristics and firm value. According to the agency theory, managers who have separate ownership and control over a business are more likely to act selfishly and self-centeredly, which means they will pay less attention to the interests of the shareholders. Because ownership and control are separated in an organization, managers may pursue goals unrelated to the company's, such as obtaining perks, selecting inputs or outputs based on personal preferences, or otherwise failing to maximize firm value. Importantly, Bandyopadhyay and Barua, (2016) described the agency cost theory of ownership as it is equivalent to the value that is lost when professional managers prioritize their own utility over the firm's worth. Increased financial leverage could have an impact on managers and lower agency costs by posing a risk of liquidation, which would result in salary losses for managers personally.

In a different development, highly leveraged companies can enhance their performance and lower the agency cost of outside equity, both of which raise firm value. Going by this, Can and Demiraj, (2023), asserted that companies that are highly leveraged in nature can reduce the level of disagreements over investment decisions between managers and shareholders. It suggests that the capital structure decision affects business performance by reducing agency costs (Bandyopadhyay & Barua, 2016). In addition to having an impact on the choices made regarding leverage when agency conflict arises, this theory also contributes to the understanding of the function that the board of directors plays in corporate governance when it comes to overseeing the firm's managers. As a governance tool, the board of directors assists in monitoring managers who prioritize their own interest

2.2 Empirical Studies and Formulation of Hypotheses

This section focused on the reviewed literature and the formulation of hypotheses in relation to the determinants of firm value of deposits money banks. In particular, the variables include the company value, which is the dependent variable, and the firm size, leverage, firm age, which are the independent variables and board size as control variable.

Firm size and Firm Value

The effect of firm attribute on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya was studied by Adegboyegun and Igbekoyi (2022). By time frame, it was noted that the period of their study was six years, from 2011 to 2016. Regressions with several variables were used. The study used a sample of thirty medium-sized firms and secondary data. The study found that enterprise characteristic significantly moderated the association between capital structures and financial performance. However, whilst size and age raised the explanatory powers for return on assets (ROA), they decreased the explanatory powers for explaining the variability in return on equity (ROE).

In a similar vein, Farouk, Magaji and Egga (2019) investigated the influence of firm attributes on the financial performance quality of quoted industrial goods companies in Nigeria. The research covering the years 2011–2018. As an analysis tool, the multiple regression technique was employed. Twenty industrial commodities make up the study population, of which 11 were used as a sample. Agency theory was applied to the study along with secondary data. The dependent variable is the quality of financial performance, while the independent variable is the corporate attribute. Board meetings, firm age, firm size, and leverage are used as stand-ins. The study's conclusions show that, while growth, ownership structure proxies, liquidity, and board meetings have a little but beneficial impact on a company's financial success, profitability and board meetings have a considerable but favorable influence.

H1: The value of the Nigerian deposit money bank industry is not significantly impacted by the firm size.

Leverage and Firm Value

In their research on leverage, agency costs, and firm performance in Turkey, Bİlen and Kalash (2020) employed the ordinary least squares (OLS) method to analyse data from 52 enterprises between 2008 and 2017. Their findings indicated that leverage negatively affected company profitability. To address methodological gaps in their approach, the current study will adopt a causal research design, focusing on a specific case to elucidate the patterns and relationships among leverage, firm characteristics, and performance within the Nigerian banking sector.

Adeniyi and Aderobaki (2021) explored the impact of financial leverage on the performance of listed Nigerian conglomerates using a longitudinal research design and ex-post facto approach over the 2005–2016 period. The study reported a statistically significant positive association between debt levels and financial success. The present study aims to improve upon these methodological limitations by utilising a causal descriptive research methodology, specifically to determine the relationships among firm attributes in the Kenyan banking sector, thus offering a more nuanced analysis of leverage's effect.

Similarly, Farajimakin and Abiodu (2020) examined business attributes and liquidity management in West African firms using panel data and an ex-post facto design over a decade. Their analysis revealed that firm characteristics, including size, leverage, and age, accounted for approximately 36% of liquidity management in Ghanaian and Nigerian enterprises. Uzoka and Anichebe (2020) investigated firm attributes and performance over the same period, using regression analysis and ordinary least squares, finding that asset tangibility and leverage policy negatively and significantly impacted performance. These studies highlight that firm attributes, leverage, and age remain significant considerations for firm performance and liquidity management. Qazi and Aspal (2021) and Eneh (2019) further reinforce the influence of leverage and firm age on financial outcomes, suggesting established firms benefit from market experience and operational efficiencies.

Accordingly, the hypothesis (H2) is posited: firm leverage does not significantly impact the value of the Nigerian deposit money bank industry.

