The Role of Ownership Structure in Moderating the Effects of Corporate Financial Structure and Macroeconomic Condition on Financial Performance in Nigeria

Musa Abdullahi Bayero

Abstract Review of empirical studies from both developed and developing countries shows that the findings on the effect of corporate financial structure on financial performance continue to yield conflicting and inconsistent findings. While some findings reveal positive and significant effects, many studies show negative and significant findings. At the same time, there are some studies that show insignificant effects and as such the debate continue to call for more empirical investigation. The objective of this study is to investigate how employing ownership structure could moderate the effect of corporate financial structure and macroeconomic condition on a firm's long-term performance using return on assets (ROA) and Tobin's Q as measures of corporate financial performance. The participating firms of this study are Deposit Money Banks (DMBs) that are actively listed in Nigerian Stock Exchange (NSE) during the 8-year period (2010–2017). The paper will employ an empirical quantitative method of panel data regression analysis.

Keywords Banking industry · Debt financing · Equity financing
Financial performance · Financial structure · Ownership structure

1 Introduction

The banking industry performance is critical to the growth and development of any economy, and Nigeria is not an exception. Hence, good firm's performance results into achieving strong competitiveness, high return on investment for shareholders, generating employment in a country, and increase in Goss Domestic Products

M. A. Bayero (✉)
Department of Business Administration and Entrepreneurship,
Bayero University Kano, Kano, Nigeria
e-mail: mabayero.bus@buk.edu.ng
URL: http://www.buk.edu.ng

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(GDP) of an economy. Conversely, poor corporate performance in the industry is capable of triggering a prolonged crisis that can adversely affect the industry's competitiveness, economic stability, as well as the relevant stakeholder returns. Therefore, firm's performance in the banking industry remains a major contentious issue for researchers, practitioners as well as policy makers. This is particularly important in Nigerian banking industry which has undergone remarkable changes in terms of financial and ownership structures amidst varying macroeconomic conditions all aimed at improving the performance of the banking industry in the last decade.

Throughout the history of banking industry in Nigeria, bank performance has been a central issue that attracts interest of all stakeholders in the industry. In 2009, the Central Bank of Nigeria (CBN) announced the results of the examination of 10 banks and determined that five banks were insolvent—Oceanic Bank, Union Bank, Afri Bank, Finbank, and Intercontinental Bank. The aggregate percentage of non-performing loans of these five banks was 40.81%. In addition, the five banks were considered chronic borrowers at the Expended Discount Window (EDW) of the CBN, indicating that they had little cash at hand. To improve the banks' liquidity positions, CBN, as the lender of last resort, injected N429 billion (roughly $US2.8 billion) into these banks in the form of a subordinate loan. These banks, when aggregated, represented a significant systemic risk as they held about 30% of the deposits in the Nigerian banking system. Other senior executives of the insolvent banks were charged with various crimes and list of the names of debtors of non-performing loans held by Nigerian banks was published.

Subsequently, the CBN completed special examination of the remaining 14 universal banks in Nigeria to determine their solvency, and as a result, CEOs of three additional insolvent banks—Bank PHB, Spring Bank, and Equatorial Trust Bank—were dismissed and additional N200 billion was injected into these banks by the CBN. Thus far, eight banks have received N620 billion or approximately US $4.1 billion from the CBN, representing 2.5% of Nigeria's entire GDP of US$167 billion. Following the special examination and during the period from December 2008 to December 2009, Nigerian banks wrote off loans equivalent to 66% of their total capital; most of these write-offs occurred in the eight banks receiving loans from the CBN. By January 2010, CBN issued a circular which provided the type and format of financial information that must be disclosed by banks in their yearly financial statements. The major intent of the CBN was to aggressively pursue accounting reforms aim at improving disclosure to regulators, investors, and depositors regarding the financial health of Nigerian banks. In addition, the CBN issued regulations limiting the terms of CEOs of banks to a maximum of 10 years, which will require some sitting CEOs to resign by July 2010. The intent of the regulation was to improve corporate governance of Nigerian banks by avoiding 'sit-tight syndrome' where bank executives manage the bank as a personal business as opposed to a publicly held corporation accountable to shareholders, depositors, and government regulators (Alford 2011).

In its quest to achieve good firm performance in the banking industry, the CBN conducted a Liquidity Stress Test (LST) as contained in the CBN financial stability

report released on 31st October 2015 and it revealed that capital position of some of the Nigerian banks has fallen below regulatory capital requirement. This was reported by the CBN Director Financial Policy and Regulation Department Kelvin Amugo, where he asserted that the LST was conducted using Implied Cash Flow Analysis (ICFA) and maturity mismatch/rollover to assess the resilience of the banking industry to liquidity and funding shocks. The reports which cover the period December 31, 2014–June 30, 2015 revealed that Capital Adequacy Ratio (CAR) for the affected banks has fallen below the regulatory threshold (Amugo 2015).

