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EFFECT OF CORPORATE INVESTMENT ON INVESTMENT RATE OF DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

The study determined the effect of corporate investment on investment rate of deposit money banks in Nigeria. The specific objective was to assess the effect of firm leverage, firm's size and firm liquidity on the rate of investment among listed deposit money banks in Nigeria. Ex-Post Facto research design was adopted. The study population was all the thirteen deposit money banks that are listed in Nigeria while the sample comprised of same thirteen deposit money banks in Nigeria. Secondary data were extracted from the banks' annual reports from 2012 to 2022. Panel regression analysis was used in the study to test the hypotheses. The findings revealed that: firm leverage has a positive but non-significant effect on the investment rate of deposit money banks in Nigeria (p-value = 0.8148); firm size has a significant negative effect on the investment rate of deposit money banks in Nigeria (p-value = 0.000); firm liquidity has a significant negative effect on the investment rate of deposit money banks in Nigeria (p-value = 0.000). In conclusion, leverage emerges as a driver of increased investment, while larger size and higher liquidity appear to constrain investment activities. The study recommends that banks in Nigeria should ensure that risk management practices are robust to mitigate potential downsides of high leverage while leveraging debt for growth.

Key words: *Corporate governance, Firm leverage, Firm size, Firm liquidity, Investment rate.*

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1. INTRODUCTION

In the modern economic domain, corporate investments play a pivotal role in shaping the growth trajectory and stability of various sectors, including banking (Mrema, 2024). Corporate investments, characterized by strategic allocation of financial resources, are vital for banks to expand their operations, enhance their service offerings, and improve their financial health. In the banking sector, effective corporate investment decisions are critical in maintaining financial stability, managing risks, and capitalizing on growth opportunities. In the Nigerian context, the relevance of effective corporate investment is underscored by the

country's economic diversification agenda and efforts to attract foreign direct investment. Nigerian banks are at the forefront of these efforts, playing a crucial role in facilitating economic activities and providing financial services to various sectors. Strategic corporate investments in areas such as digital banking, risk management, and sustainable finance are essential for banks to address the challenges posed by economic volatility, regulatory changes, and competitive pressures (Ojong, Ekpuk, Ogar&Emori, 2014). Investment is one of the approaches used by corporations to develop the economy of the country. Corporate investment, such as capital expenditure, has a high multiplier that encourages higher financing needs in other sectors and, in turn, increases economic growth.

Corporate investment means the quantity of capital, which is invested or spent with the expectation that it will be able to generate income or will be appreciated in the future. It refers to the amount of capital spent on increasing the total assets of a firm (Ahmed & Danish, 2019). New investment in a firm consists of addition to its existing assets for the purpose of producing more output. These investments could be financed either by internal sources of funds, such as, accumulated profits in the form of various reserves, depreciation provision, etc., or by external sources of funds, such as, borrowed capital, fresh capital raised, etc. At micro level, private corporate behavior is characterized by three main decisions, namely, investment, financing and profit allocation. Firms have scarce resources that must be allocated among competing uses. Hence firms in the private corporate sector must decide the way in which they should allocate resources and the manner in which it would be wise for them to invest. The size of the firm could have a bearing on how much access it has to capital markets (Driver & Muñoz-Bugarin, 2019). Larger firms may be more diversified, enjoy easier access to capital markets, receive higher credit ratings for their debt issues, and pay lower interest rates on borrowed funds. This may then be a financial constraint that could affect investment (Soumaya, 2012). Corporate firms make multiple decisions, including funding, the expansion of existing operations, and the acquisition of new assets to achieve the underlying objective of growth (Rahayu, 2019). In this context, long-term investment, particularly in the acquisition of fixed assets, is essential for ensuring sustained growth over time. Such investment decisions stem from other attached factors, i.e., rate of return, payback period, profitability index, etc. (Farooq & Subhani, 2021). In addition to other business decisions, corporate managers should also focus on long-term sustainability in their structured decisions processes. Banks that effectively leverage their resources to achieve a balanced growth trajectory are often characterized by robust capital structures, efficient operations, and

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enhanced market competitiveness (Tran, Thi&Thi, 2023; Kumar &Aleemi, 2020; Gala & Julio, 2016; Soumaya, 2012).

Firm leverage, firm size, and firm liquidity in such banks are managed in a manner that maximizes returns while minimizing risks, allowing banks to capitalize on investment opportunities and traverse economic fluctuations seamlessly. However, many banks struggle with high levels of non-performing loans, inadequate capitalization, and liquidity constraints. Firm leverage is often poorly managed, leading to excessive borrowing and increased vulnerability to economic downturns (Tran, Thi&Thi, 2023). Smaller banks, with limited resources and market influence, find it difficult to compete with larger institutions (Gala & Julio, 2016), resulting in a highly fragmented banking sector. Furthermore, regulatory inconsistencies and economic volatility exacerbate the challenges, hindering banks' ability to implement effective investment strategies. As a result, the investment rate of banks in Nigeria is suboptimal, with many institutions unable to undertake significant investments in technology, infrastructure, and innovation. As a result, high leverage and poor risk management practices increase the likelihood of financial distress, leading to bank failures and loss of investor confidence. Inadequate capitalization and liquidity constraints limit banks' ability to extend credit to businesses and individuals, stifling economic growth and financial inclusion (Soumaya, 2012). The fragmented banking sector, characterized by a few dominant players and numerous struggling smaller banks, reduces the overall efficiency and competitiveness of the financial system. Furthermore, the inability to invest in technological advancements and infrastructure impedes the sector's ability to adapt to changing market dynamics and meet customer needs effectively. Ultimately, the suboptimal investment rate in the banking sector undermines Nigeria's economic development, perpetuating cycles of instability and limiting the potential for sustainable growth and prosperity, hence the need to examine the influence of corporate investments on the investment rate of Nigerian banks.

