



The Effect of Financial Structure and its Determinants on Performance of Deposit Money Banks in Nigeria, 2015 – 2021

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Abstract. This study ascertained the effect of financial structure and its determinants on the performance of deposit money banks in Nigeria 2015-2021. The motivation behind the study is to contribute to the age long debate on financial structure and to close the knowledge gap in literature by disaggregating the financial structure variables and also using non-net interest income as one of the dependent variables. The general objective of the study is to ascertain the effect of financial structure and its determinants on the performance of deposit money banks in Nigeria, and to specifically ascertain the effect of financial structure and its determinants on return on assets, return on equity, net operating income, net interest income, and non-net interest income. Data were sourced from the Central Bank of Nigeria (CBN) banking supervision and Nigeria Deposit Insurance Corporation (NDIC) annual reports from 2015 to 2021. The regression models were estimated using Ordinary Least Square (OLS) technique. The time series data were checked for unit root and diagnosed of serial correlation, heteroskedasticity, Ramsey reset stability and multicollinearity. The data were analysed using econometric tools of Johansen Co- Integration, vector error correction model and granger Causality analysis amongst others. The analysis performed revealed that financial structure has significant effect on the return on assets, return on equity, net operating income and non-net interest income of deposit money banks. Net interest income is not significantly affected by financial structure. Deposit money banks should reduce the debt ratio to avoid rising financial leverage via liquidity risk/ bankruptcy and financial distress. To improve the wealth of shareholders, deposit money banks should fund their operations largely from external sources of finance such as bonds to ensure diversification instead of relying heavily on the short term deposits of customers.

Keywords: Cash, Consideration, Custodian, relationship, Services

1. Introduction

Prior to the emergence of behavioural finance, corporate financial decisions and financial management functions such as financial structure were mainly determined by the management and the internal operating factors of the business such as the firm size, composition of assets, ownership structure, financial structure, performance and board composition. The agency theory formulated by Jensen and Meckling (1973) separated the owners of the organization from the management. The management was entrusted with the business operation and with the objective of optimizing the interest of the owners without conflict of interest. Maximizing the interest of the shareholders is a critical management function that requires strategic and tactical planning such as optimal capital mix. Corporate organizations have financial goals and strategy which is the expression of a corporate mission and strategy that are determined by the long-term planning system as a trade-off among conflicting and competing interests. Corporate objective relates to four corporate fundamental goals of maximizing corporate performance, Returns on Investment, corporate growth and availability of funds (Pandey, 2015).

Determining the optimal financial structure of an organization is a critical financial management function. It involves the weighing of the pros and cons of various sources of financing and selecting the most advantageous keeping in check the target capital and its effect on the value of the organization. It is a continuous decision that is taken whenever a firm needs additional capital (Pandy, 2015). A firm's financial structure must be developed with an eye on

the risk element because it has a direct link with the value (Krishnan and Moyer, 2017). Risk may be factored for two considerations: that financial structure must be consistent with the firm's business risk, and that financial structure results in a certain level of financial risk. The debt-equity mix can take any of the following forms: 100percent equity: 0percentdebt, 0percent equity: 100percent debt and Xpercent equity: Ypercent debt. From these three alternatives, option one is that of the unlevered business organization, which shuns the advantage of leverage (if any). Option two is that of an organization that has no equity capital (Olokoyo, 2018).

Unlike the classical theories of financial structure, modern theories take into account taxes, financial distress, agency cost, information asymmetry and the effect of market imperfections which are considered non-existent in the Miller and Modigliani assumptions. Unlike other corporate organizations, financial structure of the banking sector is determined by the regulatory authorities, credit risk, dividend policy, Bank size, growth of assets and performance. It comprises tier 1, tier II and tier III capital which is a combination of equity and debt. In the conventional corporate finance theories, a bank in equilibrium will desire to hold a privately optimal capital that just trade-off cost and benefits, implying a zero relationship at the margin. Capital requirements, imposed by regulators, as they are bound by them, make banks to hold capital in excess of their private optimal and hence forces banks to go above their internal optimal capital ratio which imposes cost on banks.

