Implications Of Capital Structure On The Performance Of Deposit Money Banks In Nigeria

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Abstract: The main objective of the study was to examine the implications of capital structure on the performance of deposit money banks in Nigeria. Ex-Post Facto Research Design was adopted and the analysis was performed using Ordinary Least Square regression analysis. The study employed different measures of capital structure such as short-term debt, long-term debt, total debt and equity financing in order to investigate the varying effects of these debt structures on financial performance of banks. The study's data was statistically described, presented, analysed and interpreted using E-View software. Diagnostic tests that include multicollinearity, normality test, Breusch-Pagan Lagrange Multiplier (LM) tests among others were conducted to determine the fitness of the usage of regression technique. The findings reveals that Short-term debt/total capital (STDTC) has significant and negative implication on return on equity of Nigerian Deposit Money Banks, that Long-term debt/total capital (LTDTC) has significant effect on return on equity of Nigerian Deposit Money Banks, that Total debt/total capital (TDTC) is not significant in explaining return on equity of Nigerian Deposit Money Banks, that Equity capital /total capital (ECTC) is not significant in explaining return on equity of Nigerian Deposit Money Banks. The study further recommended that deposit money banks in Nigeria should rely less on short-term debt which formed the major part of their leverage and focus more on developing internal strategies that can help improve more on their financial performance indicators. That management and board of directors of deposit money banks should from time to time plough back their net profits in to the banking business in form of retained earnings rather than depending on long-term debt financing. That Deposit Money Banks should develop a good strategy targeted at using more of equity to maximise their market performance in such a way that it yields growth opportunities.

Keywords: Performance, Capital structure, Short Term debt, Long Term Debt, Deposit Money Bank, Equity Capital.

I. INTRODUCTION

A. BACKGROUND TO THE STUDY

Finance is so vital to all organizations and serves as an instant cause for companies not commencing operations or progressing. Capital structure serves as one of the important factors considered by firms (such as banking, manufacturing among others) when considering financial performance and other metrics. Considering a firms capital structure is imperative not just to boost earnings but also its effect on organization's capability to manage competitive environment. The aim of a firm's capital structure may not be focused on wealth maximization but to safeguard management's interest mostly in firms where control is dictated by directors and shares of the corporation carefully held.

As pointed out by Pandey (2001), capital structure formulation is one of the critical decisions taken by the managers of finance and operations in the Nigerian money deposit banks. This is because capital structure decision determines the overall cost of capital and eventually the market value of the bank. It has to be decided whenever the bank is starting its operations or when it needs additional fund to finance new projects. The determinants of capital structure provide a significant indication which a bank is to consider before deciding on its capital structure. Ultimately, the financial perspective of every bank is to maximize its market value and minimize its cost of capital, while deciding on its

capital structure. According to Amadi (2004), capital structure mainly consists of debt, common stock and preferred stock that are issued to finance the various long-term projects of the bank. In other words, the capital structure is primarily a combination of debt and equity. Equity holders are the owners and have a long-term commitment to the bank whereas; debt holders are creditors and have no long-term commitment to the bank as they are more interested in timely repayment of the principal and interest amount. Equity holders want regular dividend payments and the banks want to have more retained earnings to finance their future capital cash outflows. Hence, the bank's decision on capital structure plays significant role on the financial structure of the bank. Ganiyu (2015) opined that financial leverage is measured as the ratio of debt and equity, which states the relationship between the borrowed and owner's funds. Banks with both debt and equity are termed as levered banks, while the banks with only equity are termed as unlevered banks. Debt financing includes tax deductible interest expense benefit, associated cost of financial distress which limits the ability of the bank to raise equity as well as its growth ability by putting the pressure of timely repayment of debt principal and interest amount.

The global financial crisis has rekindled the interest on banks' capital fund requirements, this is due to the fact that many banks across the globe had either failed or been bailed out by their various governments (De Bandt, Camara, Pessarossi, & Rose 2014). Capital is essentially the driving-wheel of any business activity. In fact, it serves as catalyst in establishing and promoting business firms. It plays a very resuscitative role especially in a country like Nigeria. Lessons from history reveal that most Deposit Money Banks (DMBs) collapsed as a result of inadequacy, mismanagement or lack of capital. So, financing is one of the crucial areas in a firm. A financing manager is concerned with the determination of the best financing mix and combination of debt and equity for his firm. Capital structure in financial term means the way firms finances their assets through the mixture of equity, debt, or hybrid securities (Saad, 2010). Therefore, capital structure here reveals the fusion of debts (long term and short term), common equity, and preferred equity (Akintoye, 2008). Myers (1984) noted that there are two components of capital structure which include internal fund (Retained Earnings) and External fund (debt and equity). Debt financing is one of the long-term financing available to firms. It involves use of accounts payable, loans, bonds and so on. The major advantages of using this common financing method include tax shield, use of someone else's money to acquire productive assets, lower expected return. Debt is accompanied by fixed obligation in terms of interest rate and must be settled whenever it falls due. Equity is a unit of ownership interest in a firm; it consists of common stock, preferred stock and retain earnings (Okeke, 2005). Similarly, Watson and

Head (2007) asserted that equity financing is raised through initial public offer, right issue, sales of existing shares on the floor of stock exchange.

The choice of capital structure is a central aspect of a company's financial policy. The capital structure of a bank is an important factor that affect its operations. Capital structure or financing decision is a significant management decision that influences the shareholders' return and risk. Ibenta (2005)

defines capital structure as the way in which the long-term capital requirements of the firm are financed, that is, the relative proportions of debt and equity. There has always been a disagreement among financial experts on the issue of what should constitute the capital structure of a firm, and what could be the impact of leverage on the value of firms. The bone of contention is whether a business should be financed by equity capital or by debt capital or relative proportions of both. Theoretically, the financial manager should plan an optimum capital structure to maximize the use of funds and to be able to adapt easily to changing conditions. The optimum capital structure is obtained when the market value per share is at a maximum or the average cost of capital is a minimum. The target capital structure of a firm should aim at minimizing the cost of capital and maximizing the market value of the firm.

Some firms do not plan their capital structure and it develops as a result of the financing decision taken by the financial manager without any formal planning. Each firm may prosper in the short - run but ultimately they may face considerable difficulties in raising funds to finance their activities.

B. STATEMENT OF THE PROBLEM

There is inconsistency and fluctuations in the performance of DMBs in Nigeria which seems to be a pointer that DMBs in Nigeria have not achieved an optimum capital structure that maximizes the firm's value or the banks value and minimizes the firm's risk or cost of capital. The banking sector in Nigeria is still characterized with: unstable performance going by certain metrics such as return on assets, return on equity and earnings per share; boom and boost cycles; and occasional distress and capital adequacy problems.

The instability in the performance of banks had led to many reforms in the banking sector especially the Soludo (2004) Banking Sector Consolidation Exercise which was done with the objectives of reducing the boom and boost cycle in the banking sector; preventing imminent systemic crisis; and creating a sound banking system that depositors can trust and banks that investors can rely upon among others. There was also a major banking sector reform in 2009. These and other previous and subsequent reforms were aimed at ensuring that banks maintain adequate capital to enable them put up excellent banking performance which has been elusive.