1.1 Objectives

The main objective of this study is to determine the effect of corporate investment on investment rate of deposit money banks in Nigeria. The specific objectives are to:

1. Evaluate the effect of leverage on investment rate of deposit money banks in Nigeria.
2. Determine the effect of firm's size on investment rate of deposit money banks in Nigeria.
3. Investigate the effect of firm liquidity on investment rate of deposit money banks in Nigeria.

1.2 Hypotheses

The following hypotheses were stated in null form:

Ho_1: Firm leverage does not significantly affect investment rate of deposit money banks in Nigeria.

Ho_2: Firm's size does not significantly affect investment rate of deposit money banks in Nigeria.

Ho_3: Firm liquidity does not significantly affect investment rate of deposit money banks in Nigeria.

2. LITERATURE REVIEW

2.1. Conceptual Review

2.1.1 Corporate Investment

Corporate investment means the quantity of capital, which is invests or spent with the expectation that it will be able to generate income or will be appreciate in the future. It refers to the amount of capital spent on increasing the total assets of a firm. New investment in a firm consists of addition to its existing assets for the purpose of producing more output (Ahmed & Danish, 2022). These investments could be financed either by internal sources of funds, such as, accumulated profits in the form of various reserves, depreciation provision, etc., or by external sources of funds, such as, borrowed capital, fresh capital raised, etc. At micro level, private corporate behavior is characterized by three main decisions, namely, investment, financing and profit allocation. Firms have scarce resources that must be allocated among competing uses. Hence firms in the private corporate sector must decide the way in which they should allocate resources and the manner in which it would be wise for them to invest. The private corporate sector should provide the framework for its constituent firms to make the above decisions wisely (Kumar, 2011). Accordingly, the investment decision of a firm is defined to include not only those investments that create revenues and profit, but also those that save money by reducing expenditure. Investment decisions though mainly taken at the Board level, these have been influenced by financial performance, financing pattern and economic conditions prevailing in the country and also the global developments to some extent. In the past few years there has been an increasing interest in the role that firm specific factors play in corporate investment decisions along with the economic conditions (Kumar, 2011).

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The overall corporate investment expenditure can be divided into two categories: (i) investment expenditure to retain current assets and (ii) new investment expenditure. In a negative net present value project, new investment spending involves planned investment expenditure and overinvestment. The above is an example of over-investment, while under-investment occurs when businesses fail to invest in current assets or ventures with a positive net present value. The estimated investment expenditure varies depending on the company's growth prospects, funding constraints, industry association, and other factors. A company's under-investment or over-investment is a subjective phenomenon with little to do with the sum of money invested in absolute terms (Wu & Wang, 2021). The behavior of corporate investment can be explained by analyzing the micro variables of the business, such as cash flows and sales growth. When making investment decisions, ratio analysis is a crucial factor to consider at every point in time. Due to how the business world is structured, it is important to help stakeholders get decision making done with regard to business investment decisions (Alqam, Ali &Hamshari, 2021). Ratio analysis is a great and widely used method for evaluating the performances of businesses around the world (Dan, 2021). The financial manager's examination of financial ratios decides a company's working and monetary effectiveness and development, just as its capacity to meet its obligations, the extent to which the firm has used long-term solvency from borrowedfunds, and the firm's overall operating efficiency and performance.

2.1.2 Investment Rate

Investment is the allocation of funds by firms towards something they expect will generate future economic benefits. It includes buying capital goods, machinery, equipment, or stockpiling inventory. The business investment rate is defined as gross investment (gross fixed capital formation) divided by gross value added of non-financial corporations. This ratio relates the investment of non-financial businesses in fixed assets (buildings, machinery etc.) to the value added created during the production process.

The firms weigh the marginal costs and benefits of their investment decisions. They will undertake an investment only if the marginal benefit outweighs the marginal cost. The marginal cost of the investment is the cost of acquiring capital for the firm; in other words, it is the interest rate. The marginal benefit of the investment is the expected rate of return on the investment. A firm will only undertake an investment if it is profitable for it to do so. In other words, the firm would invest if the expected return outweighs the interest rate of investment. Investment rate reflects corporate investment decisions. This variable is the ratio of

investment expenditure to capital stock; and, described by following formula below, in which capital stock equals fixed assets. This variable is taken from financial position of firms. Investment rate= (Capital Expenditure ending- Capital Expenditure beginning / Capital stock)

2.1.3 Firm Leverage and Investment Rate

Leverage is the ratio of total liabilities to total assets (Kumar&Aleemi, 2020). This variable is calculated from the Balance Sheets of each firm. Leverage might have a negative impact on corporate investment decisions through two channels. First of all, an increase in leverage might strengthen bankruptcy risks; managers may be afraid that shareholders would be move to decline borrowings and/or reduce investment. Secondly, higher levels of debt result in the reduction of funds in hand; therefore, leverage has an inverse effect on investment decisions at the firm level. The relationship between investment decisions and leverage is expected to be negative or positive as a result of debt overhang subtleties.Debt overhang models explain why more or less leveraged firms may be reluctant to use debt, albeit much less empirical work has been done on the analysis that variables such as indebtedness or debt burden have on firm's investment decisions (Ahmed & Danish, 2019). Chen (2012) argues that investment-cash flow sensitivities have completely disappeared during the 2007-2009 credit crunches.