2.2.3 Firm Age and Firm Value

Yitayaw (2021) conducted an empirical study using data from 2013 to 2015 to assess the impact of business characteristics on the performance of Kenyan cooperatives. Employing descriptive statistics, the research identified a strong positive correlation between cooperative financial performance and factors such as asset quality, capital adequacy, operational efficiency, and liquidity. Despite these insights, Yitayaw did not consider other potential determinants of financial performance, including solvency, interest rate, and financial leverage. This limitation provides an opportunity for further research into the influence of these attributes on the performance of Kenyan commercial banks listed on the Nairobi Securities Exchange (NSE).

Kolawole, Oladunni, and Jimoh (2021) examined the relationship between firm attributes and financial performance quality among Nigerian listed consumer products companies, using panel least squares regression on data from 2014 to 2019. Their findings revealed that institutional shareholding, liquidity, and board composition positively and significantly impact financial performance quality. Similarly, Farouk et al. (2019) investigated quoted industrial goods companies in Nigeria between 2011 and 2018, using multiple regression analysis. Their study found that company size, leverage, firm age, and the presence of women directors significantly and negatively influence real earnings manipulation, thus enhancing the value and quality of financial performance in these firms.

H_3: The value of the Nigerian deposit money bank industry is not significantly impacted by the age of the firm.

3.0 Methodology

In empirical research, it is essential to justify the chosen research methodology based on the study's unit of analysis. This study adopts a quantitative approach, aligning with positivist paradigms that emphasise hypothesis testing and prediction of relationships among variables (Kolawole, Oladunni, & Jimoh, 2021; Yitayaw, 2021). Positivism informs key methodological choices, including sampling, data collection, and analytical techniques. The research design is ex-post facto, with observations made over a set period to allow for objective measurement of variables. Analytical methods employed include multiple regression, correlation, and descriptive statistics, alongside the use of ordinary least squares (OLS), fixed effect model (FEM), random effect model (REM), and Hausman tests. Secondary data were sourced from annual audited accounts of thirteen money deposit banks in Nigeria, whose financial records were accessible on the Nigerian Exchange Group as of 31st December 2023. The independent variables are profitability, sales growth, and asset growth, while firm value—measured as total equity plus debt divided by total assets, is the dependent variable. Data analysis was conducted using STATA version 15.0.

Regression Model for the study

FV = F (FS, LEV, FA). The model was derived from the work of Cuong, Quan and Lan (2018).

By expression, the above variable can be expressed as the function of $FV = \alpha + \beta 0 + \beta (FS) + \beta$

$(LEV) + \beta (FA) + e$…..... 1

Where FV= the ratio of firm value for the firms in the industry is α = an intercepts. β =Coefficient variable-variable model FS=Firm size, LEV= Leverage, FA= Firm age and e= error term.

Table 1

Variable	Measurement	Basis
Firm value	Total equity of the firm plus total debts/total assets	(Alkhataybeh, AISmadi, Shakhatreh & Khataybeh, 2022; Chang & Yang, 2022).
Firm size	Logarithm of total assets	(Adegboyegun & Igbekoyi, 2022; Farouk, Magaji & Egga, 2019).
Leverage	(Total debts/ to shareholders equity of the firm at the period of the study)	(Adeniyi & Aderobaki, 2021; Farajimakin & Abiodu, 2020).
Age of the firm	(Total asset - total assets in its previous period)/ total asset	(Kolawole, Oladunni & Jimoh, 2021; Yitayaw (2021).

Source: Literature review (2026)

4.1 Data Validation for the Study

Empirically, the choice of fixed effect and random effect in research is subjected to the outcome of hausman test. By so doing, the study has carried out hausman specification test. Upon the completion of this test, the result demonstrated the choice of random effect model as the result is not significant. Hence, a significant probability suggests that fixed effect model analyzed while a not significant probability suggests that Random effect model should be analyzed in every study. The benchmark for accepting hausman test specification is via the outcome of regression Generalized Least Square (GLS). That is, if the coefficient of probability (Prob>chi2) is less than 0.1 or greater than 0.1. In this study, random effect is chosen as the outcome Hausman specification result is not significant as Prob>chi2= 0.0171 which is not significant at 0.0000.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FV	139	1.27e+08	2.49e+08	2.77e+08	9.87e+08
FS	139	7.335178	1.561967	3.040905	10.18841
LV	139	5.736712	5.098434	-3.168276	32.22566
AGE	139	1.2009	2.89e09	98.76682	1.5410

Source: STATA Version 15.0 output, 2026

Table 2 presents 139 observations, revealing that firm value, measured as the ratio of total equity plus total debts to total assets, averaged 1.27. This suggests that profits generated by the companies have enhanced firm value for investors, indicating a degree of security for investments managed by money deposit banks (Adegboyegun & Igbekoyi, 2022). Such financial stability is likely to encourage shareholders to increase their investments, confident in the safety of their returns. Descriptive statistics further show that total assets, used to gauge firm size, ranged from a minimum logarithmic value of 3.04 to a maximum of 10.18, underscoring firm size as a critical predictor of firm value. Leverage, defined as total debts to shareholders' equity, displayed a maximum value of 32.22 and a minimum of –3.16, indicating substantial variability. Firm age ranged from 1.54 to 98.76 years, highlighting the diverse maturity levels of the firms analysed. Overall, the independent variables collectively contribute to the enhancement of firm value, with most showing positive maximum values.