It is also of great concern as deposit money banks in Nigeria from the time of incorporation to the moment of commencement of its operations are normally faced with the decision on how best to manage and reengineer its capital structure to meet the desire of shareholders and ensure a continuous confidence from the public. More so, considering the fact that the Nigeria banking sector is characterized by a large number of licenced banks operating in a largely regulated and increasingly competitive business environment, the capital structure engagement decision becomes worrisome and tasking.

C. OBJECTIVES OF THE STUDY

This research work was modelled basically to ascertaining the implications of capital structure on the performance of deposit money banks in Nigeria. The specific objectives includes the following:-

✓ To ascertain the relationship between short-term debt/total capital (STDTC) and the return on equity (ROE) of Deposit Money Banks in Nigeria.
✓ To determine the relationship between long-term debt/total capital (LTDTC) and the return on equity (ROE) of Deposit Money Banks in Nigeria.
✓ To investigate the relationship between total debt/total capital (TDTC) and the return on equity (ROE) of Deposit Money Banks in Nigeria.
✓ To assess the relationship between equity capital/total capital (ECTC) and the return on equity (ROE) of Deposit Money Banks in Nigeria.

D. SCOPE OF THE STUDY

This research work majorly focused on the implications of capital structure on performance of deposit money banks in Nigeria and the sample covered the operations of deposit money banks in Nigeria from 2000 to 2019 in relation to their equity formations, performance, on basis of their reliability, their status of strong hold in the banking business environment and the level at which they sustain public confidence.

The study used data sourced from the financial statements of the sampled deposit money banks in Nigeria, which include United Bank for Africa, First Bank of Nigeria PLC, Access Bank PLC, Union Bank PLC and Zenith Bank PLC. The financial statement of these banks was sourced from Nigerian Deposit Insurance Corporation (NDIC), Nigerian Stock Exchange (NSE) and National Bureau of Statistics covering the period 2000 to 2019. These banks were selected because of their size, deposit base and wide coverage which satisfied the purpose of this research work.

II. REVIEW OF RELATED LITERATURE:

A. CONCEPTUAL REVIEW

a. THE CONCEPT OF CAPITAL STRUCTURE

Ganiyu (2015) opined that capital structure refers to a company's outstanding debts and equity. It allows banks to understand what kind of funding the company uses to finance its overall activities and growth. In other words, it shows the proportion of senior debts, subordinate debts and equity (common or preference shares) in the funding of the bank's operations. Capital structure is the mixture of debt and equity capital maintained and used by a bank to finance itself. Debt is the amount owed for borrowed funds from sources such as individuals, other banks, or other financial institutions, while equity is the ownership interest in a bank including equity share capital, share premium, preference share capital, free reserve and surplus profits. According to Jambaz (2010),

capital structure is a wide and complicated concept in corporate finance, which basically entails how a company should finance the capital need of its business. Thomas, Nile and Mile (2013) defined capital structure as a total debt to total assets at book value, which influences both the profitability and riskiness of the bank. Joffe, Albert and Mcjane (2016) refer to capital structure as the proportion of the long term sources of fund used by a bank and it comprises debt, preferred stock and common equity.

While there may be many definitions of capital structure, one definition that stands out is that by Van Home and Wacholokz (1995) which refers to it as being one of the three financing decision investment, financing and dividend decisions, which finance managers have to make.

Ali, Ismail and Ibrahim (2017) stressed that the decision regarding the use of debt and equity mode of financing is not an easy job, with the fact that a number of benefits and costs are associated with the management decisions regarding the optimal use of capital structure. It is important because it involves a huge amount of money and has long-term implications on the bank Ahmad (2012). A new business requires capital and more capital is needed if the bank is to expand. The required funds can come from many different sources. Banks can use either debt or equity capital to finance their assets. The best choice is a mix of debt and equity. This is because if a bank has too much debt, it may over extend its ability to service the debt and can be exposed to business depression, changes in interest rates and this becomes its financial risk. On the other hand, too much equity dilutes ownership interest, exposes the company to outside control and usually indicates that the business is not effectively using its cash to obtain business assets. This may be discouraging to investors as it means less profits being distributed to them. Summarily, the objective of having a proper mix of capital structure is to maximize the wealth of shareholders and minimize the bank's cost of capital. Therefore, the primary objective of any capital structure decision of any bank is to maximize the market value of the bank through the correct mixture of debt and equity. This mixture called optimal capital structure minimizes the banks overall cost of capital.

Capital structure is the composition of debt and equity sources in financing the assets of an organisation that would minimise the cost of capital and maximise the returns on investment. It also comprises of the use of external financing (debt and equity) and inter financing (retained earnings). Equity is a unit of ownership interest in a firm; it consists of common stock, preferred stock and retained earnings (Okeke, 2005). Similarly, Watson and Head (2007) asserted that equity financing is raised through initial public offer, right issue, sales of existing shares on the floor of stock exchange. In addition this method of financing, firm's shareholders make gains when the price of their firm's share appreciates, as well as through the payments of dividends by the company. . Again, the riskiness of a bank, or of the system as a whole, is substantially reduced by a significant increase in the levels of equity finance (Imeokparia, 2015). Equity finance express in terms of equity to total assets is a measure of capital structure this has been used. (Ronoh & Ntoiti, 2015). Equity ratio (ER), Debt ratio (DE) Debt- Equity ratio (DER) are used as surrogate of capital structure.

b. COMPONENTS OF CAPITAL STRUCTURE

The capital structure of the bank is nothing but taking decision that are related to the acquisition of funds from various sources and composition of debts and equity Ganiyu (2015) The followings are the multiple sources of funds which the company (bank) takes into consideration while determining its capital structure:

Shareholder's Funds

The owner's funds refer to generating capital by issuing new shares or utilizing the retained earnings to meet up the bank's financial requirement. However, it is an expensive means of acquiring funds. The three sources of capital acquisition through shareholder's funds are as follows:

✓ *EQUITY CAPITAL:* The new shares are issued to the equity shareholders who enjoy the ownership of the bank and are liable to get dividends in proportion to the profits earned by the bank. They are also exposed to the risk of loss associated with the bank.

✓ *PREFERENCE CAPITAL:* The preference shareholders enjoy a fixed rate of dividends along with preferential rights of receiving the return on capital in case of the bank's liquidation over the equity shareholders. However, they have limited rights of voting and control over the bank.

✓ *RETAINED EARNINGS:* The bank sometimes utilize the funds available with it as retained earnings accumulated by keeping aside some part of the profit for business growth and expansion.

Borrowed Funds

The capital which is acquired in the form of loans from the external sources is known as borrowed funds. These are external liabilities of the bank which leads to the payment of interests at a fixed rate. However, there is a tax deduction on such borrowings; it creates a burden on the bank. The following are the various types of borrowed funds:

✓ *DEBENTURES:* It is a debt instrument which the bank and the Government Issue to the public. Though the rate of interest is quite high on debentures, they are not by any collateral or security.