Vermeulen (2002) shows that leverage is more important in explaining investment during downturns and for small firms. Aivazian (2005) show that leverage is negatively related to investment and that this negative effect is significantly stronger for firms with low growth opportunities than for those with high growth opportunities. In the same line, (Hernando, 2008) indicate that the impact of indebtedness and debt burden on investment is non-linear, becoming relatively more intense when financial pressure exceeds a certain threshold. That threshold is above the one identified by (Goretti, 2013), who also find strong negative effects of debt on investment in their sample of euro area firms. Notice that SMEs are in fact those thought to be more vulnerable to asymmetric information problems and hence more likely to face a higher external finance premium (Ferreira &Vilela, 2004). A recent publication from Banco de Portugal (2016) concludes that, in a general way, financial ratios seem to explain better the investment dynamics than the qualitative answers given by firms in a comprehensive survey. Concerning the investment-financial situation issue, in the last three decades only a handful of empirical papers used data for Portuguese firms. (Farinha& Prego, 2013), using data from 1986 to 1992 concludes that the availability of internally generated funds affects investment decisions of smaller firms. (Oliveira & Fortunato, 2006) use balance

sheet data of manufacturing firms for the period 1990-2001 and find that smaller and younger firms have higher growth-cash flow sensitivities than more mature firms, a result that could be explained by the fact that cash-flow realization is particularly important for those firms, not necessarily indicating the existence of financing constraints.

2.1.4 Firm Size and Investment Rate

Firm size refers to the scale of a company's operations, typically measured by various metrics such as the number of employees, total sales revenue, market share, or assets (Wijayaningsih&Yulianto, 2021). It can influence a firm's market power, resource availability, operational efficiency, and competitive strategy. The size of a firm can significantly impact its organizational structure, management practices, and overall business strategy (Wijayaningsih&Yulianto, 2021).

On the other hand, smaller firms may face constraints that limit their investment rates (Gala & Julio, 2016). Limited access to capital markets and higher borrowing costs can restrict their ability to finance new investments. Thus, firm size plays a crucial role in determining the investment rate, with larger firms generally being more capable and willing to invest compared to their smaller counterparts (Driver & Muñoz-Bugarin, 2019). One the other hand, (Kumar, 2011) have made opposite findings. The reason is that large firms should have better access to external capital sources, more stable cash flows and be more diversified than small ones. Hence, this leads to incentive investment activities. Therefore, this variable is expected to be a mix associated with investment.

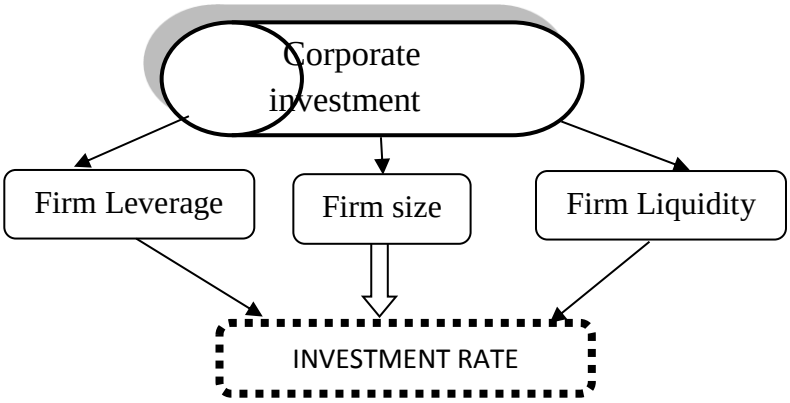
2.1.5 Firm Liquidity and Investment Rate

Firm liquidity refers to the ability of a company to meet its short-term financial obligations using its most liquid assets (Muñoz, 2013). This includes cash and assets that can be quickly converted to cash without significantly affecting their value. High liquidity indicates that a firm can easily cover its short-term debts and operational expenses, providing financial stability and operational flexibility. Liquidity is a critical aspect of financial health, as it ensures that the firm can handle unexpected expenses, take advantage of investment opportunities, and maintain smooth operations without resorting to expensive borrowing or asset liquidation (Ghosh & Ghosh, 2006).

Firm liquidity significantly influences a company's investment rate, as firms with higher liquidity are more likely to invest in new projects and expansion opportunities (Soumaya,

2012). Conversely, firms with low liquidity may struggle to fund new investments, as they may need to rely on external financing options like loans or issuing equity, which can dilute ownership and increase financial risk (Ghosh & Ghosh, 2006). These firms might also miss out on time-sensitive investment opportunities due to the time required to secure funding. Additionally, low liquidity can lead to higher borrowing costs because lenders may perceive the firm as a higher risk. This can further constrain the firm's ability to invest, potentially stifling growth and innovation (Soumaya, 2012). Therefore, maintaining adequate liquidity is essential for firms to ensure they can sustain and grow their investment rates, ultimately driving their long-term success and sustainability.

Figure 1 Relationship between Corporate investment and investment rate



Source: Researcher's Concept, 2024

2.2 Theoretical Review

2.2.1 Dynamic Capabilities Theory

The Dynamic Capabilities Theory was first introduced by David Teece, Gary Pisano, and Amy Shuen in their seminal 1997 paper titled "Dynamic Capabilities and Strategic Management." The theory emerged from the field of strategic management and aims to explain how firms can achieve and sustain competitive advantage in rapidly changing environments. It builds on earlier resource-based views by emphasizing the role of managerial and organizational processes in adapting, integrating, and reconfiguring internal and external resources to address environmental changes (Teece, Pisano &Shuen, 1997).