Table 3 Model Regression Results (OLS)

Variables	POOLED OLS	Random Effect	Fixed Effect
FS	1.3107 (0.255)*	-2.9207 (0.019) **	-4.4307 (0.001) ***
LEV.	-6255 (0.024) **	47056.35 (0.986) *	1169 (0.656) *
AGE	.07155 (0.000) ***	.07575 (0.000) ***	.07682 (0.000) ***
_cons	-1.1507 (0.888) *	2.5708 (0.006) **	3.6008 (0.000) ***
F-Statistics	71.33 (0.000) ***	(0.0000)	(0.0000)
R-Squared	0.6132	R^2=0.5275 (within)	R^2=0.5342(within)
Adjusted R^2	20.6046	R^2= 0.5746 (between)	R^2= 0.4889 (between)
		R^2= 0.5537 (overall)	R^2= 0.5046 (overall)

Source: STATA Output, Version 15.0, 2026

Table 3 presents the results of OLS, random effect, and fixed effect regression analyses, identifying these as the most suitable methods for the study. The coefficient of determination (R^2) indicates that 61.32% of the variation in firm value (measured as total equity plus total debts to total assets) is explained by the model's explanatory variables, leaving 38.68% attributable to factors outside the model. The random effect model suggests a slightly lower explanatory power at 55.37%. Notably, leverage exhibits a moderate correlation with firm value at 47.05%, but its statistical significance is weak (p = 0.986), implying leverage is not a substantial predictor of firm value, which aligns with findings by Batchimeg (2017) and Kariuki, Namusonge, and Orwa (2015). Robust analysis further confirms a significant positive relationship between firm age and value (coefficient = 71.55, p = 0.000), supporting Kolawole, Oladunni, and Jimoh (2021) and Yitayaw (2021).

Table 4 Hausman Specification Test for Fixed Effect and Random Effect

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---- Coefficients ----
        |      (b)          (B)          (b-B)     sqrt(diag(V_b-V_B))
        |       fe          re       Difference          S.E.
--------+----------------------------------------------------------------
     FS |   -4.4307      -2.9207      -1.5107        4331447
     LV |  1169816      47056.35      1122760        375145.1
    AGE |  .0768271     .0757597     .0010674        .0014329
------------------------------------------------------------------------------
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic, chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                  =       49.46, Prob>chi2 =      0.0000
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As depicted, the Hausman test specification in table 4, was conducted for both fixed effect and random effect. The result of the Hausman test, indicated that probability chi2 in this study is 49.46. It is an indication that, the figure is above the benchmark for the Hausman test which is 0.0000. As such, this has shown that the best model for estimating the effect on firms' value is the random effect model. The condition for the selection between fixed effect and random effect is that, if the

prob>chi2 is less than 0.05 or greater than 0.05. It is no surprise that the above table figure for the Hausman specification test is 49.46. Hence, the choice for selecting the random effect model is justified because the prob>chi2 is more than 0.05.

5. 0 Conclusion and Recommendations

The study aims is to investigate the impact of firm characteristics on firm value of listed deposit money banks in Nigeria Exchange Group. Given the findings, this study concludes that the independent variables have both positive and negative effects on the firm value of money deposit banks in Nigeria. Therefore, recommends that the management of industrial goods in Nigeria should improve on the following:

1. That, the management of money deposit banks in Nigeria should as a matter of fact use the firm age dimension to improve firm value to the shareholders. In addition, the managers of the companies should sustain the effective utilization of their age bracket towards improving firm vale not only to the companies but also to on part of shareholders' wealth. This can be achieved by avoiding investment in those assets that do not enhance firm value of the companies. This means disposing those assets that are not contributing to operational efficiency. In turn, it will reduce the cost of assets and thereby ensuring that assets are optimally utilize to increase company's value.
2. Corporate managers should reduce the volume of their debt financing and should also device more ways of boosting their returns to attract firm value. This can be attained by increasing the amount of their company equity financing relative to its equity capital.
3. The management should deploy the assets of the organization appropriately to enhance firm value. Hence, it was confirmed from the analysis that size of the firm does not impact positively. Therefore, management of the organization that are charge with the responsibility to oversee the affairs of the company to do the needful as the size of the firm is the function of assets.

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