✓ *TERM LOANS:* The fund acquired by the bank at a floating or fixed rate of interest is known as a term loan. This is an appropriate source of fund for the companies which have a good and strong financial position.

✓ *PUBLIC DEPOSITS:* The management invite public through advertisements to create deposits in the bank. It facilitates meeting up the medium or long term financial needs of the bank, such as working capital requirements and it attracts a fixed rate of interest.

c. FACTORS DETERMINING CAPITAL STRUCTURE

Martis (2013) asserted that banking business is basically affected by its internal and external environment. There are multiple related factors which affect capital structure decisions of a bank, they are discussed as follows:

NATURE OF BUSINESS: The form of market structure, the bank is operating will determine its capital structure. For instance, a bank functioning in a monopolistic competitive market where profit is low, will likely prefer shareholder's capital.

COST OF CAPITAL: The bank must prefer the funds which have a low cost of capital so that the shareholder's earnings can be increased.

DEBT-EQUITY RATIO: Having a sound or low debt-equity ratio is the aim of the management. This is because debt is a liability but acts as a cheap source of funds; however, equity is the giving away of business ownership and it constitute a more expensive source of fund.

EBIT-EPS ANALYSIS: The bank management can prepare a suitable capital structure by analyzing the earnings before interest and taxes and the earning per share. If the EBIT is higher than the EPS, the bank must go for that particular source of debt.

SIZE OF COMPANY: The companies which are large can go for long term borrowings and share capital since they are considered to be more reliable than the small organisations.

RISK OF CASH INSOLVENCY: The bank also analyzes its risk-taking ability and its liquidity position while selecting a particular source of fund. High debts may result in the burden of paying high fixed interest leading to a shortage of cash in hand.

FLEXIBILITY: The management must plan a capital structure which retains its elasticity, raising funds as and when required and reducing the cost of capital at its discretion.

FINANCING PURPOSE: The other factor which should be considered is the objective or purpose for which the funds are required. Usually, for acquiring assets like machinery and plant, the bank must issue debentures.

FUTURE PROVISIONS: Planning of capital structure is for the long term. Therefore, the bank must design its capital structure such that it is in a state of acquiring funds at any time in future also.

FLOTATION COST: The cost involved in issuing of new securities, i.e. registration fees, printing expenses, underwriting fees and legal fees, is termed as the flotation cost. A high flotation cost discourages banks from generating funds through shareholder's capital.

DEGREE OF CONTROL: The level of control the bank wants to hold over the business determines its capital structure to some extent. If it wants to retain a high degree of control, it will prefer debts over equity.

FINANCE PERIOD: The capital structure is designed according to the duration for which the bank requires the funds. A business having a short-term requirement will not prefer debentures; instead, it will go for other sources of borrowings like bank loans.

REGULAR EARNINGS: In the case of irregular earnings, the bank avoids debts, since paying off fixed interest becomes difficult in such a situation.

LEGAL REQUIREMENTS: The statutory provisions related to the particular source of funds plays a vital role in framing the capital structure of the bank.

RISK IN VARIATION OF EARNINGS: The management keeps in mind the possibility of generating a low income to

meet up the debts of the bank while planning the capital structure.

MONEY MARKET CONDITIONS: The bank considers the conditions of the stock market while issuing new shares to acquire capital since it will be fruitful only in a bullish market.

TAX RATES: Tax rates also influence the capital structure decision. As we know, the tax deduction is allowed on interest on debts; therefore, if the high tax rates prevail, the bank should go for debt funds and vice-versa.

GOVERNMENT POLICIES: The lending policies of banks and other financial institutions, the government's fiscal and monetary policies and NDIC regulations determine the borrowings of the bank.

SALES STABILITY: If the bank has a consistent sales revenue which is quite high, it will be able to pay off the fixed interest on debentures and other loans. Banks with unstainable sales should opt for equity capital.

d. STEPS TO BE TAKEN IN DETERMINING CAPITAL STRUCTURE

✓ Identify all the bank's capital components by examining the most recent financial statement.
✓ Compile a list of all debt and equity including retained earnings, common shares, debt financing and contributions.

e. OBJECTIVES OF CAPITAL STRUCTURE

Capital structure basically aims at the maximization of profit and the wealth of the shareholders, ensure the maximization value of a bank or minimizes cost of shareholders. It is very important for the financial managers to determine the proper mix of debt and equity for the bank.

f. IMPORTANCE OF CAPITAL STRUCTURE

Capital structuring is an essential function of the management to maintain a sound financial position of the business and fulfil the financial requirements. The importance of capital structure to Nigerian deposit money banks are outlined below:-

✓ *RETURN MAXIMISATION:* A well-designed capital structure provides a scope of increasing the earnings per share, which ultimately maximizes the return for equity shareholders and recover the cost of borrowings.
✓ *FLEXIBILITY:* It also facilitates the expansion or contraction of the debt capital to suit the business strategies and conditions.
✓ *SOLVENCY:* A sound capital structure helps to maintain liquidity in the bank because an unplanned debt capital leads to the burden of interest payments, ultimately reducing the cash in hand.
✓ *INCREASES BANK'S VALUE:* Investors prefer to put in their money in the bank which has a sound capital structure. Thus, leading to a rise in the market value of the bank's shares and securities.
✓ *REDUCES FINANCIAL RISK:* Balancing the proportion of debt and equity in the business through capital structure assist the banks in managing and minimizing risk.
✓ *MINIMIZES COST OF CAPITAL:* It provides for planning the long term debt capital of the bank strategically and thus reducing the cost of capital.
✓ *TAX PLANNING TOOL:* For the banks opting for debt funds, the capital structure provides them with a benefit tax deduction and saving, decreasing the cost of borrowing.
✓ *OPTIMUM UTILIZATION OF FUNDS:* A well planned, strategically designed and systematically arranged capital structure assists the banks in generating maximum output from the available funds.

g. PLANNING THE CAPITAL STRUCTURE

The bank has to initially analyze its financial requirement on the short, medium and long-term basis. Taking the various factors into consideration, the management must plan an appropriate composition of debt and equity. The management must have a logical answer to these questions: How stable the earnings of the bank is? How much financial leverage the bank can bear? Will the bank be able to meet its debt with its profits? And many more.

h. TYPES OF CAPITAL STRUCTURE

The meaning of Capital structure can be described as the arrangement of capital by using different sources of long term funds which consists of two broad types, equity and debt. The different types of funds that are raised by a firm include preference shares, equity shares, retained earnings, long-term loans etc. These funds are raised for running the business.

Equity Capital

Equity capital is the money owned by the shareholders or owners. It consists of two different types
✓ Retained earnings: Retained earnings are part of the profit that has been kept separately by the organisation and are ploughed back to help in strengthening the business.
✓ Contributed Capital: Contributed capital is the amount of money which the company owners have invested at the time of opening the company or received from shareholders as a price for ownership of the company.