The Dynamic Capabilities Theory posits that a firm's ability to achieve and sustain competitive advantage lies in its dynamic capabilities, defined as the firm's capacity to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Winter, 2003). The Dynamic Capabilities Theory is particularly

relevant to the study of corporate investments in Nigerian banks, especially concerning firm leverage, firm size, and firm liquidity. In the rapidly evolving financial sector, banks must constantly adapt to changes in regulatory frameworks, economic conditions, and technological advancements. The theory provides a framework for understanding how banks can leverage their dynamic capabilities to optimize their investment strategies. Seizing capabilities allow banks to mobilize resources efficiently, ensuring that they can capitalize on these opportunities while maintaining financial stability (Winter, 2003). Transforming capabilities enable banks to reconfigure their organizational structures and resource allocations to sustain competitive advantage in the long term. Thus, the Dynamic Capabilities Theory offers valuable hints into how Nigerian banks can enhance their investment rates by effectively managing firm leverage, firm size, and firm liquidity in a dynamic and complex environment.

2.3 Empirical Review

Umar, Mosab, Ahmad and Krzysztof (2022) studied an attempt to review relevant literature on the theme of corporate real investment decisions. The theoretical analysis reveals that information asymmetry, cash holdings, policy uncertainty, idiosyncratic risk, governance quality, financing diversification, financial development, managerial network, investor protection, tax policy, etc., are prominent factors influencing investment decisions. The current review analysis is useful and has certain policy implications for investment managers regarding investment decisions. It guides on the factors that can impede or boost investment volume. Their study has a novel contribution to the literature by summarizing the voluminous empirical literature arranged on physical investment decisions.

Ahmed and Danish (2022) analyzed the trends in corporate finance in Pakistan and use a panel data model for empirically identifying the factors which influence corporate investment decisions, during the period 2014-2018. The findings revealed that firm level factors such as cash flow, fixed capital intensity, leverage and firm size are significant in determining corporate investment decisions. At macro level, cost of borrowing and effective tax rate is significant in influencing corporate investment decisions negatively. The results of the study generally contribute in existing literature on the impact of macroeconomic variables and certain firm level factors on corporate investment decisions. The main value of this paper is to consider broad based approach to analyzing the determinants of corporate investment decisions from developing market context.

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Kuantan, Siregar, Ratnawati, Juhro (2022) conducted to comprehensively identify factors that potentially influence corporate investment behavior, including micro, macro, and sectorial variables. Furthermore, investment behavior was studied across nations based on their participation in the global value chain (GVC), which was evaluated based on commodities, limited manufacturing, advanced manufacturing, and innovative activities. The study uses the dynamic panel data analysis and Generalized Method of Moment (GMM) estimation for a sample of 800 corporations, with data spanning over 2000−2019. The study result shows that in all types of countries, the coefficient lag indicator of capital expenditure statistically has a significant effect on capital expenditure. Sales growth, exchange rate, and GDP have a significant positive effect on corporate investment growth, while DER has a negative effect. In commodity countries, corporate investment is influenced by sales growth, exchange rate, and FCI. The variables that influence corporate investment in manufacturing countries are the FCI, exchange rate, sales growth, GDP, and DER. In innovative countries, variables that significantly affect capital expenditure are DER, GDP, and TobinQ. In each type of country, the interaction terms between exchange rate and commodity price are positive and statistically significant.

Umaru, Mohammed and Lawal (2021) evaluated the determinants of foreign direct investment inflow in Nigeria within the context of the Autoregressive Distributed Lag (ARDL) estimation technique. The study utilizes annual data for the period 1981 to 2018, which were sourced from the Statistical Bulletin of the Central Bank of Nigeria (CBN) and World Bank's World Development Index (WDI) data on Nigeria. The bound test result confirms the existence of cointegration. The result further reveals that foreign reserve, inflation rate, infrastructure and population growth are positive and significant determinants of foreign direct investment in both long run and short run. The findings also depict that disequilibrium in the model is corrected at 97.8% adjustment speed annually. The diagnostic test confirms that the coefficients are stable, given that the CUSUM and CUSUMSQ lie within the 5% critical bound.

Al-matari, Mgamma, Senan and Alhebri (2021) examined the determinants of Foreign Direct Investment (FDI) inflows in the Gulf Cooperation Council (GCC) countries from 1995 to 2018. GLS regression was employed and the result revealed a significantly positive association between inflation, trade ratio, gross domestic product, gross savings, and net foreign assets with FDI. On the contrary, international tourism was revealed to have a negative association with FDI.

Sanyaolu, Odunayo, Akintan, and Ogunmefun (2020) examined the effect of financial statement analysis on investment decision of Nigerian deposit money banks. An ex post facto research design was adopted by sourcing data from the annual reports and accounts of the ten sampled banks. The hypotheses of the study were tested using regression involving fixed-effect. It was found that profitability has a significant positive effect on investment decision ($P < 0.05$); financial leverage has no significant positive effect on investment decision ($P > 0.05$) and that liquidity has no significant positive effect on investment decision ($P > 0.05$).Arising from the findings, the study concludes that financial statement analysis exerts a significant positive joint effect on investment decision.