The bank's financial structure directly affects its financial risk which has direct effect on the performance levels. The more fixed-cost financing, debt including financial leases and preferred stock, a business has in its capital structure, the greater its financial risk. Since the level of this risk and the associated level of returns are key inputs to the valuation process, the bank must estimate the potential impact of alternative financial structures on these factors and ultimately on value in order to select the best financial structure. The greater the bank's operating leverage-the use of fixed operating cost- the higher its business risk. Since the company's cost of capital is seen as a function of its financial structure, choice of optimal financial structure or adequate and appropriate financing and investment reduce company's cost of capital and increase its market value (Modarres & Abdoallahzadeh, 2018) and thus will increase shareholders wealth. This study incorporates the non

interest income as one of the measure of performance which has not been captured in previous studies. Therefore, this study examined the effect of financial structure on the performance of deposit money banks in Nigeria.

1.1 Statement of the Problem

There has been an aged long debate and point of departure among corporate finance researchers on the relationship between financial structure and the value of the business. While others like Cheng and Tzeng (2017), Rathinasany, Khrisnawawy and Mantripagada (2018) are of the opinion that financial structure is relevant, Modigliani and Miller (MM) are of the opinion that financial structure is irrelevant. Like the dividend policy theories, the assumptions of financial structure theories are based on the well-developed financial policies as opposed to an emerging financial environment such as Nigeria.

The issue of adopting an adequate measurement of financial structure remains controversial in the literature. The literature has focused more on the classical classification of capital that comprises equity and debt. This study disaggregated the various measures of equity and debt to see the component that will be more robust and significant for the Nigerian banking sector. This robustness check allows us to establish whether the effect of financial structure on corporate performance is equally strong for various measures of financial structure. Many of the previous studies did not investigate the direction of causality between financial structure and financial performance and focus on the real sector of the economy. (Cheng & Tzeng 2017; Saeed 2017; Pratomo & Ismail, 2016; Siddiqui & Shoaib, 2016; Taiwo, 2015). This work examined the banking sector financial structure and financial performance. Previous authors who ran cross sectional regressions on the effects of financial structure on corporate performance got conflicting results due to the problem of aggregating the various components of capital, time frame and other factors. (Babalola, 2014)

Several related studies reviewed neglected other measures of corporate performance such as non-interest income and interest income but focused on the quantitative accounting measure such as return on assets, return on equity, profit after tax and return on investment (Awunyo-Victor & Badu, 2012). However, this study incorporates net interest income and non-net interest income as a measure of performance. This study aimed at examining the effects of financial structure on the performance of

Nigerian Deposit money banks (DMBs) by investigating the relationship between the various components of DMBs financial structure and performance in Nigeria 2015-2021.

1.2 Research Hypotheses

The under listed null hypotheses are formulated from the above specific objectives of the study:

- Financial structure has no significant effect on return on equity of deposit money banks in Nigeria.
- Financial structure has no significant effect on net operating income of deposit money banks in Nigeria.
- Financial structure has no significant effect on interest income of deposit money banks in Nigeria.

2. Conceptual and Theoretical Analysis

It is customary to begin an academic investigation by examining the conceptual and theoretical contours of the subject matter of analysis by analyzing the views of various scholars and authors as well as the way in which one's research is integrated into the body of existing theories and rese (Igbokwe-Ibeto, 2019). It is in this line of thought that financial structure according Velnampy and Ninesh (2018) can be defined as the way in which business enterprise finances itself by means of debts, equity and securities. The firm requires a composition of debts and equity to finance its assets. These way stakeholders' needs can be satisfied. Saeed (2017) described the concept of financial structure as combining debt and equity in order to make up the total capital of the firm. Capital is a vital part of the statement of affairs of an enterprise because the overall position of the enterprise is reflected regarding all types of assets, and liabilities. The term capital structure of an enterprise according to Kathaf (2013) is actually a mix of long term debts preference shares and equity shares. A company should therefore plan its financial structure to be successful.

Debt capital, preferred stock and common equity are mostly used by firms to raise needed funds. Financial structure policy seeks a trade-off between risk and expected return. The firm must consider its business risk, tax positions, financial flexibility and managerial conservatism or aggressiveness, while these factors are crucial in determining the target financial structure. Operating conditions may cause the actual financial structure to differ from the optimal financial structure. A critical decision for any business organization is a decision for an appropriate

financial structure; the decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment. The prevailing argument, originally developed by Modigliani and Miller (1958), is that an optimal financial structure exists which balances the risk of bankruptcy with the tax savings of debt. Once established, this financial structure should provide greater returns to stock holders than they would receive from an all-equity firm.

Over the years in literature with effect from the postulation of the irrelevance theory of financial structure by Modigliani and Miller (1958), a lot of theories have been modelled in an effort to explain the connection between financial structure and performance of firms. These theories include pecking order theory, static trade-off and dynamic trade-off, agency cost theory, market timing hypothesis and signalling postulation+. These theories are concisely discussed in the subsequent sub-sections. This study however anchors on Pecking Order Theory.

3. Types of Financial Performance Measures

The goal of every business is to achieve its goals of corporate performance, which makes the determination of performance one of the most interesting and challenging areas in finance literature. Owing to the complexity in measuring performance, it is difficult to ascertain the perfect index of measuring performance. The performance measures according to Kerstein (2017) are divided into two general groups, market based and accounting-based measures. The market based measure relies on market data and accounting based measure is hinged on accounting information in the balance sheet. There are also hybrid measures of performance which comprises both market based and accounting-based measures.

3.1 Market-Based Performance Measures

Market-based measures have been widely used in different studies. The market based measure tries to determine firm's performance using its value in the market. The most popular market based indicator is Tobin's Q. Other may include price earnings ratio, dividend yield, market value added, market to book value, etc. This measurement of performance does not recourse to the financial figures in the balance sheet or annual statement of account. Cumulated abnormal return (CAR) with the idea to measure potential abnormal market returns related to a

particular event is an excellent market based measurement followed by market return (Kerstein, 2017).

The market return refers to the growth in stock value over a specific period assuming that dividends were reinvested and thereby captures the income of shareholders in form of dividends and capital gains from stock price changes and rarely used in empirical studies. According to Demsetz and Lehn (1985), the rare application of market return empirical studies is on premises that stock market rates of return presumably adjust for the ownership structure and its effects on performance. Stock prices incorporate changes in expectations about future cash flows and the cost of capital. To this effect, higher stock prices may be attributed to changes in ownership structure. Capital gains due to stock price changes do not reflect a preferable ownership structure, as soon as the ownership information is reflected in the stock price (Kerstein, 2017). Market returns should be equal for all firms with equal risks in periods when expectations are constant. Hence, they give only valuable information about the relationship of ownership and performance in the case of an unexpected event.

3.2 Accounting-Based Performance Measures

In literature, the accounting base measurement dominates all facets of performance as they are widely used in empirical studies and assessing the health of a firm. The accounting performance indicators include return on assets, return on equity, net operating income, gross profit margin, net interest margin, etc. Studies have shown that return on assets and return on equity are the most widely used account performance measure. Return on equity measures only returns of shareholder while return on assets deals with aggregate return of equity holders and debt holders. Kerstein (2017) observed that return on equity is preferred over return on assets owing to first, generally financial performance is based on the shareholder value concept, which is stronger reflected in the pure equity focus of the return on equity than by the diluted equity returns of the return on assets. Second, regarding the effect of performance on equity ownership the pecuniary benefits of shareholders play an important role. These depend stronger on the return on equity than on the return on assets also including the debt-holders' return. As a result, the return on equity should lead to a more significant relationship of ownership and performance improving the results. Thirdly, also other benefits gained by shareholders through their control rights can only be derived from residual

profits. However, the rents for corporate debt are paid according to predetermined contracts and therefore not part of the residual profits.

3.3 Hybrid Performance Measure

The hybrid accounting performance is a combination of market and accounting performance measures. The market-to-book ratio (M/B) and the Tobin's Q are comprised of both accounting and market based ingredient of measuring performance. In market to book ratio, the amount of market value is generated by the stock of invested capital. It is arrived at by dividing market value of the firm's liabilities by the accounting value of these liabilities. Market to book ratio would be obtained via market value of stock divided by the shareholders' equity, or market value of stock and debt divided by total assets. Second, market data cannot be manipulated by management, as accounting data can. Nevertheless, as the M/B includes book values, it is not completely free of the accounting bias. In addition, the reliance on market data creates also a disadvantage of the M/B. Sudden outburst and speculative market movements that are not motivated by changes in the expectations can make it less representative as performance measure. The advantages and disadvantages do not only apply to the M/B but also to the second hybrid measure, the Tobin's Q. Tobin (1969) introduced the concept of the Tobin's Q as the ratio of market value to replacement values of a firm's assets. Since then it has been frequently used as performance measure in the ownership literature.

4. Banks's Specific/Micro Determinants of Financial Structure

The bank specific determinants are factors within the banks that are capable of influencing or sharpening the financial structure. Some of these banks specific factors based on results of empirical studies are precisely discussed as follows:

Collateral: Collateral is an asset or security pledge to the banks by a customer before a loan is advanced to him/her. Deposit money banks rely on the monetary value of any collateral to recover any loan should there be a default. Following the assumptions of the agency cost theory and trade-off theory, with collateral, risk of financial distress and agency cost on the side of deposit money banks are drastically reduced thus leverage capacity of deposit money banks are enhanced (Frank & Goyal 2015).

Dividend Payout: Dividend pay-out is adjudged as the percentage of a firm's profit paid out to

shareholders as a reward for the equity capital contributed in the business operation of the firm. A highly profitable firm normally pays dividend mainly on annual basis, and investors are so delighted to receive dividend from their investment as such a firm is considered as ideal and worthy of investing. Firms that do not regularly pay dividend are considered as not performing well and based on the bankruptcy theory, a firm that cannot pay dividend has a risk of going bankrupt as inability to pay dividend implies rise in equity base for debt capital. Hinging on the bankruptcy theory, high level of debt in the financial structure suggests low bankruptcy whereas high level of equity implies high bankruptcy. In the light of the pecking order theory, debt is positively related with dividend pay-out on the argument that a profitable firm instead of paying dividend will plough such fund into business as retained earnings, which cancels the need for debt. Frank and Goyal (2015) asserted that a dividend-paying company which is large and mature can rely on its reputation to raise external capital, hence would reduce borrowing. Following Frank and Goyal (2015), Gropp and Heider (2017) deposit money banks that indulge in paying dividends are expected to face lower cost of issuing equity as they are well known to the outsiders, preferring equity financing.

Assets Size: The size of a firm normally captured with the monetary value of total assets has been empirically confirmed to improve performance. The trade-off theory and pecking order theory postulate a positive relationship between size of a firm and performance. From the standpoint of the trade-off theory, large firms with lower bankruptcy costs and more stable cash flows would have higher capacity for debt financing. With references to past studies on linkage between size and financial structure and anchored on either pecking order theory or trade-off theory, Frank and Goyal (2015), Aggarwal and Suthisit (2013), and Booth, Aivazan, Demirguc, and Maksimovic. (2011) found the existence of positive relationship between firm's size and financial structure. Conversely, Rajan and Zingales (1995) are of the opinion that disclosing of more information to the public, increasing its transparency, reducing information asymmetry costs which are attributes of large firms favours equity financing.

Assets Risk: The inability of deposit money banks to meet customer's obligation is very challenging and banks strive by acceptable means to avoid the occurrence of this risk. The probability of default on a loan granted could affect the financial structure of the bank as fund that would not be recovered (bad debt counted as loss) would be accounted for from

profit based on the banking regulation applicable to the Nigerian environment. This is the reason why the Central Bank of Nigeria requires all deposit money banks in Nigeria to maintain a prescribed level of risk to ensure that they meet their obligation as at when due. The agency cost theory and bankruptcy theory maintained that the risk that abounds in banking operation negatively affects its financial structure. For bankruptcy theory, frequent volatility in earnings increases the probability of going bankrupt as the weight of bankruptcy will be higher on the firm's financial structure decisions. With regards to the agency cost theory, as the level of debt decreases, occasioned by fluctuation in earnings, assets risk increases. This assumption by these theories have been empirically affirmed by the findings of Ullah and Mohammed (2018), Pandey (2015), and Harris and Raviv (1999) that firms with high level of assets risk use less debt in financing business operations.

Market to Book Value: The market to book ratio value of a firm as determined by comparing the book value of the firm and its market value is critical to financial structure decisions of firms management. A high market to book value ratio according to the pecking order theory shows that the firm has high financial muscle to fund its operation from its retained earnings or equity; hence no need for external financing that would require the firm to service cost of capital. The postulation of the pecking order theory on the negative relationship between market to book value ratio and financial structure has been confirmed by the empirical works of Gropp and Heider (2017); Frank and Goyal (2015); Aggarwal and Suthisit (2013).

Profit: The capacity of the bank to make profit is very critical for its survival being one of the sectors that is highly regulated in the country. Resting on the trade-off theory, a firm that is extremely profitable would have high muscle to accommodate debt and less risk to debt holders, thus a negative relationship between financial structure and performance. From the perspective of the pecking order theory, high profitability is an indication of heavy reliance on internal financing as against debt. Bulk of empirical studies tends to lay credence to the pecking order assumption. From Modigliani and Miller (1963), the effect of corporate tax on performance would make firms to go for debt as a means of tax shield. Furthermore, on the premises of the pecking order assumptions, agency costs of managerial decisions are mitigated by increasing the level of debt in the financial structure as a profitable firm would deep its hand in retained earnings first whenever financing need arises.

Tangibility: Tangibility is the ratio of a firm's fixed assets to total assets. The ability of a firm to effectively and efficiently utilize its assets would improve performance. Both the pecking order theory and trade-off theory have postulated the existence of a positive relationship between tangibility and performance. Lenders are in most cases faced with the problem of moral hazard and adverse selection owing to the conflict of interest between providers of debt and equity-shareholders. With this in mind, a lender will require a firm to pledge collateral before extending funds to it, which ultimately affects the debt level in the borrower's financial structure.

5. Country/Macro Determinants of Financial Structure

GDP Growth: The economic health of a country would have some effect on the financial structure of firms operating in the economy. In period of economic boom, firms perform wonderfully and may not have recourse to borrowing. In the same way, firms are exposed to a lot of investment opportunities capable of improving profitability during economic boom. On the other hand, during economic depression or recession as it is currently witnessed in Nigeria today, banks are bound to borrow in the interbank market to meet up with shortfall. The degree of bankruptcy is bound to be high during economic recession as most banks would face fund constraints. Logically, economic growth is positively related with financial structure as have been documented by the works of Deesomsak et.al (2004), and Mitton (2008).

Inflation: Inflation is a general rise in the price of goods and services in a country owing majorly to high volume of money in circulation. Inflation reduces the purchasing power of money and results in higher cost of capital, which ultimately affects the debt level in the financial structure of a firm. On the argument of the trade-off theory, inflation increases the tax benefits associated with debt. The share prices of firms in the stock exchange are undervalued in periods of inflation making equity a not preferable source of financing: firm's management would resort to debt than issuing new shares to potential investors.

Stock market risk: The smooth operation of the stock market would have a great influence on the financial structure of firms trading on the exchange thus stock market risk affect firm's financial structure decisions. Volatility in stock market would cause a drastic fall in the value of equity of firms, and when such is the case, firms are forced to borrow, which increases the debt level in the financial structure.

Some firms may even go bankrupt in adverse stock market volatility.

Interest Rate Structure: The interest rate structure in a country affects the level of fund mobilization by the banking system and the financial system as a whole. A high level of interest would increase the quantum of fund mobilized as customers would make more deposit in their accounts but the reverse is the case. A high interest increases the cost of capital for firms as banks would add up interest on deposits in addition to other administrative and handling charges. With high interest rate on deposits, any bank looking for more debt in its financial structure would have it at ease.

Corporate Tax Rate: The percentage of a firm's profit paid to the government as tax affects the financial structure. Where a large fraction of a firm's profit would be paid as tax, equity capital from shareholders would be distorted. Most firms would resort to debt financing to shield the effect of corporate tax. The findings from studies on the nexus between corporate tax and financing decisions of firms have been inconclusive. For instance, looking at the financial structure of firms, MacKie-Mason (1990) provided evidence of substantial tax effect on the choice between debt and equity as financing decision is affected by changes in the marginal tax rate. On the contrary, Graham (1999) observed that corporate taxes generally do affect corporate financial decisions, but the magnitude of the effect is mostly "not large". Other alternative tax shields such as depreciation, research and development expenses, investment deductions, etc., that could substitute the fiscal role of debt was pointed out by DeAngelo and Masulis (1980). A conceptual model to incorporate the research questions has been constructed.

$FP = f(FS)$

Where FP = Financial Performance

FS = Financial Structure

The models depict financial performance which is the dependent variable as a function of financial structure which is also the independent variable in this study. The performance variables are Return on Assets (ROA), Return on Equity (ROE), Net Operating Income (NOI), Interest Income INTI and Non-Interest Income NINTI. The Financial Structure parameters also known as explanatory or independent variable was proxy by debt to total assets (TDTA), Total debt to total equity (TDTE), short term debts to total assets (STDTA). Tangibility, Bank Size and Risk were variables used in order to control the banks specific functions that affect performance. Return on Assets (ROA) is the Net Income before tax dividend

total assets. This will express or show how the bank efficiently utilized their earnings and available assets (Ronoh, 2015). Return on Equity (ROE) depicts the ratio of Net Income before tax to Total Equity. It is the cost of attracting deposits to banks. (Ronoh, 2015). Net Operating Income is the total earnings from banking operations less operating expenses and other charges excluding corporate tax. (Samuel, 2016). Interest Income includes income from loans and securities and comprises the bulk of income for most banks (Amarfor, 2015). Non-Interest Income is credit income primarily from non-traditional banking activities such as account maintenance charge, service charge; cheque and deposit slip fee, etc. Based on the research questions therefore, performance is proxy by return on assets, return on equity, Net operating Income, Interest Income and Non-Interest Income is a function of Total Debt to Total Asset, Total Debt to Total Equity and Short Term Debt to Total Assets in the financial structure.

6. Methodology

This study adopted hypothetical deductive research design approach for the data analysis. This approach combines theoretical consideration (a prior criterion) with the empirical observation and extract maximum information from the available data. It enables us therefore to observe the effects of explanatory variables on the dependent variables. The population of the study comprises of all the deposit money banks in Nigeria that are licensed to operate the business of banking Central Bank of Nigeria (CBN) and insured

by the Nigeria Deposit Insurance Corporation (NDIC).

The data as applied in this research work were extracted from Central Bank of Nigeria (CBN) banking supervision report as well as Nigeria Deposit Insurance Corporate (NDIC) annual report. The data from the above mentioned sources spanned from 2005 to 2021 and were on annual basis as contained in the published reports of the regulatory agencies.

Test of Hypotheses

Decision Criteria: If the p-value of F-statistic in granger causality test is less than 0.05, the null hypothesis is rejected. On the other hand, if the p-value of F-statistic in granger causality test is greater than 0.05, the null hypothesis is accepted.

Hypothesis One

H₀: Financial structure has no significant effect on return on equity of deposit money banks.

H₁: Financial structure has significant effect on return on equity of deposit money banks.

From Table 1, (0.0114) as p-values of total debt to total assets and short term debt to total assets respectively are lower than (0.05) thus financial structure has significant effect on return on equity of deposit money banks in Nigeria. To this effect, the null hypothesis that financial structure has no significant effect on return on equity of deposit money banks is would not be accepted and the alternate hypothesis accepted.

Table 1: Hypothesis One

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause ROE	16	6.92179	0.0208	Causality
ROE does not Granger Cause TDTA		9.34846	0.0092	Causality
TDTE does not Granger Cause ROE	16	1.79358	0.2034	No Causality
ROE does not Granger Cause TDTE		0.01029	0.9207	No Causality
STDTA does not Granger Cause ROE	16	10.3211	0.0068	Causality
ROE does not Granger Cause STDTA		8.65446	0.0114	Causality

Source: Data output via E-views 9.0

Hypothesis Two

H₀: Financial structure has no significant effect on net operating income of deposit money banks.

H₁: Financial structure has significant effect on net operating income of deposit money banks.

As can be seen in Table 2, (0.0295) as p-value of short term debt to total assets: a financial structure variable is less than hypothesis yardstick (0.05). As a result, the null hypothesis that financial structure has no significant effect on net operating income of deposit money banks is rejected and the alternate hypothesis which assumes the significant effect of financial structure on net operating income accepted.

Table 2: Hypothesis Two

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause NOI	16	0.05836	0.8129	No Causality
NOI does not Granger Cause TDTA		2.74458	0.1215	No Causality
TDTE does not Granger Cause NOI	16	2.69181	0.1248	No Causality
NOI does not Granger Cause TDTE		1.00331	0.3348	No Causality
STDTA does not Granger Cause NOI	16	0.81062	0.3843	No Causality
NOI does not Granger Cause STDTA		5.97286	0.0295	Causality

Source: Data output via E-views 9.0

Hypothesis Three

H₀: Financial structure has no significant effect on interest income of deposit money banks.

H₁: Financial structure has significant effect on interest income of deposit money banks.

The p-values (0.2520), (0.6013) and (0.9536) for total debt to total assets, total debt to total equity and short term debt to total assets in Table 60 are greater than the hypothesis decision rule (0.05). Therefore, the null hypothesis that financial structure has effect on interest income of deposit money banks is accepted while the alternate hypothesis rejected.

Table 3: Hypothesis Three

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
TDTA does not Granger Cause INTI	16	0.03082	0.8634	No Causality
INTI does not Granger Cause TDTA		1.43721	0.2520	No Causality
TDTE does not Granger Cause INTI	16	0.00835	0.9286	No Causality
INTI does not Granger Cause TDTE		0.28677	0.6013	No Causality
STDTA does not Granger Cause INTI	16	0.04560	0.8342	No Causality
INTI does not Granger Cause STDTA		0.00352	0.9536	No Causality

Source: Data output via E-views 9.0

7. Discussion of Findings

The negative relationship between two financial structure variables- total debt to total assets and total debt to total equity as shown in Table 1 is in agreement with the pecking order theory which states that firm prefer internal financing to external fund. This may be hinged to the fact that the major component of deposit money banks debt in Nigeria are short term based and sourced from small account holder which affect efficiency by reducing profit as the fund are withdrawn anytime by the customers. This finding supports the result of Anarfor (2015) for Sub-Saharan Africa, Shiferaw (2013) for Ethiopia, Awunyi-Vitor and Badu (2012) for Ghana, Taani (2013) for Jordan, Nikko (2015) for Iran, Mujahid, Zuberi, Rafiq, Sameen and Shakoor (2014) for Pakistan, Sharma and Verma (2016) for India, Siddik, Kabiraj and Joghee (2016) for Bangladesh and Zaroki and Rouhi (2015) on the negative relationship between financial structure and return on assets. The findings in respect of total debt to total assets and total debt to total equity and return on assets did not negate previous findings in the context of the banking industry.

For Table 2, it was observed that total debt to total equity has negative but insignificant relationship with return on equity of deposit money banks. This could be attributed to that assumption that if ratio of total

debt to total equity increases, the financial risk borne by shareholders of banks also increases. This is the reason why shareholders demand high reward in proportion to risk they are exposed to, by imputing their capital due to rising debt in the financial structure. This result is inconsistent with previous studies of Siddik, Kabiraj and Joghee (2016), Sharma and Verma (2016), Mujahid, Zuberi, Rafiq, Sameen and Shakoor (2014), Nikko (2015), Awunyi-Vitor and Badu (2012) and Anarfor (2015) for Bangladesh, India, Pakistan, Iran, Ghana and Sub Saharan Africa respectively. In a similar manner, it contradicts the works of Shiferaw (2013), Taani (2013), Zafar, Zeeshan and Ahmed (2016), Abbadi and Abu-Rub (2012) and Zaroki and Rouhi (2015) for Ethiopia, Jordan, Kenya, Pakistan, Palestinian and Iran respectively.

As shown in Table 39, total debt to total assets negatively relates with net operating income of deposit money banks in Nigeria. The result is evidence that deposit money banks in Nigeria rely on customers deposits to make profit which becomes a liability to them. This may be linked with the level of development in the capital market where banks do not get the fund needed for operation thus relying majorly on short term customers deposits. This is why there was jittery in the banking industry when the Federal government of Nigeria implemented the Treasury Single Account (TSA) policy. The negative

relationship also may be that the cost incurred in sourcing fund outside the customer's deposits is considerably high such that it affects performance. This is in line with the works of Shiferaw (2013) for Ethiopia but refutes the study in the context of Jordan by Taani (2013).

Net interest income was found to be negatively related with total debt to total assets as evidenced in Table 40. This gives an idea that when a bank borrows externally to finance in the current level of interest rate in Nigeria, the cost of such fund would in most cases higher the profit derived from the usage of the funds. This concurs with the results of Anarfo (2015) and Taani (2013) that interest income of the banks in Ethiopia, Jordan and Kenya are negatively related. Looking at Table 41, the non-interest income of banks is also negatively related with financial structure variables-total debt to total equity and short term debt to total assets. This also lays credence to that fact that in the present macroeconomic uncertainty in Nigeria, deposit money banks externally seeking finance to invest in non-banking areas in form of off balance engagement may be negatively affected by the cost of the borrowed fund.

This is in connection with the pecking order theory that internal financing and retained earnings remain the greatest priority of any firm to finance business operations. The granger causality test shows that tangibility has significant effect on net interest income and non-net interest of deposit money banks in Nigeria. This insinuates that banks investment in fixed assets relative to total assets inclusive of off balance sheet engagement has the potential of increasing net interest income and non-net interest income.

8. Conclusion

The performance of deposit money banks depends on the financial structure decisions taken by management, considering the fact that customers deposit in banks are mainly on short term bases which constitutes over 90% of deposit money banks liability. The result of this research has shown that financial structure has negative effect on performance of deposit money banks in Nigeria within the period studied and upheld the applicability of the pecking order theory in the Nigeria's banking industry. This is not the end to the nexus on financial structure performance linkage, rather a starting point to the unending debate having deep regard to banking industries of emerging economies.

9. Recommendations

In considerations of the findings of this study, the following suggestions are put forward for policy formulations of deposit money banks management in Nigeria. To improve wealth of shareholders, deposit money banks should fund their operations largely from other external source of finance such as bond market to ensure diversification instead of relying heavily on the short term deposits of customers. Deposit money banks should aim at increasing their assets, especially investment in off balance engagement as this positively relates with net operating income.

To increase interest income deposit money banks should have more assets that a tangible as higher ratio of fixed assets to total assets inclusive of off balance engagement would reduce debt equity level thus improving performance. Deposit Money banks should strive to improve deposit mobilization and should constitute a marketing team that would be charged on the effective and efficient utilization of these deposits. In order to increase interest income, they should set lending rates bearing competition in mind and such rates should not discourage depositors from accessing loans.

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