In a similar development in 2015, the CBN issued a warning to some commercial banks to further recapitalize or risk losing their operating license due to poor performance (The Paradigm 2015). In 2016, the CBN issued a directive for the affected banks to recapitalize again on or before June 2016 because they could not pass the Liquidity Stress Test (The Nation 2015). This development came after the CBN enforced Treasury Single Account (TSA) policy which revealed that some of the banks still heavily relied on public sector deposit. Precisely, publication released by Sahara reporters (2015) revealed that the nine (9) banks affected by the test were; Diamond Bank, United Bank for Africa (UBA), Sterling Bank, First Bank, Unity Bank, Skye Bank, Fidelity Bank, Wema Bank, and Heritage Bank, respectively. According to the source, the banks could not meet the healthy capital liquidity levels and are thereby tethering on the brink of collapse.

In this vein, cumulatively the performance of Nigerian banks is further deteriorating where investigation revealed that the banks recently lost eighty percent of their profit (Muhammad et al. 2016). The report further revealed that the overall industry's Capital Adequacy Ratio (CAR) has reduced from 17 to 16.5% as in April 2016. The industry's overall Profit Before Tax (PBT) also declined from N222 billion as at April 2015 to N198 billion for the month ended April 2016. The ROA and ROE were 2.17 and 16.17, respectively, in February 2016 which is less than 2.42 and 19.39, respectively, in the same period during the year 2015. Overall, the total industry's Profit After Tax (PAT) for the first quarter of 2016 stood at N90.7 billion as against 100.59 billion for the corresponding period in 2015. Sanusi, a former governor of the Central Bank of Nigeria, attributed the financial crisis to macroeconomic instability, fundamental failure in corporate governance at banks (which ownership structure is a key), lack of investor and consumer sophistication, inadequate and disclosure and transparency about financial positions of banks among other factors. Hence, the CBN plays a major role in deciding on the structure of the Nigerian financial system (Alford 2011).

Moreover, when it comes to the issue of ownership structure, bank owners' direct interventions in the internal management of banks have contributed to the financial distress in most banks. This is because some shareholders borrow funds in excess of the capital they invested to start the banks, and this is usually done through companies that are directly linked to them. It is also a common practice for banks to borrow from the CBN to fund directors' loan. In addition, loans and advances to owner government and their agencies were neither often repaid nor were the loans collaterised. Therefore, it is pertinent to note that the pervasive incidence of non-performing loans is one of the major causes of distress in the

banking system over the years. Debts owed by governments and their agencies constitute a significant portion of banks' non-performing loans particularly in banks where state governments have controlling interests. The failure of state governments and their agencies to honour obligations has continued to undermine the efforts of regulatory authorities in addressing the problem of ailing banks (Ebhodaghe 2015).

Mangunyi (2011) explored ownership structure and corporate governance and its effects on performance of firms. The findings revealed that there was no significant difference between type of ownership and financial performance and between banks ownership structure and corporate governance practices. Further results revealed that there was significant difference between corporate governance and financial performance of banks. However, foreign-owned banks had slightly better performance than domestically owned banks. As a suggestion for further studies, he proposed that future research could usefully focus on the macroeconomic conditions necessary to promote maximum performance, i.e., causes of performance differences that are not related to ownership structure. In the same vein, Osamwonyi and Michael (2014) investigated the impact of macroeconomic variables on profitability of banks in Nigeria. The findings from the empirical point of view show that Gross Domestic Product (GDP) has a significant positive effect on return on equity (ROE) while interest rate has a significant negative effect on return on equity but inflation is not significant at all levels of significance. Therefore, considering the decline in GDP, and rise in inflation as well interest rate and fall of the exchange rate it will be good to investigate how they impact on firm performance through a moderator in the form of ownership structure. Consequently, this study is designed to investigate if ownership structure moderates the relationship between corporate financial structure, macroeconomic conditions, and firm performance in Nigeria banking industry.

Based on the above discussion, it is quite clear that empirical studies regarding the relationship between capital structure and financial performance from both developed and developing countries continue to provide mixed and contradicting evidence. In addition, none of the above studies reported or attempted to examine the moderating role of ownership structure on the relationship between capital structure and firm performance. Consequently, there is the need to uncover the recent developments in the association among corporate financial structure, macroeconomic condition, ownership structure, and firm performance. The present study extends the literature on the impact of capital structure on firm's performance by introducing a moderator in the form of ownership structure.

Corporate financial structure and its effect on firm performance attracted considerable attention in the literature (Modigliani and Miller 1958; Myers 1977; Jensen and Meckling 1976; Harris and Raviv 1991; Margiratis and Pslilaki 2007; Akeem et al. 2014; Nwaolisa and Chijindu 2016). However, some observers (Skopljak and Luo 2012) argued that these studies are very general in their conclusions and their reach to the financial sector is relatively limited. The often justification is that the financial sector has its own unique set of regulations and is generally highly leveraged. Nevertheless, the underlying imperatives still apply to

the financial sector just as they do for firms across other disciplines. In addition, Skopljak and Luo (2012) posit that financial sector is fundamentally different from any other sector of the market in terms of its high leverage and regulation, and as such the results obtained from other studies using data across multiple sectors in the market cannot be directly carried over to the financial sector with a high degree of confidence. Based on the foregoing, this study focuses solely on the banking industry to investigate the impact of corporate financial structure, macroeconomic condition on firm performance using ownership structure as a moderator.

Twairesh (2014) argued that while the literature examining the performance implications of corporate financial structure choices is immense in developed markets, there is paucity of empirical investigation known about such implications in emerging or transition economies where capital market is less efficient and incomplete and suffers from intense information asymmetry. Hence, the environment of the market may cause financing decisions to be incomplete and subject to a considerable degree of irregularity. In addition, Santoso (2005) stated that preference for short-term financing over the longer ones in emerging economies of East Asia hinders the development of long-term capital market, such as bond market until recently. There are many significant differences that exist between these two business settings in terms of corporate financial structure practices and ownership structure which will ultimately influence firm performance. To corroborate this assertion, Zeitun and Tian (2007) observed that corporate ownership structure depends on a country's social, political, economic, and cultural factors they tend to differ in their entirety from those of developed countries, which may limit the application of empirical models tested in mature markets. The unique features of these economies are that ownership is highly concentrated in the hands of few directors of firms. In such firms, the traditional principal-agent agency conflict is alleviated due to the large shareholders' greater incentives to monitor the manager. Nevertheless, conflict emerges as large shareholders exercise their substantial control and influence over firm matters and, as agency theory suggests, they have incentives to consume the firm's resources at the expense of the minority shareholders (Anderson and Reeb 2004). Based on the foregoing, it can be argued that differences in terms of corporate financial structure practices and ownership structure between developed and developing economies would influence firm performance differently. This study will fill this gap in knowledge by investigating the effect of corporate financial structure practices on firm performance in the context of Nigerian banks as an emerging market.

Four important research gaps are identified by this study on firm performance. Firstly, the study will investigate the impact of corporate financial structure and macroeconomic conditions on firm performance. Secondly, the study will investigate the effect of ownership structure on firm performance. Thirdly, the study will examine the moderating role of ownership structure. Fourthly, the study will further confirm the proposition made by pecking order theory and agency theory. Finally, the study will fill a contextual gap by examining the effect of corporate financial structure and macroeconomic condition on firm performance of Nigerian banking industry. Based on these, the study will answer the following research questions.

i. To what extent does corporate financial structure affect performance of Deposit Money Banks in Nigeria?
ii. To what extent does macroeconomic condition affect performance of Deposit Money Banks in Nigeria?
iii. To what extent does ownership structure affect performance of Deposit Money Banks in Nigeria?
iv. To what extent does ownership structure moderate the relationship between corporate financial structure and performance of Deposit Money Banks in Nigeria?
v. To what extent does ownership structure moderate the relationship between macroeconomic condition and performance of Deposit Money Banks in Nigeria?

The study is important both on the theoretical level as well as on the empirical level. On the theoretical level, aside from the dearth of literature on corporate financial structure in the context of sub-Saharan countries, there are some contradictions in the research findings in the literature. It is pertinent to note that there is increasing awareness that theories originating from developed countries may have limited applicability to emerging markets like Nigeria. Emerging markets have different characteristics such as different political, economic, and institutional conditions which may limit the application of developed markets' empirical models. This study is an attempt to bridge the gap on the theoretical level as well as on the empirical level on those factors.

In addition, this study could hopefully provide some useful insights for future reference on the subject of corporate financial structure and to gain clearer pictures in explaining the performance of banks particularly within the setting of developing countries. There are very few researches done in Nigeria in regard to corporate financial structure. It is therefore necessary to enhance the knowledge of corporate financial structure, especially to ascertain the factors which contribute to the improvement of banks' performance in Nigerian banking industry. Therefore, on the empirical level, this research is hoped to provide some important answers on few conflicting issues in corporate financial structure, corporate governance, ownership structure which in turn could be used to assist government, regulators, banks owners and managers, and other stakeholders to choose better financing and ownership structures, improved corporate governance in order to improve their performance when dealing banking crisis in the future.

2 Literature Review

2.1 Corporate Financial Performance

Performance of a firm can be analyzed in terms of profitability, dividend growth, sales turnover, asset base, capital employed among others (Almajali et al. 2012).

However, there is still ongoing debate regarding how to measure performance of firms and the factors that affect financial performance of companies (Liargovas and Skandalis 2008). Some observers (Elvin and Hamid 2016) contend that a single factor cannot reflect every aspect of a company performance and therefore the use of several factors allows a better evaluation of the financial profile of firms. In line with other previous studies that used accounting measures of performance, this study uses two measures of performance; namely, accounting measures of performance (return on asset) and market measure of performance (Tobin's Q). Specifically, in line with the study of Vafaei et al. (2015), this study employs two measures of firm performance to increase the reliability of the results. These are one accounting-based measure (ROA) and a market-based measure (Tobin's Q). Accounting-based measures of firm performance are based on an assessment of how the company has performed in the past, while market-based measures indicate the current position of a company and its potential in the future (Wang and Clift 2009; Haslam et al. 2010).

2.2 Corporate Financial Structure

Available evidence from the literature shows that previous studies on corporate financial structure, ownership structure, macroeconomic condition, and firm performance on banking industry were largely conducted in developed countries (Li et al. 2014, 2015; Skopljak and Luo 2012; Vintil et al. 2015; Sakawa and Watanabel 2011; Ang et al. 2000; Cornett et al. 2003; Daniels and Iacobucci 2000; Demsetz 1983; Demsetz and Lehn 1985; Demsetz and Villalonga 2001; Emmons and Schmid 1998; Margaritis and Psillaki 2009; Short and Keasey 1999; Thomsen and Pedersen 2000). Particularly, despite prevailing capital inadequacy, unstable macroeconomic conditions, prevalence of poor corporate governance practices and agency problems in Nigerian banking industry, review of literature revealed that study investigating the effect of corporate financial structure, macroeconomic condition, ownership structure and financial performance received limited attention. Specifically, studies conducted in the Nigerian banking industry has largely focused on examining pre- and post-consolidation performance ratios (Adegbaju and Olokoyo 2008; Dabo 2012; Igyo et al. 2016; Jabar and Awoyemi 2015; Ningi 2013; Nwankwo 2013; Obienusi and Obienusi 2015; Odeleye 2014; Ojong et al. 2014; Olokoyo 2013; Oluchukwu and Emeka 2012; Owolabi and Ogunlalu 2013).

Some of the few studies that investigated the impact of corporate financial structure on firm performance include the work of Oladeji et al. (2015) who analyzed the impact of capital structure on firm performance in Nigeria. The study found that a negative relationship exists between leverage and firm performance. However, the study considers only some selected oil companies and hence the sample was inadequate to allow generalization. Similarly, Akeem et al. (2014) conducted a study on the effect of capital structure on firm's performance of manufacturing companies in Nigeria. They observed that capital structure measures (total debt and debt to equity ratio) are negatively related to firm performance.

Contrary to the above studies, Adesina et al. (2015) conducted a study on the impact of capital structure and financial performance of banks in Nigeria and the findings of their study suggest that capital structure has a significant positive relationship with the financial performance of Nigeria quoted banks. However, Nwaolisa and Chijindu (2016) examined the impact of financial structure on firm performance in Nigerian agricultural and healthcare sectors. The analysis for the agricultural firms revealed that financial structure significantly impacts on earnings per share but does not impact on return on equity, return on asset, and profit before tax. For healthcare firms, financial structure significantly impacts on earnings per share and profit before tax but does not impact on return on equity and return on assets. The study was conducted in a non-financial sector and the findings are mixed. In another study on the impact of debt financing on the performance of privatized-firms in Nigeria (Usman et al. 2015), the findings suggest that corporate financial structure through debt tends to increase post-privatization performance of firms up to a given level, after which any addition to the proportion of debt in the capital (assets) of firms reduces their performance.

From the reviewed literatures, it is evidently clear that studies regarding the relationship between corporate financial structure and firm performance provided mixed and contradictory evidence, thus calling for more empirical investigations in the form of moderating role of relevant variables

2.3 Macroeconomic Condition

Osamwonyi and Michael (2014) investigated the impact of macroeconomic variables on profitability of banks in Nigeria. The findings from the empirical point of view show that Gross Domestic Product (GDP) has a significant positive effect on return on equity (ROE) while interest rate has a significant negative effect on return on equity but inflation is not significant at all levels of significance. Therefore, considering the decline in GDP, and rise in inflation as well interest rate and fall of the exchange rate, it will be good to investigate how they impact on firm performance through a moderator in the form of ownership structure. Similarly, Mangunyi (2011) suggested that future research could usefully focus on the macroeconomic conditions necessary to promote maximum performance. In other words, he suggested that causes of performance differences that are not related to ownership structure should be explored.

2.4 Corporate Ownership Structure

On the other hand, studies on ownership structure conducted in Nigeria so far include that of Kwanbo and Abdul-qadir (2013) who investigated relationship between dispersed equity holding and financial performance of banks in Nigeria.

The study revealed that dispersed equity holding has a significant impact on financial performance because these healthy banks actually work with the directives enshrined in the code of best practice and employed several other strategies to achieve both operational and financial performance. Even though the study was conducted on the banking industry, it only concentrated on equity financing and ownership concentration only. Similarly, the work of Uwuigbe and Olusanmi (2012) dwelt on the relationship between ownership structure and the financial performance of listed firms in the financial sector of the Nigerian economy. The study as part of its findings observed that institutional ownership has a significant positive impact on the performance of the selected listed firms in Nigeria. In addition, the study also revealed that there is a significant positive relationship between foreign ownership and the firm performance in Nigeria. However, the study did not consider possible indirect effect of other variables such as ownership structure.

Other related studies on ownership structure include Gugong et al. (2014) who investigated the impact of ownership structure on the financial performance of listed insurance firms in Nigeria. The findings indicate that there is a positive significant relationship between ownership structure and firm's performance as measured by ROA and ROE. However, the study considered only managerial and institutional shareholding while ignoring other forms of ownership as well as ownership concentration. Also, Aanu et al. (2016) studied the impact of institutional shareholder engagement and financial performance of selected listed firms in Nigeria. The findings of the study indicate that there is no significant relationship between institutional shareholder engagement and firms' financial performance in Nigeria. However, the results were mixed with the performance indicators in terms of ROA, ROE, and Tobin's Q. Further, Dada and Ghazali (2016) carried out study on ownership structure and firms performance in Nigeria. The findings revealed that ownership concentration maintains negative significant relationship with market performance while it shows positive significant with accounting performance. Also, the foreign ownership result shows positive statistically significant relationship with market performance and negative significant relationship over accounting performance. However, this study excluded finance sector and concentrated only on ownership concentration and foreign ownership.

Earlier, the study of Aburime (2008) which was an empirical analysis of the impact of ownership structure on bank profitability in Nigeria that was conducted to examine whether the composition and spread of bank ownership significantly impinge on returns of 98 commercial and merchant banks for the period 1989–2004. Results suggest that the composition and spread of ownership have had no significant effect on bank profitability in Nigeria. The study has many weaknesses. It was based on the composition and spread of their ownership into foreign banks, domestic banks, state banks, private banks, quoted banks, and non-quoted banks. The study was done before the banking sector recapitalization and as such it failed to address new ownership structure that accompanied the reform. Further, Andow and David (2016) assessed the impact of ownership structure on the financial performance, using listed conglomerate firms in Nigeria. Findings show that

managerial and foreign ownership have negatively impacted the performance of listed conglomerate firms within the study period.

2.5 Corporate Ownership Structure as a Moderator

This study considers introducing ownership structure as a moderating variable. Previous studies employ varied variables of interest with ownership structure as a moderator. There are studies that use this type of mechanism; moderating effect of ownership structure on bank performance using banks specific and macroeconomic variables in Kenya (Ongore and Kusa 2013). Kongmanila and Kimbara (2007) conducted a study on the moderating effects of ownership types and management styles to corporate financial structure on the performance of SMEs in Lao People's Democratic Republic. However, the study has some weaknesses as it focuses only on SMEs and hence its findings may not be generalized to larger corporate organizations. It used only one form of ownership structure which is family or non-family ownership and incorporates owner-managed firms as well as non-owner-managed firms, and thus debate on principal-agent proposed by agency theory is thereby compromised. Finally, the study over emphasized on retained earnings and short-term term debt ignoring other sources of financing. However, in spite of all the shortcomings, the study suggests that both debt and equity have statistically significant and positive impacts on profitability when considering the moderating effects of ownership types and management styles. The explanatory power of the model increases when compared to the model that does not consider the moderating effects and hence provide a clue for further academic debate in large corporate organizations.

Similarly, Muiruri et al. (2015) examined the moderating effects of bank ownership on relationship between securitization uptake and financial performance of commercial banks in Kenya. The results indicate that the banks' financial performance had been almost progressing over the operational periods considered for the study. Other related studies dwelt on impact of ownership structure on firm value using research and development as a moderator (Ting et al. 2016). Another study determined the effect of intellectual capital on firm value using ownership structure as a moderating variable (Bemby et al. 2015), and the findings show a mixed result. Similar study was carried out by Quang and Xin (2014) to investigate the combined impact of ownership structure and capital structure on financial performance of Vietnamese firms. Based on the research findings, capital structure has a negative impact with statistical significance on financial performance. The higher level of state ownership in ownership structure of a firm is the better financial performance it has. While clear evidences with statistical significance of the impact of managerial ownership on financial performance have not been found, the study found out that the level of entrenchment of managers in state-owned enterprises (SOEs) is higher than that of businesses of other types.

Available evidence so far shows that most literatures investigate the direct impact of either corporate financial structure on firm performance or ownership structure on firm performance. However, most of the findings are mixed and inconsistent and some studies reported weak correlation. Thus, in line with Baron and Kenny (1986) since strength of most findings on the impact of corporate financial structure on firm performance is weak and mixed, and this study will fill the gap by examining the moderating role of ownership structure.

2.6 Theoretical Framework and Conceptual Model

Based on the preceding discussion, a conceptual framework is proposed as shown in Fig. 1. To conceptualize the relationship between corporate financial structure, macroeconomic condition, ownership structure, and financial performance, pecking order theory (Donaldson 1961; Myers and Majluf 1984) and agency theory (Jensen and Meckling 1976) will be used. Pecking order theory argued that, in order to finance the company, managers consider the hierarchy of financing options by starting with internal funds such as retained earnings to external financing where debts will be preferred first and equity will be the last resort of financing. Myers and Majluf (1984) argued that internal sources of financing have a lower level of information asymmetry cost and seem to be safety. For that reason, it will be given first order then after utilization of internal source, debt financing will be the second

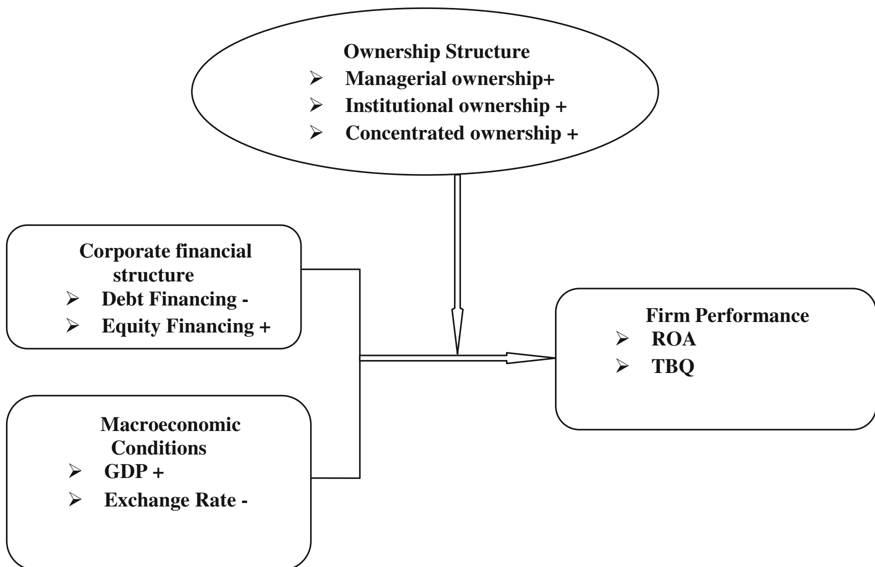

Fig. 1 Proposed conceptual framework

order, and lastly externally equity (new issue of shares) will be the last resort due to the high cost of information asymmetry. The theory presumes there is no targeted debt ratio (optimal capital structure) but managers are just observing the order of financing as capital structure decision is concerned (Mwambuli 2015). Jensen and Meckling (1976) explored the ownership structure of firms, involving how equity ownership by managers aligns managers' interests with those of owners. As a result, they found that if the contract between the principal and agent is outcome based; the agent is more likely to behave in the interests of the principal.

The agency theory proposed possible conflicts of interest between related parties when firms make financial decisions: conflict between shareholders and managers, and conflicts between shareholders and debt holders (Jensen 1986; Jensen and Meckling 1976). The agency theory postulates that agency costs arise from the conflict of interest between corporate managers and shareholders, and is due to the separation of ownership and control. The conflict is a potential determinant of capital structure. The agency cost is known as free cash flow hypothesis (Jensen 1986). Corporate managers possess substantial free cash flow tend to increase resources under their control and invest in low-return projects but not distributing to shareholders. Firms could change capital structure to solve this agency problem. Specifically, the leverage level could be increased in order to constrain management activities. If the firm has expected future growth opportunities, debt obligation helps to limit the overinvestment of free cash flow. Debt could also be used to indicate management's willingness to pay out cash flows (Harvey et al. 2004). Increased debt forces managers to pay future excess free cash flows for the settlement of interest and repayment. Thus, firms reduce agency costs of free cash flow through debt. Besides, high level of debt increases the bankruptcy risk if firm could not repay debt in time. The potential bankruptcy costs force managers to work hard to make valuable investment decisions and consequently reduce the risk of bankruptcy (Grossman and Hart 1980).

Another potential conflict arises between shareholders and debt holders which causes agency costs of debt financing (Jensen and Meckling 1976). Firstly, managers may choose to invest in high-risk projects to maximize returns of shareholders but damage the benefits of debt holders. On the one hand, if the investment successfully attracts high returns, shareholders receive most of the extra benefits against debt holders. On the other hand, if the investment fails, debt holders undertake the failure cost. As a result, shareholders might benefit from investing in risky projects even if they are values decreasing (Harris and Raviv 1991). Secondly, as Myers (1977) discussed, when firms have high amount of debt, the expected benefits of investing in profitable projects will be used to repay debt. Thus, shareholders will lack incentives to support these investments or they will invest sub-optimally. Similarly, corporate governance literatures also stress the conflict of interest between large controlling shareholders and minority shareholders (Hassan and Butt 2009; Liu et al. 2011; Shi 2010). The expropriation hypothesis suggests that, with concentrated ownership, large controlling shareholders expropriate wealth from minority shareholders and this conflict decreases firm value (Shleifer and Vishny 1997).

Therefore, when firm uses debt financing, it decreases the conflict of interest between managers and shareholders, but increases the conflict between shareholders and debt holders. Thus, the agency theory states that the optimal capital structure of the firm could be determined by minimizing the possible agency costs arising from stakeholders involved in conflicts.

Consequently, conceptual framework of this study is designed to test the role of ownership structure in moderating the effects of corporate financial structure and macroeconomic condition on financial performance. The framework is depicted in Fig. 1.

3 Research Methodology

This study will employ ex-post factor research design using panel data for the 8-year (2010–2017) period under study. This type of research design is used where the phenomenon under study has already taken place. The choice of the study period is informed by the need to study performance of the Deposit Money Banks (DMBs) in the post-crisis period of the Nigerian banking industry. This allows for the collection of past and multi-dimensional data which provides basis for the full establishment of the relationship among corporate financial structure, macroeconomic condition, ownership structure, and firm performance of listed Deposit Money Banks (DMBs). The data will be obtained from the annual reports of the listed DMBs and Website of Nigerian Stock Exchange (NSE).

The population of the study includes all the 15 listed DMBs in NSE within the period of the study. This is because only listed banks can be termed a public bank (Plc.) which implies that they comply fully with requirement of the Central Bank of Nigeria and Securities and Exchange Commission with respect to capital structure requirement, ownership structure requirement as well publication their annual reports. Therefore, the working population of this study consists of 15 listed DMBs. Moreover, these DMBs are also taken as the sample size of the study. The banks as well as their year of incorporation are Access Bank Plc (1998), Diamond Bank Plc (2005), Eco Bank Plc (2006), Fidelity Bank Plc (2005), First Bank Plc (1971), First City Monument Bank (2004), Guaranty Trust Bank (1996), Skye Bank Plc (2005), Stanbic IBTC Plc (2005), Sterling Bank Plc (1993), Union Bank Plc (1970), United Bank for Africa Plc (1970), Unity Bank Plc (2005), Wema Bank Plc (1991), and Zenith Bank Plc (2004).

This study will investigate the moderating role of ownership structure on the relationship between corporate financial structure and firm performance in the Nigerian banking industry for 8 year period from 2010–2017. Corporate financial structure is the independent variable while firm performance is the dependent variable, and ownership structure serving as the moderator in the study. The following subsections explain the proxies of the variables and how they will be measured in conducting the study as used in relevant previous studies.

The dependent variable that will be used in this study is firm performance. The study will use two broad measurements of financial performance, i.e., accounting-based measures and market-based measures.

The study will use return on assets (ROA) as one of the common accounting measures of performance. The use of accounting-based measures in this study is informed by use of similar measures in other previous related studies (Gugong et al. 2014; Mwambuli 2016; Twairesh 2014; Vintilă et al. 2014). In addition, the capital market in Nigeria is relatively inefficient and inactive as such the use of accounting measures to measure past performance of firms is seen as more appropriate. Similarly, it will enable comparison with previous studies that use the same measures possible as they were mostly used in previous studies. Return on assets (ROA) is calculated by taking the ratio of net profit of the firm to the total assets of the firm. Thus, the return on assets is calculated by dividing net income with total assets Tobin's Q is a popular measure of firm performance in empirical studies in corporate finance. It is considered a forward-looking measure for firm performance as it can capture the market value of a firm's assets (Dezsö and Ross 2012); thus, this study will use Tobin's Q as the firm market-based performance measure. Tobin's Q is measured as the sum of market value of equity and book value of liabilities divided by the book value of total assets at the balance sheet date. This simple version of Tobin's Q is applied widely in corporate finance literature (Vafaei et al. 2015).

Corporate financial structure is the independent variable in this study with the following proxies and measurements; debt financing is the proportion of capital of the firm owned through debt and it measured as the ratio of total debt to total assets of the firm (Usman et al. 2015); and equity financing is the proportion of capital of the firm owned through seasoned equity offerings and it is measured as the ratio of total equity to total asset of the firm.

Macroeconomic condition is the second independent variable in the study. In this study, gross Domestic Product (GDP) and Exchange Rate (EX) are the two dimensions of the macroeconomic conditions to be used by this study. Review of extant literature indicates that macroeconomic factors, often referred to as external factors, tend to affect bank industry performance (Demirguc-Kunt and Huizinga 2000). The external factors are the characteristics of the economy of the country where a bank operates, and which are beyond the control of the bank, and thereby affect bank performance (Abdul Jamal et al. 2012; Adesina et al. 2015). Khanna et al. (2015) noted that no firm remains unaffected by macroeconomic factors. Hence, understanding the dynamics of these factors on the firm will enable management to be more efficient in their decision-making process. It is through knowing the effect of macroeconomic factors and other key variables on firm performance, the management can ameliorate the impact of the unexpected fluctuations in the economy to improve their performance. This study will use Real Gross Domestic Product (GDP) proxied by annual growth rate of the economy, and Exchange Rate will be measured using average exchange rate of US Dollar to the domestic currency (Nigerian Naira) during the period of the study (Knezevic and Dobromirov 2016; Kanwal and Nadeem 2013; Khanna et al. 2015)

Ownership structure is used in this study as the moderating variable between corporate financial structure and firm performance. Zouari and Taktak (2014) argue that studying the relation between ownership and performance is useful to predict the probability (Claessens et al. 2002; Zeitun and Tian 2007). The concept of ownership structure can be defined along two concepts: ownership concentration which refers to the share of the largest owner, and ownership mix related to the major owner identity (Xu and Wang 1999; Zeitun 2009).

Ownership Concentration: To determine the ultimate owner's concentration, various measures of ownership concentration are constructed. However, ownership concentration in this study is measured by fraction of shareholders who hold five percent of share or more of the firm. In other words, ownership concentration is sum of shares owned by shareholders who hold more than five percent of a company's total shares at the reporting date (Dada and Ghazali 2016; Vafaei et al. 2015).

Ownership Mix/Identity: Based on the information available in the annual reports of the DMBs, managerial and institutional ownerships are going to be used as proxies for ownership identity in this study. On the one hand, institutional ownership is measured as the percentage of shareholdings owned by the institutional shareholder (Zhang and Kyaw 2017). On the other hand, managerial ownership is measured by the percentage of shareholdings owned by the executive directors (Khamis et al. 2015).

In addition to the above and based on the review of literature, control variables have been introduced based on the notion that firm performance may also be affected by other factors not captured in the explanatory variable. The control variables of the study include firm size, firm age, liquidity, and management efficiency. Firm size is measured by the natural logarithm of total assets of the firm (Skopljak and Luo 2012); while firm age is measured by natural logarithm of the number of years from the time of its incorporation (Elvin and Hamid 2016). The use of natural logarithm in this study is in line with extant literature particularly when the figures are too large or when there is need to standardize the figures in running the analysis. Liquidity (LIQ) is measured by the ratio of current assets to current liabilities (Wahba 2013); and finally, management efficiency (OPEX) measured by dividing operational expenses on total assets (Al-Jafari and Alchami 2014).

The data that are going to be used in this study will be generated from the audited annual financial statements of the 15 DMBs under study covering a period of 7 years (2010–2016). This method of data collection will be adopted because of the availability of data, convenience as well as the nature of the research design that is adopted in the study. The adopted method requires that past and documented facts emanating from the units of analysis (DMBs) will form the basis for performance evaluation of the banks.

However, due to different regulatory requirements data will be further screen using the following criteria: (1), the bank is listed in Nigeria Stock Exchange before 2010; (2), the bank has 8 years of complete data from 2010 to 2017; (3), the bank is categorized as Deposit Money Bank (DMB) by the Central Bank of Nigeria; (4), the bank has not undergone major restructuring or reorganization that led to change in

name within the 2010–2017 period; (5), the bank has full information that is relevant to the variables of interest in the study.

4 Conclusion

This study is an explanatory research which seeks to explain the causal connections between phenomena. Specifically, the study examines the relationship between corporate financial structure and firm performance as well as the impact of ownership structure on the relationship between corporate financial structure and firm performance. In order to achieve these objectives, this study will design multivariate tests, particularly ordinary least square (OLS) regression models, which control various variables that prior relevant literature identifies as affecting firm performance. Therefore, the study will use hierarchical moderated regression analysis in measuring the collected data by using statistical software 'Stata Version 11' in order to examine the relationship among all the variables of interest in the study.

The study is an attempt to propose ownership structure as a moderating variable. This will help to provide better knowledge of how corporate financial structure and macroeconomic condition can affect firm performance in a new perspective. Therefore, investigating factors that influence bank performance is not only essential for the bank managers, but also for other stakeholders like the central bank, government, and other financial regulators. Analysing these factors can help both the bank managers and regulators in formulating evidence-based policies and actions toward improving the profitability of banks in Nigeria.

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