Lenarčič and Papadopoulos (2020) examined the role of corporate financial positions in determining Slovenian firms' investment behaviour. The analysis is based on the theoretical framework of the financial accelerator which suggests that firms' financial positions influence their real behaviour. The underlying hypotheses of the financial accelerator are tested, namely its asymmetric effect during crises and in respect to firms' size. In addition, the existence of differences in the relationship between the financial position variables and investment across various sectors is examined. The results indicate that indeed financial position strength is an important determinant of Slovenian firms' investment behaviour. Moreover, this relationship is affected by a firm's size but the effect of the crisis or its sectorial specialization does not seem to materially affect it.

Dondashe and Phiri (2018) employed the ARDL model for cointegration to investigate the macroeconomic determinants of FDI in South Africa from 1994 to 2016. Regression analysis was employed by the study to test the data. The study found that per capita GDP, government size, real interest rate variable, and terms of trade are positively related to foreign direct investment while the inflation rate is negatively related to FDI.

Sajid, Mahmood and Sabir (2016) evaluated the link between financial gearing and investment decision of listed financial and non-financial firms by exploring the data obtained from the financial statements of 30 sampled financial and non-financial firms from 2009 to 2013. Having adopted descriptive statistics, correlation analysis and panel, regression, financial leverage negatively but significantly impact investment decision. The logical implication of the finding is that has companies advance more debt, the investors are scared away from investing as they believe that debt is associated with much risks and the fixed

interest represents a charge against the earnings which reduces the distributable earnings and thus the dividend.

Ghassan, Hadeel and Tareq (2015) investigated the investment behavior of listed Jordanian industrial firms during the period 2000-2013. Based on the financial statement of 52 listed industrial firms and panel data analysis, the empirical results indicate that firm investment does respond to stock market valuation (Tobin's Q). On the other hand, firm's leverage does not have significant effects on firm investment. Based on these outcomes, one can argue that the pricing efficiency of the listed firms' stock is extremely important.

3. MATERIAL AND METHODS

Ex-Post facto research design was adopted for the study. Panel regression analysis was used to analyze the data generated for the study. The population of the study consisted of all the thirteen listed deposit money banks in Nigeria from 2012 to 2022 according to Nigerian Exchange Group. The study also used all the thirteen listed deposit money banks in Nigeria as sample size.

In order to achieve the broad objective of this study, the model of Soumaya (2012) was adopted.

The model was specified as:

$IVR_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 FSZ_{it} + \beta_3 LIQ_{it} + u_{it}$…. ……Eqn 1.

Where:

FSZ = Size of the banks

IVR = Investment rate

LEV = firm leverage

LIQ = Liquidity of the banks

i = (number of the sampled banks)

t = (number of the years to be covered)

u_{it} = firm-specific error term

β_0 = Constant term

$\beta_1, \beta_2, \beta_3$ = Beta Coefficients to be estimated

The independent variable – corporate investment was decomposed into three variables: Firm leverage (LEV), Firm size (FSZ) and Firm liquidity (LIQ)

- *Firm leverage (LEV):* Measured by the ratio of debt capital divided by the total assets as at the end of each year, expressed in percentage.
- *Firm size (FSZ):* Measured by the natural log of total assets of the companies at the end of each year.
- *Liquidity:* Measured by the cash ratio (cash + market securities / current liabilities.
- *Investment rate:* Measured by the capital expenditure ending – capital expenditure beginning / capital stock.

The decision for the hypotheses is to accept the alternative hypotheses if the p-value of the test statistic is less or equal than the alpha and to reject the alternative hypotheses if the p-value of the test statistic is greater than alpha at 5% significance level.

4. RESULT AND DISCUSSIONS

4.1: Descriptive Statistics

Table 1: Descriptive Statistics

	IVR	LEV	FSZ	LIQ
Mean	6.365745	0.907716	9.271623	9.333791
Median	4.740000	0.873053	9.264965	1.345945
Maximum	50.07400	2.547496	10.12626	86.26324
Minimum	-19.46000	0.447120	8.194532	0.000000
Std. Dev.	10.96219	0.220718	0.408670	13.13496
Skewness	0.977322	4.977463	-0.104494	2.718938
Kurtosis	5.866567	31.50912	2.606611	14.22459
Jarque-Bera	71.72545	5433.227	1.182317	926.8904
Probability	0.000000	0.000000	0.553686	0.000000
Sum	910.3016	129.8033	1325.842	1334.732
Sum Sq. Dev.	17064.08	6.917763	23.71558	24498.88
Observations	143	143	143	143

Source: E-view output, 2024

As shown in Table 1, the descriptive statistics for the investment rate (IVR) of deposit money banks in Nigeria show a mean value of 6.365745, indicating that on average, these banks invest a modest proportion of their resources. The maximum value of 50.07400 suggests that some banks engage in significantly high levels of investment, while the minimum value of -19.46000 points to instances where banks have experienced negative investment rates, possibly due to disinvestment or losses. The standard deviation of 10.96219 reflects

considerable variability in investment rates across the banks. The positive skewness of 0.977322 indicates that the distribution of investment rates is skewed to the right, meaning that most banks have investment rates below the mean, but a few have exceptionally high rates. The high kurtosis of 5.866567 implies a leptokurtic distribution, indicating more frequent extreme values compared to a normal distribution.

For firm leverage (LEV), the mean value is 0.907716, suggesting that on average, banks use nearly equal proportions of debt and equity in their capital structures. The maximum leverage value of 2.547496 shows that some banks employ more debt relative to equity, while the minimum value of 0.447120 indicates that other banks have a much lower reliance on debt. The standard deviation of 0.220718 signifies moderate variation in leverage ratios among the banks. The extremely high skewness of 4.977463 reveals a highly right-skewed distribution, indicating that most banks have leverage ratios lower than the mean, but a few banks have very high leverage. The extremely high kurtosis of 31.50912 indicates a very leptokurtic distribution, suggesting that extreme leverage values occur much more frequently than in a normal distribution.

Regarding firm size (FSZ), the mean value is 9.271623, reflecting the average logarithmic scale of the banks' sizes, which typically translates to significant differences in asset scales among them. The maximum value of 10.12626 and minimum value of 8.194532 indicate a range in bank sizes, though not exceedingly vast. The standard deviation of 0.408670 points to relatively low variability in the size of the banks. The negative skewness of -0.104494 suggests a nearly symmetrical distribution, slightly skewed to the left, meaning there are slightly more banks smaller than the mean size. The kurtosis of 2.606611 is close to 3, indicating a distribution similar to the normal distribution with slight platykurtic tendencies, implying fewer extreme values than a normal distribution.

Firm liquidity (LIQ) has a mean value of 9.333791, indicating that, on average, banks maintain a considerable level of liquid assets relative to their needs. The maximum liquidity value of 86.26324 shows that some banks hold extraordinarily high levels of liquidity, while the minimum value of 0.000000 indicates that some banks have virtually no liquid assets at certain points. The standard deviation of 13.13496 reveals substantial variability in liquidity levels among the banks. The positive skewness of 2.718938 signifies a highly right-skewed distribution, meaning most banks have liquidity levels below the mean, but a few have extremely high liquidity. The high kurtosis of 14.22459 indicates a very leptokurtic

distribution, suggesting that extreme liquidity values are much more frequent compared to a normal distribution.

4.2 Test of Hypotheses

Panel regression analysis conducted showed the following result in Table 4.2.

Table 2: Panel Regression Result

Dependent Variable: IVR

Method: Panel EGLS (Cross-section weights)

Date: 07/07/24 Time: 11:49

Sample: 2012 2022

Periods included: 11

Cross-sections included: 13

Total panel (balanced) observations: 143

Linear estimation after one-step weighting matrix

White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV	0.497434	2.119288	0.234718	0.8148
FSZ	-4.104166	0.713322	-5.753597	0.0000
LIQ	-0.148111	0.025459	-5.817638	0.0000
C	44.82796	7.499744	5.977266	0.0000

	Weighted Statistics		
R-squared	0.128690	Mean dependent var	10.30024
Adjusted R-squared	0.109885	S.D. dependent var	12.36355
S.E. of regression	10.32845	Sum squared resid	14828.10
F-statistic	6.843294	Durbin-Watson stat	0.943393
Prob(F-statistic)	0.000247		

Source: Researcher's computation through E-view 10.0 statistical package

4.2.1 Hypothesis I

H_{o1}: Firm leverage does not significantly affect investment rate of deposit money banks in Nigeria.

The coefficient of firm leverage is 0.497434, which suggests a positive relationship between firm leverage and the investment rate. Thus, an increase in leverage leads to an increase in investment rate by 0.497434. However, the probability value (p-value) is 0.8148, which is much higher than the significance level of 0.05. This indicates that the relationship between firm leverage and the investment rate is not statistically significant. In other words, firm leverage has a positive but non-significant effect on the investment rate of deposit money banks in Nigeria (p-value = 0.8148).

4.2.2 Hypothesis II

H_{o2}: Firm size does not significantly affect investment rate of deposit money banks in Nigeria.

The coefficient of firm size is -4.104166, indicating a negative relationship between firm size and the investment rate. Thus, an increase in firm size leads to a decrease in investment rate by 4.104166. The probability value is 0.0000, which is highly significant (less than 0.05). This means that firm size has a statistically significant negative effect on the investment rate. Larger firms tend to have lower investment rates in deposit money banks in Nigeria. The alternate hypothesis was therefore accepted that firm size has a significant negative effect on the investment rate of deposit money banks in Nigeria (p-value = 0.000).

4.2.3 Hypothesis III

H_{o3}: Firm liquidity does not significantly affect investment rate of deposit money banks in Nigeria.

The coefficient of firm liquidity is -0.148111, suggesting a negative relationship between firm liquidity and the investment rate. Thus, an increase in firm liquidity leads to a decrease in investment rate by 0.148111. The probability value is 0.0000, indicating a highly significant relationship. Therefore, higher firm liquidity is associated with a lower investment rate in deposit money banks in Nigeria. The alternate hypothesis was accepted therefore that firm liquidity has a significant negative effect on the investment rate of deposit money banks in Nigeria (p-value = 0.000).

CONCLUSION AND RECOMMENDATIONS

Leverage emerges as a driver of increased investment, while larger size and higher liquidity appear to constrain investment activities. These findings re-emphasize the importance of strategic financial management in influencing the investment behavior of banks.

The study recommends that banks in Nigeria should ensure that risk management practices are robust to mitigate potential downsides of high leverage while leveraging debt for growth. Executive management of large banks should also consider adopting a balanced approach to investment that includes both conservative strategies for stability and selective, high-potential investment opportunities to drive growth. This can help large banks remain competitive while safeguarding their established positions.

Finally, Financial management teams of Deposit money banks should identify and allocate funds for investment opportunities that can yield higher returns. Striking a balance between liquidity and investment can enhance overall financial performance.

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Appendix A

Firms	Year	Asset	FSZ	LEV	LIQ	IVR
Access Bank	2012	1515754463	9.18	.84	16.83	.76
Access Bank	2013	1704094012	9.23	.86	22.04	.72
Access Bank	2014	1981955730	9.30	.86	86.26	.40
Access Bank	2015	2411944061	9.38	.85	26.84	4.54
Access Bank	2016	3094960515	9.49	.86	18.00	4.05
Access Bank	2017	3499683980	9.54	.87	9.01	-6.55
Access Bank	2018	3968114608	9.60	.89	9.82	-6.55
Access Bank	2019	6307588216	9.80	.91	.68	-15.34
Access Bank	2020	7624979724	9.88	.91	.65	.52
Access Bank	2021	9660760556	9.99	.91	.74	.57
Access Bank	2022	12535280000	10.10	.91	.65	1.63
Eco Bank	2012	1325315000	9.12	.88	22.04	.69
Eco Bank	2013	1460811000	9.16	.89	17.14	2.75
Eco Bank	2014	1772922000	9.25	.89	23.96	.81
Eco Bank	2015	1794348000	9.25	.87	17.96	9.89
Eco Bank	2016	1808503000	9.26	.88	13.02	7.70
Eco Bank	2017	1829761000	9.26	.85	10.72	9.98
Eco Bank	2018	1956830000	9.29	.87	19.01	6.40
Eco Bank	2019	8621939805	9.94	.92	.77	5.70
Eco Bank	2020	10384349227	10.02	.92	.75	1.77
Eco Bank	2021	11689232030	10.07	.92	.76	3.06
Eco Bank	2022	13373822328	10.13	.93	.34	3.06
Fidelity Bank	2012	914360000	8.96	.82	76.59	.43
Fidelity Bank	2013	1081217000	9.03	.85	33.10	.47
Fidelity Bank	2014	1187025000	9.07	.85	15.90	.55
Fidelity Bank	2015	1231722000	9.09	.85	7.82	.61
Fidelity Bank	2016	1298141000	9.11	.86	6.85	11.34
Fidelity Bank	2017	1379214000	9.14	.85	6.42	8.54
Fidelity Bank	2018	1719883000	9.24	.89	5.48	9.52
Fidelity Bank	2019	2114037000	9.33	.89	1.41	13.97
Fidelity Bank	2020	2758148000	9.44	.90	1.29	14.43
Fidelity Bank	2021	3280454000	9.52	.91	1.29	4.51

Fidelity Bank	2022	3989009000	9.60	.92	.44	1.22
First Bank Holding	2012	3186129000	9.50	.86	.67	.73
First Bank Holding	2013	3871001000	9.59	.87	.32	.24
First Bank Holding	2014	4342666000	9.64	.84	.35	-.24
First Bank Holding	2015	4166189000	9.62	.45	.70	.38
First Bank Holding	2016	4736805000	9.68	.88	.30	.38
First Bank Holding	2017	5236537000	9.72	.87	.34	21.55
First Bank Holding	2018	5568316000	9.75	.90	.33	21.92
First Bank Holding	2019	6203526000	9.79	.89	.35	38.44
First Bank Holding	2020	7689028000	9.89	.90	.37	41.19
First Bank Holding	2021	8932373000	9.95	.90	.02	34.84
First Bank Holding	2022	10577710000	10.02	.91	.02	18.74
First City Monument Bank	2012	908545756	8.96	.85	.26	22.27
First City Monument Bank	2013	1008280170	9.00	.86	.35	31.54
First City Monument Bank	2014	1169364784	9.07	.86	.37	40.81
First City Monument Bank	2015	1159534176	9.06	.86	.60	50.07
First City Monument Bank	2016	1172778078	9.07	.85	.27	3.47
First City Monument Bank	2017	1186524939	9.07	.84	.23	2.68
First City Monument Bank	2018	1431298022	9.16	.87	.28	4.67
First City Monument Bank	2019	1668505795	9.22	.88	.16	4.58
First City Monument Bank	2020	2058393493	9.31	.89	.00	7.49
First City Monument Bank	2021	2493197630	9.40	.90	.22	2.96
First City Monument Bank	2022	2983052557	9.47	.91	.29	.92
Guaranty Trust Bank	2012	1620317223	9.21	.82	16.91	1.59
Guaranty Trust Bank	2013	1904365795	9.28	.83	23.86	.96
Guaranty Trust Bank	2014	2126608312	9.33	.83	28.29	.33
Guaranty Trust Bank	2015	2277629224	9.36	.82	17.20	8.97
Guaranty Trust Bank	2016	2613340074	9.42	.82	17.70	13.95
Guaranty Trust Bank	2017	2824928985	9.45	.80	8.48	19.34
Guaranty Trust Bank	2018	2712521494	9.43	.81	12.73	21.57
Guaranty Trust Bank	2019	3097248495	9.49	.80	.80	19.37
Guaranty Trust Bank	2020	4944653293	9.69	.84	.59	13.27
Guaranty Trust Bank	2021	5436034997	9.74	.84	.66	12.19
Guaranty Trust Bank	2022	6446456429	9.81	.86	.75	10.68

StanbicIbtc Holding	2012	676819000	8.83	.87	.47	8.86
StanbicIbtc Holding	2013	763046000	8.88	.87	.30	7.55
StanbicIbtc Holding	2014	941919000	8.97	.88	.37	6.25
StanbicIbtc Holding	2015	937564000	8.97	.66	.48	4.95
StanbicIbtc Holding	2016	1053523000	9.02	.87	.50	7.83
StanbicIbtc Holding	2017	1386416000	9.14	.87	.62	9.73
StanbicIbtc Holding	2018	1663661000	9.22	.86	.49	10.28
StanbicIbtc Holding	2019	1876456000	9.27	.84	.52	13.23
StanbicIbtc Holding	2020	2486306000	9.40	.82	.55	10.32
StanbicIbtc Holding	2021	2742764000	9.44	.80	.58	10.98
StanbicIbtc Holding	2022	2999222000	9.48	.79	.61	12.75
Sterling Bank	2012	580225940	8.76	.92	10.54	9.40
Sterling Bank	2013	707797181	8.85	.91	17.18	2.76
Sterling Bank	2014	824538000	8.92	.90	19.08	4.05
Sterling Bank	2015	799451000	8.90	.88	11.05	5.34
Sterling Bank	2016	830803000	8.92	.90	14.83	6.63
Sterling Bank	2017	1068798000	9.03	.90	16.00	.83
Sterling Bank	2018	1085876000	9.04	.91	20.76	.86
Sterling Bank	2019	1165509000	9.07	.98	1.05	5.91
Sterling Bank	2020	1281830000	9.11	.89	1.15	7.26
Sterling Bank	2021	1611749000	9.21	.91	.96	.51
Sterling Bank	2022	1840622000	9.26	.92	.49	.68
Union Bank Of Nig	2012	1014806000	9.01	.83	1.04	2.61
Union Bank Of Nig	2013	1002756000	9.00	.81	.96	3.80
Union Bank Of Nig	2014	922755000	8.97	.78	3.42	3.36
Union Bank Of Nig	2015	1000976000	9.00	.77	3.80	4.01
Union Bank Of Nig	2016	1123483000	9.05	.78	3.76	4.38
Union Bank Of Nig	2017	1334921000	9.13	.76	5.84	4.76
Union Bank Of Nig	2018	1324297000	9.12	.76	3.80	3.13
Union Bank Of Nig	2019	1711739000	9.23	.86	1.05	5.51
Union Bank Of Nig	2020	2073758000	9.32	.88	.98	8.35
Union Bank Of Nig	2021	2567441000	9.41	.90	.96	5.85
Union Bank Of Nig	2022	2793674000	9.45	.90	.57	4.32
United Bank For Africa	2012	1933065000	9.29	.89	21.44	-8.84

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United Bank For Africa	2013	2217417000	9.35	.88	26.58	-7.72
United Bank For Africa	2014	2338858000	9.37	.88	40.87	-9.42
United Bank For Africa	2015	2216337000	9.35	.85	42.06	-8.61
United Bank For Africa	2016	2539585000	9.40	.85	23.66	-15.31
United Bank For Africa	2017	2931826000	9.47	.86	26.13	8.52
United Bank For Africa	2018	3591305000	9.56	.90	32.64	2.73
United Bank For Africa	2019	4136493000	9.62	.89	.96	-3.06
United Bank For Africa	2020	5207833000	9.72	.91	.84	-8.85
United Bank For Africa	2021	5574976000	9.75	.91	.76	-6.96
United Bank For Africa	2022	7361044000	9.87	.92	.76	11.00
Unity Bank	2012	395720179	8.60	.87	12.93	14.89
Unity Bank	2013	403629290	8.61	.93	12.54	-5.38
Unity Bank	2014	413305111	8.62	.82	17.57	2.51
Unity Bank	2015	443321012	8.65	.81	16.44	10.39
Unity Bank	2016	492681647	8.69	.83	27.00	8.27
Unity Bank	2017	156506504	8.19	2.55	1.35	6.15
Unity Bank	2018	235976190	8.37	2.03	6.80	14.04
Unity Bank	2019	293052070	8.47	1.95	.41	11.92
Unity Bank	2020	492020329	8.69	1.56	.72	20.49
Unity Bank	2021	538868755	8.73	1.51	.80	11.30
Unity Bank	2022	510143959	8.71	1.54	1.54	10.91
Wema Bank	2012	245704597	8.39	.99	24.32	14.25
Wema Bank	2013	330872475	8.52	.87	25.80	12.99
Wema Bank	2014	382562312	8.58	.89	8.90	12.77
Wema Bank	2015	396743314	8.60	.88	27.27	10.18
Wema Bank	2016	421221036	8.62	.88	16.95	13.23
Wema Bank	2017	384779809	8.59	.87	19.48	16.27
Wema Bank	2018	477915742	8.68	.89	17.38	19.31
Wema Bank	2019	704955604	8.85	.92	.89	2.35
Wema Bank	2020	968582084	8.99	.94	.91	5.39
Wema Bank	2021	1164517865	9.07	.94	.87	6.09
Wema Bank	2022	1433703656	9.16	.94	.40	4.79
Zenith Bank	2012	2436886000	9.39	.82	17.91	-19.09
Zenith Bank	2013	2878693000	9.46	.84	12.57	-13.65

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Zenith Bank	2014	3423819000	9.53	.85	11.14	-15.87
Zenith Bank	2015	3750327000	9.57	.85	14.97	34.58
Zenith Bank	2016	4283736000	9.63	.86	14.70	-19.46
Zenith Bank	2017	4833658000	9.68	.86	17.27	-12.10
Zenith Bank	2018	4955445000	9.70	.86	17.22	4.74
Zenith Bank	2019	5435073000	9.74	.86	7.23	2.58
Zenith Bank	2020	7124987000	9.85	.87	7.17	.42
Zenith Bank	2021	7872292000	9.90	.87	1.27	-1.74
Zenith Bank	2022	10570678000	10.02	.89	1.23	2.23

Source: Researcher's Compilation from banks' annual reports: 2012 to 2022

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