Debt Capital

Debt capital is referred to as the borrowed money that is utilized in business. There are different forms of debt capital.
✓ Long - Term Bond: This type of bond is considered the safest of the debts as they have an extended repayment period, and only interest needs to be repaid while the principal needs to be paid at maturity.
✓ Short Term Commercial Paper: This is a type of short term debt instrument that is used by companies to raise capital for a short period of time

Optimal Capital Structure

Optimal capital structure is referred to as the perfect mix of debt and equity financing that helps in maximizing the value of a company in the market while at the same time minimizes its cost of capital. Capital structure varies across industries. For a company involved in mining or petroleum and oil extraction, a high debt ratio is not suitable, but some industries like insurance or banking have a high amount of debt as part of their capital structure.

Financial Leverage

Financial leverage is defined as the proportion of debt which is part of the total capital of the firm. It is also known as capital gearing. A firm having a high level of debt is called a highly levered firm while a firm having a lower ratio of debt is known as a low levered firms.

i. FEATURES OF CAPITAL STRUCTURE

Maximum return, riskless, safety, flexibility, economy, capacity, solvency, control and maintaining public confidence.

THE CONCEPT OF CAPITAL STRUCTURE AND DEPOSIT MONEY BANKS IN NIGERIA (DMBS)

The banking sector consolidation exercise that took place in Nigeria in 2005 did not only lead to reduction in number of Deposit Money Banks (DMBs) but also diversified their capital structure. While the total number of banks reduced from 89 to 25, shareholders' funds grew sporadically from an average of sixty-two billion naira (N62bn) to seventy -three billion naira (N73bn) (Central Bank of Nigeria, CBN, 2005). Conversely, borrowed funds plummeted from an average of sixty-five billion naira (N65bn) in 2004 to forty-seven billion naira 47bn) in 2005. Consequently, the regulatory capital requirement affected mainly the shareholders' funds and by implication tied down a sizeable component of these funds. Thus, in most cases, owners of banks resorted to borrowed funds to finance their activities.

The change in the capital structure as well as prudent regulatory capital requirement notwithstanding, some of the DMBs still experienced liquidity squeeze in 2009 leading to intervention by the CBN. The CBN injected six hundred and twenty billion naira (N620bn) into 3 banks (Platinum Habib Bank Plc, Afri Bank Bank Plc & Spring Bank Plc). The intervention was considered as the saving grace for the affected banks. However, it is imperative that the players (DMBs) determine the most optimal financing mix which minimizes the cost of financing as well as maximizes returns for the banks.

Following the repealed of Universal Banking in 2010, a new operation guidelines for the DMBs was issued that disaggregate the DMBs into three categories namely; regional, national and international. DMB with regional banking authorization shall carry out its operations within a minimum of six (6) and a maximum of twelve (12) contiguous States of the Federation, lying within not more than two (2) Geo-Political Zones of the Federation, as well as within the Federal Capital Territory. Furthermore, national banking authorization allows DMB to carry on its banking business operations within every State of the Federation. The regulation also allows DMB with international banking license to operate in all the States of the Federation, as well as to establish and maintain offshore branch. Similarly the capital requirement of these banks was also reviewed with a minimum of N10 billion for regional banks, N25 billion for the national banks and N50 billion for banks with international authorization (CBN, 2010).

THE CONCEPT OF FINANCIAL PERFORMANCE AND DEPOSIT MONEY BANKS IN NIGERIA

Financial performance is the outcome of an organisation's operations and strategies (Wheelen and Hunger, 2002). Measuring performance accurately is critical for accounting purposes and remains a central concern for most organisations. Performance measurement system provide the foundation to develop strategic plans, assess an organisation's completion of objectives, and remunerate managers (Ittner and Larcker, 1998).

The concept of corporate performance has some multidimensional meanings in the field of finance. Corporate performance is measured either from financial perspectives or organizational viewpoints (Zeituna 2007). Financial performance refers to the benchmark employed in determining the general well-being of a given entity. Bhunia, Mukhuti, and Roy, (2011) defined financial performance as firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. They added that analysis of financial performance is aimed at assessing the feasibility, solidity and fertility of a business. Similarly, Nyor and Yunusa (2016) defined financial performance as the level of performance of a firm over a specified period of time, expressed in terms of overall profit or losses during the period. It entails measuring the results of a firm's policies and operation in monetary terms.

Financial managers use ratios from company financial statement to assess its financial performance (Watson & Head, 2007 and Bhunia, et al. 2011). One of the key factors used in measuring financial performance of an entity is its profitability which according to Dalhat (2014) is the firm's ability to make profit or gain from its operations. Its measurement is the most remarkable indicator for business success (Khan, S ajid, Waseem, & Shehzad, 2016). It shows how efficient the management can make profit by using all the resources available in the market. In conformity with the foregoing, Banerjee and De (2014) stressed that profitability is central to the existence of corporate entity. For the purpose of this study, Return on Assets (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) was used to surrogate performance.

B. EMPIRICAL REVIEW

Many studies have been conducted to investigate the implications of capital structure on bank's performance in various countries. Some researchers found a positive link between capital structure and bank performance, while others

found negative relationship. These areas of divergence and convergence can be shifted in order to identify a clear gap for this present study.

Umoh, Udofia, Hanson & Ekanem (2021) examined capital structure and commercial banks profitability in Nigeria using co-integration approach. Data set used for analysis was extracted from Central Bank Statistical Bulletin. The study employed, total debt and total equity as proxies for explanatory variables while Net profit of commercial banks of Nigeria was proxied as dependent variable within the scope of this study and adopted as a measure of the performance of commercial banks. Ex-post facto research design was adopted. Data were analyzed by employing ordinary least square regression (OLS) model on a sample of 14 commercial banks from 2008 through 2019. Findings revealed that capital structure positively and significantly impacted net profit of commercial bank of Nigeria within the period under review.

Ngatno, Apriatni and Arief (2021) conducted a study on moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. The study uses secondary data in the form of financial reports from micro-financial institutions with a total of 506 units. Data were analysed using the moderated regression analysis. Results indicate that capital structure financial decisions have a positive contribution to financial performance. However, this only applies to short-term debt while long-term debt has a negative and insignificant effect on both return on assets and return on equity. However, findings from this study cannot be used to interpolate with the Nigeria context because of the dissimilitude in political and financial systems.

Orichom and Omeke (2021) investigated a study on relationship between capital structure, credit risk management and financial performance of micro-finance institutions in Uganda. The study adopted a cross–sectional research design to examine 64 MFIs in Uganda. Correlation and multiple regression analysis were performed to analyze the data. The results reveal that credit risk management significantly contributes to sound financial performance. Secondly, capital structure is not significantly related to financial performance. Therefore, credit risk appraisal, credit risk monitoring and credit risk mitigation are essential in achieving sound financial performance of MFIs. However, the structure of debt or equity does not necessarily affect financial performance. Hence, managers should endeavour to instil risk preventive and control mechanisms so as to mitigate credit risks and achieve positive financial performance of MFIs.

Also, researchers such as Adeniyi, Marsidi & Babatunji (2020) investigated capital structure and commercial banks performance in Nigeria. The study used profit after tax and earnings per share as measure of performance while total debt to equity, total debt to total asset, long-term debt to equity, short-term debt to equity, long-term debt to total asset and short-term debt to total asset were proxies for independent variables. Panel regression technique was used to analyse data collected from a sample of fourteen quoted commercial banks 2009 to 2016. The results show a significant relationship between debt and profitability of commercial banks in Nigeria. The study concludes that debt can be significantly influenced by liquidity and shareholders wealth. Consequently, the study recommended that commercial bank managers should not depend on debt capital as a source of financing the organization capital structure but rather use retained earnings of the business and consider debt as the least alternative.

Yimka, Peter and Theodore (2020) carried out a study on capital structure and profitability of Downstream Oil and Gas firms listed in Nigeria from 2000 to 2018. The study employed a dynamic panel system equation of Generalized Method of Moment. Secondary data were sourced from the annual reports of the 8 selected oil and gas companies listed in Nigeria. The study applied descriptive statistics, correlation, and unit root test as well as inferential statistics. Results showed that Debt Capital ratio had a negative and significant relationship with ROA. Also, Equity Capital ratio had a positive and significant relationship with current ROA while Interest Rate had a positive and insignificant relationship with current. The study concluded that while debt capital ratio had a significant inverse effect on firms' profitability, equity capital ratio had a positive and significant effect on the profitability of the selected oil and gas firms. The result also affirmed that interest rate had a positive and insignificant effect on profitability of selected oil and gas firms. The study recommended that Oil and Gas sector should increase equity financing and reduce debt financing. However, the findings cannot be adopted for the Deposit Money Banks in Nigeria because of the variability in activities.

Similarly, Okonkwo, Adigwe, Ezu & Oko (2020) conducted a study on the effect of capital structure on financial performance of Oil and Gas companies quoted on the Nigerian Stock Exchange. Variables such as debt to total assets on return on assets and total debt to total equity on return on equity was adopted. Secondary data were carefully sourced from the financial statement/annual reports of the oil and gas companies. The data span from 2005 to 2018. Panel regression estimate was used by the study. Findings from data analysed show that total debt to total assets has no significant effect on return on assets of oil and gas companies quoted on the Nigerian Stock Exchange and that total debt to total equity has a significant effect on return on equity of oil and gas companies quoted on the Nigerian Stock Exchange. Accordingly, the study concluded that financial performance is independent of capital structure as companies prefer internal financing before resorting to any form of external funds because internal funds incur no flotation costs and require no additional disclosure of proprietary financial information that could lead to more severe market discipline and a possible loss of competitive advantage.

Molla (2020) examined capital structure and bank performance: empirical evidence from Bangladesh using panel data over the period of five years from 2014-2018. To estimate the association between leverage level and bank performance the Panel Corrected Standard Error (PCSE) model was used. Findings indicate that long term debt has a positive influence on the performance of banks which is measured in terms of ROA and ROE. This implies that long term debts are associated with the higher performance of banks listed in Bangladesh. The regression results also reveal that the capital structure component of total debt has no statistically significant impact on ROA, ROE and EPS but it has a significant positive impact on the performance of banks

measured by price earnings ratio. Furthermore, this analysis finds no relationship of long term debt and total debt with the EPS. These findings lead to conclude that capital structure has a weak to no influence on the performance of listed banks in Bangladesh.

Also, researchers such as Zaman, Ullah & Ali (2020) investigated a study on relationship between capital structure and profitability of Islamic and Conventional banks, listed on the Kerachi Stock Exchange extracting data from 250 observations between 2006 and 2016. The study adopted regression technique to check for the relationship between dependent variables (ROA and ROE) and Independent variables (debt/equity ratio, firm size, growth opportunities and asset tangibility). The study found a strong correlation between debt-to-equity ratio and ROE in conventional banks while no significant relationship existed in Islamic banks.

Ibrahim (2019) investigated the impacts of capital structure on bank performance. Six banks based in Iraq were selected spanning the period 2005 to 2015. The variables that were identified as identified as independent for capital structure were total debt to capital, bank size and asset growth while return on assets and return on equity were considered to be dependent variables for bank performance. Panel least square was adopted for the study. Findings revealed that none of the independent variables has a significant impact on return on assets (ROA), while total debt to capital has a positive impact on return on equity. The study recommends that Iraq banks should keep sufficient amount of capital to avoid any financial risks and increase the probability of survival.

C. THEORETICAL FRAMEWORK

There have been numerous positions on capital structure theories, a review of the different theories that we considers peculiar to this study will be analysed in order to give insight on their positions on capital structure and the performance of incorporated organisations using deposit money banks as a case study. The key theories that provide the theoretical framework that help to explain the relationship between capital structure and performance of firms include: Capital Structure theory, Trade off theory, Pecking order theory and Agency cost theory among others.

a. THE CAPITAL STRUCTURE THEORY

Modigliani and Miller (1958) propounded a theory which states that the market value of a firm is determined by its earning power and the risk of its underlying assets is independent of the way it chooses to finance its investment or distribute dividends. In clear term the theory posited that a firm's total market value is independent of its capital structure. The M and M proposition is based on the assumptions that financial markets are perfect where individuals and firms are price-takers, frictionless, no transaction costs, all agents are rational, all agents have the same information, a firm's cash flows do not depend on its financial policy (or bankruptcy costs) and no taxes. Albeit in the real world, there are taxes, transaction costs, and bankruptcy costs, differences in borrowing costs, information asymmetries and effects of debt on earnings.

b. THE TRADE-OFF THEORY

The trade-off theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. It maintains that the capital structure of a firm is the outcome of the trade-off structure of a firm between the benefits of debt and the costs of debt (Joshua Abor 2007). Typical argument for the trade-off between the costs and benefits of debt are based on bankruptcy cost, tax benefits and agency cost related to asset substitution, under investment and over investment (Ozteken 2009). Myers (2002) explains that the trade-off theory has common sense and practical appeal, since it recognizes the value of the interest tax shield and it also accommodates the costs of financial distress. The theory therefore explains moderate and cautions borrowing.

c. THE PECKING ORDER THEORY

Myers and Majluf (1984), developed the pecking-order theory otherwise known as the asymmetric information model. This development refocused research thinking towards information asymmetry among investors and firms. The theory postulates that there is a hierarchy in the firm's preference for financing investments and that compliance with the hierarchy represents the optimal financial structure. Thus, firms prefer internal to external financing, although, they would embrace the latter if necessary to finance real investment with positive net present values. Since issuing new shares is detrimental to existing share holders' interest, managers will prefer to finance investments from internal source (i.e. retained earnings); if this source proves insufficient, they will then opt for external sources (first, by less risky debt, followed by risky debt, and then equity). The theory postulates a negative relationship between debt financing and firm performance. Accordingly, more profitable firms earn higher return that can in turn be retained making them opt for lower amount of debt as against less profitable companies who do not enjoy same and are therefore compelled to employ more debt in order to finance ongoing activities.

d. AGENCY COST THEORY

In the mid-1970s, research efforts shifted to agency costs, focusing on two categories of conflicts of interest between managers and shareholders, on one hand, and creditors and shareholders, on the other (Jensen & Meckling, 1976). The former arises when shareholders fail to monitor the activities of managers. Thus, the theory assumes that in the presence of information asymmetry, the agent (in this case, the directors and managers) is likely to pursue interests and preferences that may be detrimental to the principal or owner (Fama, 1980). Corporate finance scholars have however argued that higher leverage can mitigate conflicts between shareholders and managers regarding the amount of risk a firm undertakes (see Jensen and Meckling, 1976) and the choice of investment it makes (see Myers, 1977). Jensen (1986) argues that there are two main advantages a levered firm enjoys. The first is the tax shield. Usually, interest on debt is non-tax deductible and

profits realised from the use of it are taxed lower, hence, it is expected that debt would help in raising the value of the firm. The second benefit is derived from the use of debt to discipline managers. Besides, the law usually guarantees a right of partial information disclosure to the company's debt holders, which serves as additional managers' supervision tool. Consequently, company managers become more transparent and have more incentives to create higher value for the equity owners which Jensen (1986) argued is the essence of free cash flow theory of capital structure.

For the purpose of this study, we adopted and anchored on the agency cost theory proposed by Jensen and Meckling (1976) because it predicts a positive relationship between debt and profitability/performance. In fact, large creditors have interest in seeing that managers take performance-improving mechanisms. These mechanisms according to Jensen & Meckling (1976) include among others; monitoring by debt holders; managers' fear of bankruptcy and liquidation following misuse of funds, which may lead to loss of jobs, reputation and salaries; untimely termination of debt agreement by the creditor; and reduction of over-investments. Thus, it is expected that as debt increases in the context of low agency costs, the level of efficiency will increase thereby raising firm performance. Berger and Bonaccorsi di Patti (2006) argue that higher leverage or a lower equity capital ratio is associated with higher profit efficiency, a finding that is consistent with agency theory. In good times, higher level of leverage profits the shareholders more than the creditors, but this does not hold when performance is very low. In fact, when performance gets to a certain level and the firm moves towards insolvency, shareholders face the risk of losing only their investments thereby passing the risk to the creditors especially in Nigeria where there are weak legal and regulatory environments.
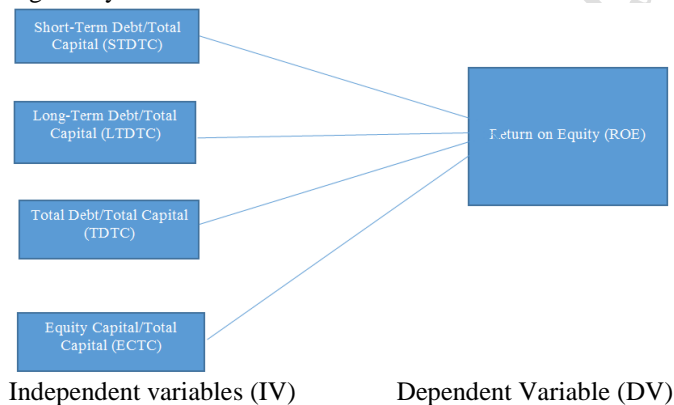

Independent variables (IV)   Dependent Variable (DV)
Figure 1: Research Framework for this study

III. METHODOLOGY

A. RESEARCH DESIGN

The study used Ex-Post Facto Research Design with a view to solving the problem of the study. Ex-Post Facto Research Design is used when empirical inquiry in which the scientist does not have directs control of independent variables because their manifestations have already occurred or because they are inherently not manipulated. Inferences about relations among variables are made, without direct intervention, from co commitment variation of independent and dependent variables. It is also often applied as a substitute for true experimental research to test hypotheses about cause-and-effect relationships. According to Kothari and Garg (2014), ex-post facto research design seeks to find out the factors of past event or already existing condition in other to predict future outcome. The choice of this research approach is based on the advantages and reliability of results associated with it.

B. POPULATION OF THE STUDY

The population of this study consists of all the twenty-one (21) Deposit Money Banks with Central Bank of Nigeria (CBN) license to carry on the business of banking and operating in Nigeria for the period 1st January 2000 to 31st December, 2019. The choice of all these banks by this study is informed by the need to make generalization that will cover the entire DMBs in Nigeria.

C. SAMPLE SIZE OF THE STUDY

As a result of employing the first filter of using Deposit Money Banks quoted on the Nigerian Stock Exchange, the number of financial institutions was reduced from twenty-one (21) to fourteen (14) and were found to have satisfied the study criterion. The analysis therefore is based on these fourteen (14) Deposit Money Banks.

S/N	Name	Category	NSE Status
1	Access Bank Plc	International	Listed
2	Eco Bank Nigeria Plc	National	Listed
3	Fidelity Bank Plc	International	Listed
4	First Bank of Nigeria Plc	International	Listed
5	First City Monument Bank Plc	International	Listed
6	Guaranty Trust Bank Plc	International	Listed
7	Stanbic IBTC Bank Plc	National	Listed
8	Sterling Bank Plc	National	Listed
9	United Bank for Africa Plc	International	Listed
10	Unity Bank Plc	National	Listed
11	Zenith Bank Plc	International	Listed
12	Diamond Bank Plc	International	Listed
13	Union Bank Plc	National	Listed
14	Wema Bank Plc	National	Listed

Source: Adapted and Modified from CBN and NSE, 2021
Table 1: Sample Size of the Deposit Money Banks

D. SAMPLING TECHNIQUE

To limit the likely error in generalizing the population, the following filtering (technique) was deemed appropriate for properly selecting sample size for the study:

- ✓ Any quoted banks that are not fully on the Nigerian Stock Exchange (NSE) within the scope of this study were not considered.
- ✓ Also, any quoted banks as at 1st January, 2000 but not listed as at 31st December, 2019 was not considered in this study.

E. SOURCES AND METHODS OF DATA COLLECTION

This study used secondary data which was collected from Central Bank of Nigeria (CBN) statistical bulletin and factsheet of various issues and the audited annual financial statements of the sampled banks for the period of 2000 to 2019. The data constituted a compounded figure of the study variables (short-term debt/total capital, long-term debt/ total capital, total debt/total capital and equity capital/total capital) on the financial performance (return on equity) of Deposit Money Banks in Nigeria issued by the regulatory authority (Central Bank of Nigeria).

F. MODEL SPECIFICATION

The study examined the implications of capital structure on the performance of Deposit Money Banks in Nigeria. To establish the linear relationship between the dependent variable (financial performance) and independent variables (short-term debt/total capital, long-term debt/ total capital, total debt/total capital and equity capital/total capital), the study adopts conjecture of variables from researchers such as Umoh, Udofia, Hanson & Ekanem (2021).; Molla (2020).; Ibrahim (2019), Osuji & Odita (2012) and Abdulrashid, Pofi, Saminu & Mohammed (2017), but modified to suit the best purpose of this research.

The structural form of the study model is stated in Equation 1 below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + ... + \beta_k + X + \varepsilon \ . \ . \ (1)$$

Where the βs are the regression coefficients, Xs are column vectors for the independent variables and ε is a vector of errors of prediction. The model is linear in the β parameters, but may be used to fit non-linear relationships between the Xs and Y. "The regression coefficients are interpreted as the change in the expected value of Y associated with a one-unit increase in an independent variable, with the other independent variables held constant. The errors are assumed to be normally distributed with an expected value of zero and a common variance" (Pohlmann & Leitner, 2003).

The model was modified to suit the best purpose of this research as shown in equation (2)

$$ROE_{it} = f (STDTC_{it}, LTDTC_{it} \ TDTC_{,it}, \ ECTC_{it},) \ . \ . \ . \ (2)$$

This model was further transformed into an econometric model as equation (3)

$$ROE_{it} = \alpha_0 + \beta_1 STDTC_{it} + \beta_2 LTDTC_{it} + \beta_3 TDTC_{it} + \beta_4 ECTC_{it} + \varepsilon_{it} \ . \ . \ . \ (3)$$

Where:

ROE_{it} = Compounded figure on return on equity of banks i at time t

$STDTC_{it}$ = short-term debt/total capital of banks i at time t

$LTDTC_{it}$ = long-term debt/ total capital of banks i at time t

$TDTC_{it}$ = total debt/total capital of banks i at time t

$ECTC_{it}$ = equity capital/total capital i at time t

β_0 = Constant term (intercept)

β_1, β_2, β_3 and β_4, denote regression parameters and slope of the variables.

ε = The Error Term

G. METHOD FOR DATA ANALYSIS

The ordinary least square (OLS) multiple regression technique was used to analyse the dataset to establish the relationship between dependent variable (return on equity) and the independent variables (short-term debt/total capital, long-term debt/ total capital, total debt/total capital and equity capital/total capital). The technique is considered relevant and appropriate due to the nature of the study data. Furthermore, employing the OLS regression technique requires to determine the level of stationarity of the variables, whether long-run relationship co-exist among the variables. As reported by Temiz Dinc & Akdogan (2019), estimation of the vector error correction model (VECM) will demand some basic requirements. These are explained below as it thus relate to this present study

a. STATIONARITY TEST

All variables are expected to be integrated of the same order i.e. - I (0) at level, I (1) at first difference or 1(2) at second difference. The determination of the stationarity of each series is a necessary condition for co-integration test, and indeed for the estimation of the error correction model, simply because each series involved in the estimation of a model must be integration of the same order (Guris, 2019). The stationarity or unit root test for this study was conducted using Augmented Dickey Fuller (ADF) test. The model to check the unit root is given as:

$$\Delta X_t = \lambda_0 + \lambda_1 x_{t-1} + \lambda_2 T + \sum_{i=0}^{n} \varphi i \Delta X_{t-1} + \varepsilon \ . \ . \ . \ (2)$$

Where Δ is the difference operator; X is the natural logarithm of the series. T is a trend variable. λ and φ are parameters to be estimated and ε is the error term.

b. OPTIMAL LAG SELECTION

Optimum lag is expected to be selected and used in the determination of existence of co-integration and the number of co-integrating equation(s). It is also useful in the final VECM estimation for the combined, (also the individual) implication of capital structure (short-term debt/total capital, long-term debt/ total capital, total debt/total capital and equity capital/total capital on financial performance of Deposit Money Banks in Nigeria. Akaike Lag selection criterion of the E-view package 11.0 Student Edition was used to make this optimal lag selection.

c. CO-INTEGRATION TEST

Once the variables have been established to be integrated of the same order, then the Johansen-Juselius (1990) maximum likelihood method of co-integration that shows existence of long run association-ship among the variables and the number of co-integrating vectors can be applied.

Johansen co-integration test procedure consists of estimating a vector autoregressive (VAR) models which includes difference as well as the specifics of the non-stationary variables (Johansen & Julius, 1990). The equation for Johansen co-integration test is given by:

$$\Delta X_t = \tau_1 \Delta X_{t-1} + \ldots + \tau_{k-1} \Delta X_{t-k+1} + \pi X_{t-k} + \varepsilon \ldots (4)$$

Where ε is Gaussian random variable, τ_1 and π are matrices of parameters estimated using OLS. The component πX_{t-k} produces different linear combinations of specifics of the time series X_t. As such, the matrix π contains information about the long run properties of the system describe by the model.

d. VECTOR ERROR CORRECTION MODEL ESTIMATION

An error correction model is estimated upon the discovery of a long run co-integration among the variables. Engle and Granger (1987) argues that if co-integration exist among variables in the long run, then there must be either a unidirectional or bi-directional granger-causality among the variables and this can only be investigated by an error correction mechanism. VECMs are a theoretically-driven approach useful for estimating both short-term and long-term causality (effects) of one-time series on another. The term error-correction relates to the fact that last-periods deviation from a long-run equilibrium (the error), influences its short-run dynamics. Thus, ECTs directly estimate the speed at which a dependent variable (return on equity) adjusts to equilibrium after a change in other variables. The study investigated the long run causality of capital structure (short-term debt/total capital, long-term debt/ total capital, total debt/total capital and equity capital/total capital) on financial performance (return on equity) of Deposit Money Banks in Nigeria. Hence, the direction of causality in the current study is unidirectional. The VECM representation for the study models therefore assumes the following form:

GENERAL VECM EQUATION

$$\Delta ROE = \sum_{i=1}^{N} \beta_i \Delta STDTC_{t-1} + \sum_{i=1}^{N} \alpha_i \Delta LTDTC_{t-1} + \sum_{i=1}^{N} \pi_i \Delta TDTC_{t-1} + \sum_{i=1}^{N} \delta_i \Delta ECTC_{t-1} + \varepsilon_1 \ldots (5)$$

In the general VECM equation , Δ is the first difference operator; β_i, α_i, π_i, δ_i, λ_i, and γ_i represents the short run coefficients of the lag of variables ROE, STDTC, LTDTC, TDTC and ECTC respectively; E_1 is the error correction term and Z_1 is its coefficient; ε_{1t-1} is one period lag of residual obtained;

INDIVIDUAL STUDY VARIABLE VECM MODEL

✓ $\Delta ROE = \sum_{i=1}^{N} \mu_{1i} \Delta ROE_{t-1} + \sum_{i=1}^{N} \varphi_{1i} \Delta STDTC_{t-1} + Z_2 EC2_{t-1} + \varepsilon_2 \ldots (6)$

✓ $\Delta ROE = \sum_{i=1}^{N} \mu_{2i} \Delta ROE_{t-1} + \sum_{i=1}^{N} \varphi_{2i} \Delta LTDTC + Z_3 EC3_{t-1} + \varepsilon_3 \ldots (7)$

✓ $\Delta ROE = \sum_{i=1}^{N} \mu_{3i} \Delta ROE_{t-1} + \sum_{i=1}^{N} \varphi_{3i} \Delta TDTC + Z_4 EC4_{t-1} + \varepsilon_4 \ldots (8)$

✓ $\Delta ROE = \sum_{i=1}^{N} \mu_{4i} \Delta ROE + \sum_{i=1}^{N} \varphi_{4i} \Delta ECTC + Z_5 EC5_{t-1} + \varepsilon_5 \ldots (9)$

Where:

$\mu_{1i} \ldots \mu_{5i}$ and $\varphi_{1i} \ldots \varphi_{5i}$ are the short run coefficient of lag of ROE and each of the lag of STDTA, LTDTA, TDTA and ECTA respectively, when the co-integrating regression of each of the later variables are carried out on the ROE. N is the number of lags; EC2 to EC5 are the resulting error correction term of model 4-8 respectively and Z_2 to Z_5 are the coefficient of the lag of each of those error correction term *i.e.* EC_{2t-1} to EC_{5t-1}. ε_2 to ε_5 are each the residual of the equation 6 to 9 respectively.

H. TEST OF VALIDITY AND RELIABILITY

In order to test for the validity and reliability of the study model, series of diagnostic test were carried out which include Multicollinearity test, Normality test and Heteroscedasticity test.

IV. DATA PRESENTATION AND ANALYSIS

A. DATA PRESENTATION

The data for the study analysis were presented in Table 4.1 below showing the dependent variable (ROE) and independent variables (STDTC, LTDTC, TDTC and ECTC).

YEAR	ROE	STDTC	LTDTC	TDTC	ECTC
2000	55.23	0.091	0.114	0.372	0.716
2001	43.46	0.815	0.100	0.080	0.752
2002	42.5	0.777	0.088	0.114	0.746
2003	33.67	0.073	0.108	0.205	0.820
2004	33.01	0.008	0.147	0.200	0.632
2005	24.76	0.586	0.136	0.372	0.591
2006	24	0.882	0.182	0.292	0.435
2007	21	0.624	0.289	0.127	0.913
2008	21.6	0.341	0.492	0.122	0.833
2009	29.45	0.601	0.125	0.101	0.726
2010	32.54	0.606	0.143	0.176	0.749
2011	33.1	0.553	0.251	0.152	0.804
2012	25.76	0.722	0.121	0.138	0.843
2013	20.71	0.714	0.142	0.137	0.856
2014	20.34	0.668	0.193	0.284	0.862
2015	19.53	0.634	0.217	0.198	0.851
2016	20.04	0.586	0.278	0.255	0.864
2017	19.56	0.678	0.150	0.100	0.827
2018	22.6	0.669	0.138	0.164	0.806
2019	19.47	0.683	0.096	0.341	0.821

Source(s): CBN Report of various issues and NDIC Annual Reports

Table 2: Raw Data on Return on Equity (ROE), Short-Term Debt/Total Capital (STDTC), Long-Term Debt/Total Capital (LTDTC), Total Debt/Total Capital (TDTC) and Equity Capital /Total Capital (ECTC) spanning from 2000 to 2019

B. DATA ANALYSIS

a. CORRELATION MATRIX OF DEPENDENT AND INDEPENDENT VARIABLES

Correlation is a bivariate analysis that measures the strengths of association between two variables. In statistics, the value of the correlation coefficient varies between +1 and -1. When the correlation between two or more independent variables is (too) high, the problem of multicollinearity occurs (Williams & Rast, 2020). The problem of multicollinearity may lead to less accuracy of results in the analysis; the coefficients may have very high standard errors and perhaps even incorrect signs or implausibly large magnitudes (Lindner, Puck & Verbeke, 2020). A Pearson Correlation Matrix is computed and shown in Table 3 below to analyze the correlations between the model variables (short-term debt/total capital, long-term debt/ total capital, total debt/total capital, equity capital/total capital and return on equity).

	ROE	STDTC	LTDTC	TDTC	ECTC
ROE	1.0000				
STDTC	-0.37511	1.0000			
LTDTC	-0.39594	-0.11095	1.0000		
TDTC	0.03328	-0.22771	-0.15664	1.0000	
ECTC	-0.28591	0.01387	0.26927	-0.38097	1.0000

Source: *Output obtained from EVIEWS, 2021*

Table 3: Correlation Matrix of Dependent and Independent Variables

The Pearson correlation matrix table showed that the coefficient of correlation between return on equity of Nigerian Deposit Money Banks and short-term debt/Total capital is -0.3711. The result implies that short-term debt/Total capital has a negative relationship with return on equity of Nigerian Deposit Money Banks.

The result revealed that the correlation coefficient between return on equity of Nigerian Deposit Money Banks and Long-term debt/Total capital is -0.395949. The result implies that Long-term debt/Total capital has a negative relationship with return on equity of Nigerian Deposit Money Banks. Also, Total debt/Total capital is significantly positive (0.033284) correlated with return on equity of Nigerian Deposit Money Banks. The result implies that Total debt/Total capital has a positive relationship with return on equity of Nigerian Deposit Money Banks. This further suggests that this variable potentially lead to a higher degree of return on equity of banks.

Furthermore, the equity capital /Total capital (ECTC) is negatively (-0.285917) correlated with return on equity of Nigerian Deposit Money Banks. The result implies that equity capital /Total capital of Nigerian banks has a negative relationship with return on equity. In general, it repeatedly suggests that large firms with owner capital have low magnitude of returns.

With respect to the association among the independent variables themselves, short-term debt/Total capital is found to be indirectly correlated with long-term debt/Total capital and Total debt/Total capital based on the values of -0.11095 and -0.22771 while it moves in positive direction with equity capital/ total capital as per the value of 0.013875 respectively. Long-term debt/Total capital negatively correlates with Total debt/Total capital with value of -0.156649. More so, Long-term debt/Total capital has a positive association with equity capital /Total capital with value of 0.269270.

Overall, the Pearson Correlation Matrix does not indicate any significant problem of multicollinearity across the model variables. The highest correlation is 0.26927 which is between the Long-term debt/Total capital and equity capital /Total capital and is significant at the 5% level. This correlation is not high enough to indicate a problem of multicollinearity. This means that the level of correlation between and among all the independent variables is considered appropriate for the study.

b. DIAGNOSTIC TESTS

The data was subjected to series of diagnostic tests. The output generated using the E-View software is attached as Appendix. Such diagnostic tests carried out on the result are aimed at improving the robustness of the result. These tests are important for the regression estimation to satisfy the assumptions of the Ordinary Least Square.

MULTICOLLINEARITY TEST

Non – existence of multicollinearity is a key assumption of linear regression analysis. Multicollinearity occurs when the independent variables are not independent from each other. Multicollinearity is examined using tolerance and variance inflation factor (VIF) values. