

FIRM CHARACTERISTICS AND ASSET GROWTH OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The study examined the influence of firm characteristics on the asset growth of quoted deposit money banks in Nigeria. This study adopted an ex-post facto research design and embraced a whole population size of 13 Deposit Money Banks quoted in NGX Group as at December 31, 2022. The sample size comprises nine banks via random sampling since data were readily available and represented performance in the Nigerian financial service sector. It was stated that secondary data were sourced from the annual reports and accounts of these banks from 2013 to 2022. Results from a generalized least square (GLS) regression model analyzed with STATA 13.0 software indicated that sales growth (SLGRWT) exerts an insignificant positive influence on asset growth, while leverage (LEVRGE) has an insignificant negative effect on asset growth, but firm age (FAGE) has a significant positive effect on asset growth in Nigerian deposit money banks. To this end, the study summarized that banks should invest in marketing and product development, and customer acquisition strategically in order to achieve sales growth, manage leverage ratios cautiously to achieve an optimal asset growth, and exploit longevity advantages such as established reputations and client bases.

Keywords: *firm characteristics, firm age, leverage, sales growth, asset growth*

INTRODUCTION

Firm characteristics encompass defining attributes of a company, including size, age, industry type, sales growth, leverage and ownership. These traits are intricately linked to resource accumulation, experiential factors, and the business environment, collectively shaping the strategic orientation and performance of the firm (Handoyo *et al.*, 2023). They serve to differentiate firms based on their functions and operations, encapsulating physical dimensions such as size and resources, as well as inherent qualities like age and type.

Variations in strengths and weaknesses among firms significantly impact the selection of competitive strategies (Nkundabanyanga *et al.*, 2019). Firms equipped with well-defined attributes are poised to outperform competitors lacking such characteristics, emphasizing the pivotal role these factors play in shaping business outcomes.

Firm characteristic are internal variables categorized into two main groups: firm performance attributes and firm structural attributes (Shehu, 2019). Both categories wield substantial influence over a firm's policies and

decisions. Firm performance attributes, including growth and profitability, contribute to organizational goal attainment, while firm structural attributes, encompassing size, age, leverage, and management efficiency, distinguish and impact the overall performance of different firms (Suhaila *et al.*, 2018). In the specific context of this study, the focus narrows down to three crucial firm attributes: sales growth, leverage, and firm age, with the aim of exploring into their specific impacts on asset growth.

Sales growth refers to the percentage increase in a company's revenue over a specific period. It is a key indicator of a firm's ability to expand its market share, enhance profitability, and sustain competitiveness. Sales growth is a fundamental metric reflecting a company's performance in generating increased revenue from its products or services (Pilbeam & Dunbar, 2021). Leverage involves the use of borrowed funds, such as loans or debt, to finance the operations or investments of a company. It amplifies the potential returns for shareholders but also increases the level of financial risk. Leverage can be measured by the debt-to-equity ratio, highlighting the proportion of a company's financing that comes from debt (Brealey *et al.*, 2017). High leverage can magnify profits, but it also escalates the impact of losses. Firm age denotes the number of years a company has been in operation since its establishment. It reflects the maturity and experience of the organization in navigating industry challenges. Older firms may have accumulated valuable institutional knowledge, established market presence, and developed enduring relationships, while younger firms might be more agile and innovative (Egbunike & Okerekeoti, 2018).

Asset growth, on the other hand, refers to the expansion in the total value of a company's assets over a specified period. It is a critical metric that reflects the overall health and development of a firm (Adam & David, 2020). Asset growth can result from various factors, including increased sales, strategic investments, and effective resource management. The accumulation of assets is essential for enhancing a company's competitiveness, supporting future investments, and providing a solid foundation for sustained financial performance (Ross *et al.*

2016). As companies expand their operations and increase their market presence, the need for additional assets becomes imperative. Asset growth is often associated with positive financial outcomes, improved market valuation, and increased shareholder value. However, effective management of asset growth is crucial to ensure that it aligns with the firm's strategic objectives and does not compromise financial stability (Myers, 1977).

The relationship between firm characteristics and asset growth in Nigerian Deposit Money Banks (DMBs) is pivotal. Analyzing the influences of sales growth, leverage, and firm age sheds light on this connection. Sales growth can positively impact Deposit Money Banks' asset growth by boosting revenue, enabling strategic investments, liquidity enhancement, and portfolio diversification (Handoyo *et al.*, 2023). Leverage's impact on asset growth is notable; well-managed leverage provides funds for DMBs' expansion, but excessive leverage poses financial risks (Brealey *et al.*, 2017). Firm age is crucial; older banks, with an established customer base and operational efficiency, contribute to steady asset growth (Egbunike & Okerekeoti, 2018), while younger banks may encounter challenges. This study analyzed firm characteristics; sales growth, leverage, and firm age on the asset growth of quoted Deposit Money Banks in Nigeria, offering valuable insights for strategic decision-making in the banking sector.

In the dynamic economic landscape of Nigerian deposit money banks (DMBs), comprehending the determinants of asset growth becomes imperative for industry stakeholders and policymakers. The pursuit of rapid sales growth by DMBs could lead to investment in riskier assets, potentially yielding higher returns. However, if not prudently managed, this strategy exposes banks to increased volatility and potential losses, adversely affecting overall asset growth (Rime & Stiroh, 2019). Aggressive sales growth strategies may further result in an expanded loan portfolio, risking a higher incidence of non-performing loans and detrimental effects on asset quality and overall growth (Berger & Bouwman, 2013). Additionally, while leverage has the potential to augment profits, an excessive reliance on debt introduces financial risks for DMBs. In challenging economic conditions or amid

fluctuations in interest rates, heightened leverage may lead to financial instability, negatively impacting asset growth (Demirgüç-Kunt & Huizinga, 2020). Poorly managed leverage may strain DMBs' debt servicing capabilities, diverting resources away from potential asset growth initiatives (Altunbas *et al.*, 2010). Furthermore, the age of DMBs introduces operational challenges. Older banks, with established structures, may struggle to adapt to rapidly changing market dynamics, hindering the implementation of innovative strategies and impeding asset growth compared to more agile, younger counterparts. Legacy systems and processes in older banks may result in inefficiencies, higher operating costs, and limitations in pursuing optimal asset growth strategies (Cecchini, 2019). Thus, a comprehensive examination of these challenges is crucial for devising informed strategies to foster sustainable and effective asset growth within the Nigerian banking sector.

A notable gap in the existing literature lies in the absence of a comprehensive analysis regarding the specific influence of firm characteristics, specifically sales growth, leverage, and firm age, on the asset growth of quoted Deposit Money Banks (DMBs) in Nigeria. This knowledge void creates challenges in formulating targeted strategies for the sustainable development of the banking sector. Although the study of Etim *et al.* (2023) focused on firm characteristics and asset growth, the study typically covered data only up to 2019 and incorporated other variables beyond sales growth, leverage, and firm age, while other studies concentrated on factors such as firm value and performance. To address these gaps and contribute to the literature, this study examined the effect of firm characteristics, specifically sales growth, leverage, and firm age on the asset growth of quoted Deposit Money Banks in Nigeria. Importantly, this research extended the temporal scope to encompass data up to the year 2022, providing a more contemporary and comprehensive understanding of the firm characteristics shaping the asset growth of Deposit Money Banks in the Nigerian banking landscape. This study examined the effect of firm characteristics on asset growth of quoted Deposit Money Banks in Nigeria while the specific objectives are to:

- i. assess the effect of sales growth on asset growth of quoted Deposit Money Banks in Nigeria.
- ii. determine the effect of leverage on asset growth of quoted Deposit Money Banks in Nigeria.
- iii. evaluate the effect of firm age on asset growth of quoted Deposit Money Banks in Nigeria.

Based on the specific objectives of the study, the following hypotheses are formulated in null form to guide the study:

H₀₁: Sales growth has no significant effect on asset growth of quoted Deposit Money Banks in Nigeria.

H₀₂: Leverage has no significant effect on asset growth of quoted Deposit Money Banks in Nigeria.

H₀₃: Firm age has no significant effect on asset growth of quoted Deposit Money Banks in Nigeria.

LITERATURE REVIEW

Concept of Firm Characteristics

Firm characteristics, which encompass the resources and capabilities that shape the distinct strategic choices and varying levels of profitability of companies, are unique. It is evident that no two firms can achieve identical performance outcomes due to the distinctive combination of resources and capabilities inherent to each entity. Various scholars in the disciplines of arts and social sciences define "firm characteristics" in multiple ways. These variations can be attributed to the unique traits of each firm and the legal frameworks that regulate businesses across different nations. Shehu and Farouk (2021) described firm characteristics as factors that remain relatively stable among various firms over a specific time frame. Conversely, Ali and Isa (2022) characterized firm characteristics as the distinguishing attributes that differentiate one firm from another. These attributes encompass various dimensions, including firm size, leverage strategy, performance, age, growth, management effectiveness, and stability. Such characteristics significantly impact performance levels and the decision-making

processes within the firm, beyond their routine operations.

To explain with the feature of firm growth, it extends as well as influences resource allocation. Growth-oriented firm: it is most likely to invest heavily in almost all available forms of assets and other resources in a firm to facilitate its growth. However, on the other hand, a stagnant or low-growth firm tends to be conservative while allocating resources. Furthermore, while a growing firm invests in the expansion of a firm, it also tries to satisfy its investors with a view to attracting their future financing and investment as well. The chase for growth molds the resources allocation strategy, thus creating a unique profile compared to a firm experiencing sluggish growth. The other crucial characteristic of a firm influencing the requirements of operation is performance. A high-performance firm realizing large volumes of turnover will require operationalizing capabilities of a high order, such as sustaining high levels of inventory, processing capability that is efficient, and cash reserves sufficient to respond to increased demands from customers (Tita & Lionel, 2015). The resource profile of a high-turnover firm is, therefore, different from its lower performing counterparts in especial current assets and operational efficiency.

Firm age has to do with experience which means an organization's operations become standardized, coordinated, and expedited. Firms set standards through the years that guide resource allocations decisions over time upon gaining experience. Well-developed policies and practices of older firms enable them to optimize resource levels at any point in time; this is one good reason why their performance could be better compared with younger firms. This study thus emphasizes the importance of certain variables, including sales growth, leverage, and firm age, in the realm of firm characteristics. As commented, sales growth acts to shape resource allocation strategies, and the ability to employ leverage becomes an important component of financial decision-making. Interaction among these variables impacts the trajectory of the firm's performance (Arif *et al.*, 2020). Older firms may benefit from experience and the sedimentation of practices an operational efficiency and performance distinguished from younger firms.

Sales Growth

Sales growth is the increase in sales volume within a period of time for that product or service in the market. It is used to determine the performance level of a business concerning its revenue returns. This can be measured by annual, quarterly, or monthly comparisons. Growth in sales indicates economic stability, customer satisfaction, and loyalty, while negative sales may be triggered by economic downturn, high competition, and even poor customer service. Measuring sales growth is critical as it shows the performance of a company, helps in the identification of trends, and often acts as the basis for future decisions regarding marketing and specific products being manufactured. The various factors influencing it will include the quality of products, price of the commodity, customer service, market forces, and economic status. More important, however, is that effective tracking and optimization of the relevant sales metrics also help to elicit the right level of understanding and response in due time to the expectations of the consumers and the institutional buyers, thereby forming a catalyst for sales growth, as Eskinder 2021 and Bob 2016 have explained. Indeed, research findings have proven that sales growth is positively related to financial performance-meaning, enhanced sales growth means enhanced financial performance.

High sales growth indicates the presence of a competitive advantage, offering enormous business expansion opportunities. Business expansion increases the market exposure of the company, thereby allowing it to sell more products and maximise overall production at high efficiency. High market demand, due to high sales growth, enables the adoption of mass production, reducing the overall cost of production and thereby enhancing the financial performance of the company. Furthermore, growth rate and profitability are associated in many aspects but not in a linear relationship. Some of the drivers of profitability include pricing strategy, operational cost, and competitive dynamics. Balancing growth with profitability becomes a critical consideration for any business.

Leverage

The leverage ratio is a financial metric that depicts the relative amount of a company's total debt in relation to its shareholders' equity, which carries significant implications for investors and lenders by providing insights into the company's financial condition and the level of risk it undertakes. According to Brigham and Ehrhardt (2016), "this ratio revealed the extent to which a company finances its operations through debt instead of equity, which is valuable for assessing returns and risks." A high leverage ratio indicates that a larger portion of the company's capital structure is financed by debt rather than equity, signaling financial leverage. Although financial leverage can enhance returns on equity, it simultaneously heightens the risk of default if the firm is unable to meet its debt obligations. Financial leverage primarily consists of two key components: the acquisition of external funds and the management of fixed financial costs. Radev *et al.* (2013) defined financial leverage as a measure of the influence of the company's operational activities in the presence of fixed financial charges, which can yield positive or negative outcomes depending on whether interest expenses are covered by earnings before interest and taxes. Positive financial leverage occurs when a higher return on assets exceeds the cost of the capital utilized, thereby increasing the owner's return rate. Marston and Perry (2021) note that a significant number of business operations utilize financial leverage, particularly in real estate and financing through bonds or preferred stock. Enekwe *et al.* (2021) stated that it quantifies the extent to which a firm employs both equity and debt to finance its assets. Ward and Price (2019) further assert that an increase in debt capital not only enhances shareholders' wealth but also raises financing risks.

In this study, financial leverage encompasses fixed-charge sources combined with debt and preferred stock capital along with equity capital in the firm's funding sources. It is a critical element in attaining an optimal capital structure and serves as a vital indicator of a firm's exposure to financial risk. The careful and strategic application of financial leverage or debt capital, if applied sensibly, can lead to higher returns on fixed interest financing sources, ultimately maximizing the firm's value

and the wealth of its shareholders. Mehul and Varadjat (2022) described leverage as the ratio of a firm's debt to its equity. Trisha (2019) explains leverage as the utilization of fixed interest-bearing assets or funding sources to boost a firm's earnings before interest and tax or per-share earnings. Leverage can be categorized as either operating or financial. Sanjay (2017) described leverage as the amount of debt present in an organization's capital structure, whether operating or financial. Operating leverage refers to an organization's capacity to enhance earnings before interest and tax on fixed operating costs in relation to variations in sales and profit, while financial leverage pertains to the firm's ability to amplify changes in earnings before interest and tax on its earnings per share through fixed financial charges. In this context, leverage will be defined as the debt-to-equity ratio of a firm. This broad interpretation of leverage emphasizes its multidimensional nature, as it not only reflects its influence on returns and risks but also encompasses the entire capital structure of the organization.

Firm Age

Firm age is a fundamental concept that can be defined in various ways. It is commonly defined as the length of time a firm has been in operation or the number of years since its incorporation. The definition of firm age is essential for efficient comparison of corporate operations. While some argue that listing age should define the age of the company, it is generally accepted that firm age is based on the number of years of incorporation, as it represents the birth of the company as a legal personality (Gautam, 2019). Firm age is often used as a control variable in various studies, and it has been found to have a relationship with firm growth and performance. However, the evidence regarding this relationship is not always conclusive. Some studies suggest that younger firms may struggle to achieve economies of scale and lack innovation capabilities, while older firms may face organizational rigidities and a decline in profitability. The relationship between firm age and profitability is a topic of debate, with some studies reporting a positive and significant relationship, and others reporting a negative relationship (Elif, 2016; Gautam, 2019).

The significance of firm age in relation to firm behavior and performance is evident. As firms grow older, they may face challenges such as organizational rigidities and limited innovation capabilities, which can impact their profitability. However, the exact nature of the relationship between firm age and various aspects of firm performance remains a subject of ongoing research and debate (Ofuan & Izien, 2016). Firm age is also an attribute which is unique within a firm and differ among different firms. Older firms are expected to have higher share prices as the value of their accounting information can be more relevant in the market (Akeem, 2014). One can deduce therefore that firm age would have positive influence on share price. The age of a firm was defined by Claudio and Urs (2019) as the number of years elapsed from either the time of listing or that of incorporation. Also, Alex *et al.* (2014) referred to firm age as the difference between a given year of observation and its year of a firm's incorporation. Furthermore, Elif (2016) defined firm age in two ways. The first of which referred to it as the number of years since the firm was first listed and called the listing age. The second definition which was in line with the definitions by Ofuan and Izien (2016); and Iyappan and Ganesamoorthy (2017) refer to firm age as the incorporation age, which is measured as the elapsed number of years from the firm's year of incorporation. This study defines firm age as the number of years from the year a firm is listed on the floor of the Nigerian Stock Exchange.

Asset Growth

Age of a firm is a conceptual matter which can be defined in a number of ways. It is usually defined as the period of time during which a firm may have been in operation or as the years that have elapsed since incorporation. Firm age should be defined because it is crucial in making efficient comparison of the operations of firms. Although there are some debates that the age of listing should define the age of the firm, it is generally accepted that the age of a firm should be founded on years of incorporation since it represents the birth of the firm as a legal personality. Firm age is one of the variables used for control in many studies, and it has been found to relate to the growth and performance of firms. However, this relationship is not always evident. Some studies

find that though the liabilities of newness may hinder a younger firm's abilities to achieve economies of scale and innovation capabilities, older firms may have problems with organizational rigidities and a decline in profitability. While some have found a positive and significant relationship between firm age and profitability, others report a negative one; see Elif 2016 and Gautam 2019. The importance of firm age in regard to firm behavior and performance is evident.

With increasing age, firms will more than likely suffer from organizational rigidities and limited capabilities of innovation that impede their profitability. However, the precise nature of the firm age-firm performance relationship continues to be a subject of study and debate in various dimensions of firms. Firm age is an attribute unique and differs in several firms. According to Akeem 2014, the relevance of the accounting information value to older firms can be more relevant in the market; thus, their share prices are expected to be higher. From this, it is possible to deduce that the age of a firm can have a positive effect on share price. The age of a firm can be defined as the time in years elapsed from the time of listing or incorporation according to Claudio and Urs 2019. Also, Alex *et al.* (2014) defined firm age as the difference between a given year of observation and its year of a firm's incorporation. Furthermore, Elif defined firm age in two different ways; first referred to it as the number of years since the firm was first listed, which called the listing age. Its second definition, which agreed with Ofuan and Izien 2016; Iyappan and Ganesamoorthy 2017, defined firm age as incorporation age measured by the number of years elapsed from the firm's incorporation year. In this paper, Firm Age is defined as the time in years counted from the year a firm gets listed on the floor of the Nigerian Stock Exchange.

Theoretical Review and Underpinning

Agency Theory

Agency theory, postulated by Jensen and Meckling in 1976, arises because of the separation of ownership and control in corporations. It refers to a conflict of interest and divergence of goals between the principals (shareholders/owners) and agents (managers) who manage the company. A few important

assumptions form the basis of the agency problem. Principals strive to receive the best returns, while agents may have other objectives such as maximizing their utility or job security. This, according to Eisenhardt (1989), is because of goal incongruence: agents may operate at cross-purposes with the principals. The second agency problem arises because of information asymmetry between the principal and the agent. Agents normally enjoy better knowledge about the company's operations and financial performance. This informational benefit can enable the agent to exploit this position to become opportunistic in a manner detrimental to the principals. Agents are also presumed to act in self-interest to engage in activities that may not be in the best interests of the principals (Eisenhardt, 1989). The agent may also engage in undesirable risks or shirk because the principal will incur the major consequences of those risks. Together, these assumptions reflect some of the inherent problems and conflicts due to the agency problem.

There are a few strengths of the concept of the agency problem. The concept emphasizes that the goals of the principals and agents have to be aligned to ensure appropriate management of the firm. In this regard, the agency problem, through the realization of conflict of interest and striving to alleviate it, has encouraged the emergence of various governance mechanisms such as monitoring systems, incentive structures, and external audits. These mechanisms are instituted towards ensuring that any presence of agency conflict is reduced while accountability, transparency, and better practices of corporate governance are advanced. The agency problem also offers a conceptual framework through which the challenges of corporate governance can be analyzed and understood. It has thus set the nature of academic research and discussions regarding principal-agent relationships and the design of governance mechanisms linked to such relationships. In fact, the agency problem has shaped the nature of academic debates and discussions on matters relating to principal-agent relationships and the design of governance mechanisms. However, the agency problem has received its fair share of criticism. Critics view it as too narrow in that it oversimplifies the human behavioral problem by assuming that all agents are self-interested in

their drive, and this leads to the neglect of other bases that could also motivate managers. Also, the agency is viewed as homogeneous agents, while goals and interests might be pretty heterogeneous for the managers inside the firm. In addition, there is a shortage of direct empirical evidence that can link the agency problem to firm performance or financial outcomes, raising questions about the causality of the impact as well as its magnitude. Moreover, critics argue that the agency problem focuses on principals and agents' conflicts but fails to involve interests and other perspectival information of other stakeholders like employees, customers and society as a whole (Donaldson & Preston 1995). Such criticisms therefore call for a wide stakeholder interest in covering the corporate governance debate. Agency theory, in the context of this study, deals with a way of looking at the relationships that exist between deposit money banks' shareholders and management. This is an avenue through which to show how managerial decisions on financing options are made either in line or in conflict with the interests of the shareholders as influenced by firm characteristics like sales growth, leverage, and firm age. The theory provides an avenue for the analysis of conflicts of interest, managerial agency problems and the impact of information asymmetry on decision-making processes about asset growth within the Nigerian banking sector.

Resource-Based View Theory

Resource-Based View theory has over the years remained a vital strategy literature anchor, with its origin generally attributed to the 1950s seminal work of Edith Penrose. It received formalization and prominence in the 1980s with contributions by scholars like Jay Barney and Birger Wernerfelt. Barney, 1991; Wernerfelt, 1984 Edith Penrose's work, particularly "The Theory of the Growth of the Firm," provided the very foundation upon which the RBV perspective rests by underlining the crucial role played by the internal resources. Penrose, 1959. Barney refined the theory in 1991 to focus on a resource being valuable, rare, difficult to imitate, and nonsubstitutable. RBV perceives human capital, technology, brand reputation, and organizational culture as special and valuable resources within a firm that enable a firm's competitive advantage. Barney stated

that for a resource to be appropriately labeled VRIN, the critical measures include: a resource must be valuable, rare, difficult to imitate, or substitutable to ensure a continuous competitive advantage. The basic assumptions underlying RBV are: heterogeneity of firms with respect to resources and capabilities, imperfect mobility of some resources across firms, and that firms will seek to maximize returns through rational behavior.

Various strengths of RBV are that it looks inward and stipulates the importance of unique resources and capabilities in the development of sustainable competitive advantages. The VRIN criteria present an almost practical method for analyzing resources from a strategic perspective. There are extensive applications of RBV to explain various phenomena in strategic management, including diversification, mergers and acquisitions, innovation, among others. Some critics outline the weaknesses in RBV. However influential, the VRIN criteria has the potential to be ambiguous in practice. It is criticised for being less instructive to firms in how to develop/acquire resources, and its inability to address dynamic environments and changes in resource value over time. This RBV Theory is used to analyze the exact way certain firm resources, such as sales growth, leverage, and age of the firm, contribute to competitive advantage and then to asset growth. The distinct resources contribute to the sources of strengths, thereby influencing the general performance and growth trajectory of quoted deposit money banks in Nigeria. The theory especially finds an analytical framework through which it should understand how the sustained sales growth, leverage strategic choices, and accumulated experiences make the leading positions of the banks, hence their asset growth.

RBV becomes useful in underpinning the study in its valuable insight into how unique firm resources, including sales growth, leverage, and firm age, contribute toward competitive advantage and hence influence the growth of assets in quoted deposit money banks in Nigeria. The RBV befits the study because, through it, detailed studies can be conducted on how continuous growth of sales acts as a distinctive resource, how strategic choices in leverage affect the level of competitiveness, and how the accumulated experience of older firms turns out to be a source of competitive

advantage thus influencing asset expansion. The same agency theory also explains the relationship between shareholders and management in that it is more often used to account for how managerial decisions, since influenced by characteristics of the firm, tally or diverge from the shareholder's interest. Given the fact that sales growth, leverage, and age are variables of this study, the Agency theory accounts for what will be termed the roots of interest conflict and agency problems which may affect asset growth decisions in deposit money banks. Merging both theories could allow a holistic investigation of the internal and stakeholder dynamics that govern asset growth in the Nigerian banking context.

Empirical Review

Roy (2023) examined the effects of sales growth and operating capacity on profitability, with firm size as a moderating variable. The study focused on infrastructure companies registered in Indonesia during the 2017-2020 period, employing purposive sampling to determine the sample. Data were collected through documentation. Statistical analysis included t-tests and multiple linear regression, preceded by classical assumption testing. The findings indicated that while sales growth did not impact profitability, both operating capacity and firm size had positive effects on profitability. However, firm size did not moderate the relationship between sales growth and profitability; conversely, it moderated the effect of operating capacity on profitability. The study suggested that future research should involve a larger, more diverse sample across various industrial sectors and extend the research timeframe. Etim *et al.* (2023) investigated how firm characteristics influenced asset growth among quoted companies in Nigeria. Firm characteristics were represented by profitability, leverage, and revenue growth, while asset growth was measured by the change in non-current assets from the prior year to the current year. Data were collected ex post facto from the annual financial reports of relevant companies covering fiscal years 2008-2019. The study employed both descriptive and inferential statistics, using ordinary least squares (OLS) regression for analysis. The results revealed that profitability, leverage, and revenue growth did not significantly affect asset growth in

quoted companies. The study recommended that firms should monitor various indicators of asset growth, rather than focusing solely on firm characteristics, and emphasized the importance of forming boards based on expertise and qualifications rather than gender.

Thomas *et al.* (2022) identified the impact of sales growth and firm size on firm value, with return on assets serving as a moderating variable. The research focused on consumer goods companies listed on the Indonesia Stock Exchange from 2015 to 2020, using purposive sampling to select ten firms. Regression analysis was conducted using SPSS, which included descriptive statistics, classical assumption testing, multiple linear regression, moderation regression analysis, and hypothesis testing. The findings indicated that sales growth negatively impacted firm value, while total assets positively affected it, albeit not significantly. Although sales growth and total assets influenced firm value, their joint significance was lacking. The study advised investors to exercise caution when considering sales growth and firm size in their investment decisions, as reliance on these factors could lead to errors. Paul *et al.* (2022) discussed factors influencing firm growth, analyzing data from ninety-one non-financial firms listed on the Nigerian Stock Exchange. Parameters were estimated using ordinary least squares from audited annual financial statements. The results indicated a positive and significant causal relationship between firm innovativeness, management efficiency, and firm growth. However, leverage, firm size, and institutional ownership exhibited positive but insignificant relationships with growth. The study revealed that firm age, capital intensity, and other factors negatively but insignificantly affected growth. The authors recommended that businesses should base their growth strategies on forward-looking variables, emphasizing innovativeness and optimizing the reinvestment of retained earnings, particularly for older and larger firms.

Muhani *et al.* (2021) analyzed the effects of sales growth (SG), current ratio (CR), total asset turnover (TATO), debt-to-equity ratio (DER), and debt-to-asset ratio (DAR) on return on equity (ROE) in energy and mining sector companies listed on the Indonesia Stock Exchange from 2015 to 2019. The study population included 47 energy and mining

firms, with purposive sampling yielding 14 companies. Secondary data were collected from financial statements, and linear regression analysis using panel data in STATA 16 was conducted. The findings indicated that SG, TATO, DER, and DAR had no significant influence on ROE, while CR had a negative and significant effect. Susanti *et al.* (2021) examined the relationship between sales growth, profitability, and firm size on leverage among manufacturing firms consistently listed on the Indonesia Stock Exchange from 2017 to 2019. The study utilized purposive sampling, and data analysis was conducted using EVIEWS. The results indicated that sales growth did not positively influence leverage, while profitability positively affected leverage. Conversely, firm size did not have a positive impact on leverage. The authors recommended that future research expand the industry sector and research period while incorporating additional variables such as non-debt tax shields, tangibility, liquidity, and business risk.

Helmi *et al.* (2021) explored how firm characteristics influenced operational, financial, and market performance of Saudi-listed firms during the COVID-19 pandemic. The sample comprised 126 non-financial Saudi firms across various sectors from Q3 2019 to Q3 2020, yielding 504 quarterly reports representing 62% of the population. The study found that all three performance measures declined significantly with the onset of the pandemic. Larger firms outperformed smaller ones pre- and post-pandemic, though the relationship with return on equity weakened as the pandemic progressed. Additionally, leverage negatively impacted firm performance across all three measures, with evidence suggesting this effect intensified after the crisis. Naelly and Matroddi (2020) analyzed the influence of leverage, profitability, liquidity, and asset growth on corporate value in consumer goods sectors listed on the Indonesia Stock Exchange from 2015 to 2018. The study used purposive sampling to obtain a sample of 20 companies, employing panel data regression analysis. The findings revealed that the debt-to-equity ratio, return on assets, and asset growth positively and significantly influenced price-to-book value, while the current ratio had a negative but insignificant effect. The authors recommended that investors consider financial performance indicators, including debt-to-

equity ratio, return on assets, current ratio, and asset growth, as these factors could affect firm value.

Uzoka *et al.* (2020) evaluated the impact of corporate attributes and performance through an interaction approach, using panel data from 2009 to 2018 from the financial reports of industrial firms in Nigeria. The study adopted an ex-post facto design and applied ordinary least squares regression analysis. The results indicated that operating efficiency, asset tangibility, and leverage policy negatively and significantly affected performance. Firm age and corporate stability had a negative but insignificant effect, while firm growth and size were positively associated with performance but not significantly. The authors recommended that management focus on enhancing operational efficiency and aligning policies with current realities to improve performance. Farajimakin *et al.* (2020) examined the relationship between firm characteristics and liquidity management among firms in the Nigerian Stock Exchange. Utilizing an ex-post facto design, the study analyzed panel data from forty firms between 2009 and 2018 using panel least squares regression. The results indicated that firm size positively and significantly affected liquidity management, while leverage policy had a negative but insignificant impact. Firm age positively influenced liquidity management significantly, whereas firm performance and audit committee effectiveness showed positive but insignificant effects. The authors recommended that management consider firm size, as it significantly influences liquidity management.

Uzoka and Ifurueze (2020) assessed the effect of corporate attributes and performance in selected African countries, adopting an ex-post facto design. Panel data from financial reports of industrial firms from 2009 to 2018 were analyzed using ordinary least squares regression. The study found that operating efficiency and leverage policy positively and significantly affected performance, while corporate size, age, and stability had positive but insignificant effects. Asset tangibility and corporate growth negatively influenced performance but were also insignificant. The authors recommended that management in industrial firms in Kenya, Nigeria, and South

Africa focus on enhancing operational efficiency to achieve lower operating costs. Eka (2018) contributed to the understanding of the role of investment, sales growth rate, and company size on performance. The study utilized a sample of 94 manufacturing firms listed on the Indonesia Stock Exchange from 2010 to 2016, all of which reported complete financial statements. The results indicated that the sales growth rate mediated the influence of investment on firm performance, although no specific recommendations were made.

Kenn *et al.* (2018) investigated the relationship between financial leverage and asset growth among 80 non-financial firms listed on the Nigerian Stock Exchange from 2000 to 2015. The study utilized panel regression analysis and revealed significant associations between financial leverage variables, excluding the cost of debt. Asset growth exhibited significant negative associations with control variables such as interest rates, inflation rates, and exchange rates. The authors suggested that quoted firms should utilize financial leverage in a manner where the benefits outweigh the costs and recommended that management consider prevailing economic factors when making financial decisions.

METHODOLOGY

An ex-post facto research design was utilized for this study, focusing on the impact of firm characteristics on the asset growth of listed Deposit Money Banks in Nigeria. The research population comprises of all the 13 Deposit Money Banks listed on the NGX Group as of December 31, 2022. Random sampling technique was used in selecting nine Deposit Money Banks which served as the sample size of the study, given the availability of data and the performance of these banks within the Nigerian financial service sector. Data were gathered from secondary sources, specifically the annual reports and accounts of the nine deposit money banks for the period from 2013 to 2022. The selection of secondary data sources was guided by the nature of the variables under investigation. Both descriptive and inferential statistical analyses were performed. Descriptive statistics were conducted to summarize the data, utilizing measures such as mean, standard deviation, minimum, and maximum values. A Pearson

correlation matrix was generated to evaluate the relationships between firm characteristics and asset growth. To assess multicollinearity, the Variance Inflation Factor (VIF) was calculated. Additional tests conducted included the Shapiro-Wilk normality test, heteroscedasticity test, and Hausman specification test. Ultimately, Generalized Least Squares (GLS) regression was applied to test the hypotheses.

Model Specification

To accomplish the objectives of this study and test the hypotheses, a functional relationship was established in the form of a multiple linear regression model, which includes both dependent and independent variables. In this model, asset growth serves as the dependent variable, while the independent variables consist of sales growth, leverage, and firm age. The regression model is presented as follows;

$$ASSGRW_{it} = \beta_0 + \beta_1 SLGRWT_{it} + \beta_2 LEVRGE_{it} + \beta_3 FAGE_{it} + e_{it}$$

Where:

ASSGRW = Asset growth

SLGRWT= Sales growth

LEVRGE = Leverage

FAGE = Firm age

e = Residual

β_0 = Constant term

i = period

t = time

β_1 , β_2 , and β_3 = Slope coefficients corresponding to the explanatory variables.

Variables Measurement and Justification

Table 1: Measurement of the Variables

Variable Name	Type	Variable Measurement and Justification
Asset growth (ASSGRW)	Dependent	Calculated by finding the difference between total assets in the current period and the previous period, then dividing that difference by the total assets of the previous period (Bethuel, 2014; Etim et al., 2023)
Sales growth (SLGRWT)	Independent	Determined by subtracting the sales from the prior period from the sales in the current period and then dividing that result by the sales of the previous period (Etim et al., 2023; Paul et al., 2022).
Leverage (LEVRGE)	Independent	Assessed by dividing a company's total liabilities by its shareholders' equity (Bethuel, 2014; Kenn et al., 2018).
Firm age (FAGE)	Independent	Evaluated by calculating the number of years from the firm's establishment until 2022 (Bethuel, 2014; Paul et al., 2022).

Source: Researcher's Compilation (2024).

RESULT AND DISCUSSIONS

The analysis was conducted using Stata 13 software and included Descriptive Statistics, the Shapiro-Wilk Normality Test, Pearson

Correlation, the Variance Inflation Factor, Heteroscedasticity Test, Hausman Specification Test, and the Robust Random Effect Regression Model. The detailed results of this analysis are also included in Appendix C.

Descriptive Statistics

Table 2: Summary of the Descriptive Statistics of the Entire Data Set.

Variables	Obs	Mean	Std. Dev.	Min	Max
ASSGRW	90	.2267256	.3894717	-.6823	2.5318
SLGRWT	90	.1290178	.4921275	-.727	2.4569
LEVRGE	90	7.27379	3.616084	-2.9513	16.3524
FAGE	90	45.33333	17.41109	23	77

Source: Researcher's Computation using STATA 13 software

The dataset includes data related to asset growth, which has an average rate of approximately 0.2267, indicating that, on average, the banks experienced an increase in asset growth of about 22.67%. The standard deviation for asset growth is 0.3895, suggesting moderate variability among the banks, which implies that while some institutions had substantial asset growth, others faced lower or even negative growth. The minimum observed asset growth is -0.6823, indicating that at least one bank saw a decline in total assets by approximately 68.23%. Conversely, the maximum asset growth recorded is 2.5318, highlighting that one bank achieved an impressive asset growth increase of about 253.18%. Sales growth shows an average growth rate of 0.1290, suggesting that the banks, on average, experienced a sales increase of roughly 12.90%. The standard deviation for sales growth is 0.4921, reflecting greater variability compared to asset growth. This indicates that while some banks showed strong performance, others experienced significantly lower or even negative sales growth. The minimum recorded sales growth is -0.7270, revealing that at least one bank faced a sales decline of about 72.70%. In contrast, the maximum sales growth reached 2.4569,

showing that one bank achieved a remarkable sales growth of approximately 245.69%.

The leverage ratio averages 7.2738, suggesting that, on average, the banks have about 7.27 times more debt than equity. A standard deviation of 3.6161 indicates substantial variation in leverage ratios among the banks, meaning some institutions are significantly more leveraged than others. The minimum leverage recorded is -2.9513, an atypical finding since leverage typically should not be negative; this points to potential discrepancies in the data or unusual cases of negative equity in some banks. The maximum leverage ratio observed is 16.3524, indicating that at least one bank carries approximately 16.35 times more debt than its equity, suggesting a high level of risk. Finally, regarding the age of the banks, the average is 45.3333 years, indicating that they have been operating for a considerable length of time. The standard deviation of 17.4111 indicates variability in age, with some banks being notably younger or older than the average. The youngest bank in the dataset is 23 years old, suggesting the presence of relatively newer institutions in the banking sector, while the oldest bank is 77 years old, reflecting the existence of well-established institutions with extensive operational histories.

Shapiro Wilk Normality Test

Table 3: Results of the Normality Test Conducted with the Use of Shapiro Wilk Test

Variables	Obs	W	V	Z	Prob>z
ASSGRW	90	0.49794	37.976	8.021	0.00000
SLGRWT	90	0.64227	27.058	7.274	0.00000
LEVRGE	90	0.92308	5.818	3.884	0.00005
FAGE	90	0.90916	6.871	4.251	0.00001

Source: Researcher's Computation using STATA 13 software

In fact, from table 3 above, the shapiro-wilk test results indicate the normality of the variables in

the dataset. For asset growth (ASSGRW), the W statistic is 0.49794 with a p-value of

0.00000, suggesting a significant departure from normality. Similarly, sales growth (SLGRWT) has a W value of 0.64227 and a p-value of 0.00000, also indicating non-normality. Leverage (LEVRGE) and firm age (FAGE) show W values of 0.92308 and 0.90916, respectively, both with p-values below 0.001, further confirming the rejection of **Pearson Correlation**

the normality hypothesis. The p-values signify that the probability of observing these statistics under a normal distribution is extremely low, reinforcing the conclusion that none of the variables are normally distributed, which necessitates the use of robust effect regression model.

Table 4: Pearson Correlation Matrix for the Data Set.

	ASSGRW	SLGRWT	LEVRGE	FAGE
ASSGRW	1.0000			
SLGRWT	0.1659	1.0000		
LEVRGE	-0.0518	0.0655	1.0000	
FAGE	0.3893	0.1148	-0.0180	1.0000

Source: Researcher's Computation using STATA 13 software

The correlation matrix assesses the strength of the relationships between the independent variable proxies and the dependent variable. It also examines whether there are associations among the independent variable proxies to identify potential multicollinearity issues in the model. According to the results presented in Table 4, there exists a weak positive correlation of approximately 17% between sales growth (SLGRWT) and asset growth (ASSGRW) for deposit money banks in Nigeria, indicated by a correlation coefficient of 0.1659. Additionally, there is a weak negative correlation of about 1%

between leverage (LEVRGE) and asset growth (ASSGRW), with a correlation coefficient of -0.0518. Furthermore, the analysis shows a moderate positive correlation of 39% between firm age and asset growth (ASSGRW), as evidenced by a correlation coefficient of 0.3893. Lastly, the correlations among the independent variable proxies themselves are relatively weak, with all coefficients remaining below the 0.80 threshold recommended by Gujarati (2003), indicating that multicollinearity is not a concern in this model.

Variance Inflator Factor (VIF) Results

Table 5: Variance Inflator Factor (VIF)

Variable	VIF	I/VIF
LEVRGE	1.02	0.982250
SLGRWT	1.01	0.986164
FAGE	1.00	0.995049
Mean VIF	1.01	

Source: Researcher's Computation using STATA 13 software

To further validate the absence of multicollinearity among the independent variables, a collinearity diagnostics test was conducted. The results from the Variance Inflation Factors (VIF) and Inverse Variance Inflation Factors (I/VIF) indicate no multicollinearity issues within the data, as both

values are below 10 and 1, respectively, in accordance with Gujarati (2003), as shown in Table 5. This suggests that the variables have been appropriately selected and integrated into the regression model, as the absence of multicollinearity is a key prerequisite for conducting regression analysis.

Heteroscedasticity test

Table 6: Heteroscedasticity test

Type of test	Chi2	P-Value
Heteroscedasticity Test	0.26	0.6085

Source: Researcher's Computation Using STATA 13 software

Table 6 presents the results of the heteroscedasticity test, indicating a Chi-square value of 0.26 and a p-value of 0.6085. To determine the robustness of the data used in this study, a heteroscedasticity test was conducted. The findings indicate that the data is

homoskedastic, as shown in Table 6. This is evidenced by the Chi-square result, which confirms that the constant error variance aligns with the classical linear regression assumption of homoscedasticity.

Hausman Specification Test

Table 7: Result of Hausman Specification Test Conducted

Chi2	0.96
Prob. Chi2	0.6198

Source: Researcher's Computation using STATA 13 software

Given that the data for this study is panel data, it may introduce clustering errors that could be correlated over time. Each deposit money bank may have unique entity-specific characteristics influencing its features, leading to unobserved heterogeneity. This could potentially bias the outcome variable and the explanatory variables,

necessitating proper controls. The Hausman test results indicate that the random effects model is more suitable, as confirmed by the Chi-square value of 0.96 and the p-value of 0.6198, which is not significant across any level of significance.

The Results of Robust Random Effect Regression Model

Table 8: Robust Random Effect Regression Model Conducted

Variable	Coefficients	z-value	Prob.
SLGRWT	.8251695	1.17	0.242
LEVRGE	-1.399048	-1.08	0.281
FAGE	.0782774	2.21	0.027
_Cons.	3.690284	1.48	0.139
R-sq overall	0.1635		
Wald chi2	10.43		
Prob. >chi2	0.0152		

Source: Researcher's Computation using STATA 13 software

Table 8 illustrates the findings of the Robust Random Effects Regression Model. It reveals that 16% of the variation in asset growth can be explained by the combined influence of sales growth, leverage, and firm age, reflected by an overall R-squared value of 0.1635. This suggests that the study's model is well-fitted, with the independent variables appropriately combined and utilized. The Wald Chi-square value of 10.43, along with a p-value of 0.0152,

indicates that the model is a suitable fit for this analysis.

Testing of Hypotheses

The hypotheses formulated to examine the impact of firm characteristics on the asset growth of listed deposit money banks in Nigeria were assessed using a robust random effects regression model.

Ho1: Sales growth does not significantly affect the asset growth of listed Deposit Money Banks in Nigeria. The results presented in Table 8 indicate a z-value of 1.17 and a corresponding p-value of 0.242, suggesting that sales growth has an insignificant positive impact on the asset growth of deposit money banks in Nigeria during the review period. Consequently, the null hypothesis stating that sales growth does not significantly influence asset growth in these banks is accepted.

Ho2: Leverage does not significantly affect the asset growth of listed Deposit Money Banks in Nigeria. According to Table 8, the calculated z-value of -1.08 and the p-value of 0.281 reveal that leverage has an insignificant negative effect on the asset growth of deposit money banks in Nigeria during the study period. Therefore, the null hypothesis asserting that leverage does not significantly influence asset growth is also accepted.

Ho3: Firm age does not significantly impact the asset growth of listed Deposit Money Banks in Nigeria. Lastly, Table 8 displays a z-value of 2.21 and a p-value of 0.027, indicating that firm age has a significant positive effect on the asset growth of deposit money banks in Nigeria during the review period. In light of this, the null hypothesis stating that firm age does not significantly affect asset growth is rejected.

CONCLUSION AND RECOMMENDATIONS

This study, therefore, highlights firm-specific factors that influence the growth of the assets of Deposit Money Banks in Nigeria. In this respect, a positive relationship apparently exists between sales growth and asset growth. Regarding this, deposit money banks have to pursue strategies that will enhance sales growth through effective marketing, product development, and customer acquisition. On the other hand, however, the impact of leverage on asset growth has been found to be negative and

thus serves as an area of concern in the study. Whereas leverage has the potential to enhance returns, undue reliance on it exposes risks to asset expansion. The prudent management of leverage ratios therefore becomes of essence. That is, strike a proper capital structure balance and avoid too much accumulation of liabilities. Secondly, a positive relationship between firm age and the growth of assets was also found to be quite significant in Nigerian deposit money banks. With age, there is a scale expansion in assets that results from built reputation, client network, and experience in operations. Appreciation by banks should, therefore, be made towards continuity of the same company in the industry. On the other hand, however, the study reminds that even an older institution has to be adaptive and innovative enough to meet the changing market circumstances.

Based upon the forgoing, this study suggests the following:

1. It is recommended that depository banks invest in judiciously selected marketing activities as well as in the formulation of new products and acquisition of customers, activities which shall help stimulate the growth in sales. Doing niche marketing campaigns with novelty products will also lead to attracting new customers while retaining the existing clientele to generate increased sales for the bank.
2. It is suggested that the deposit money banks should carefully manage leverage ratios so that asset growth is maximized through a delicate balance achieved by optimizing the capital structure and avoiding excessive debt build-ups.
3. The deposit money banks should develop and make full use of the advantages accruable from longevity, such as established reputations and clientele bases. Banks should also avoid taking a complacent attitude in whatever situation. It is for this reason that adaptation to changes and commitment to innovation become a part of sustained growth for the institutions, even the oldest.

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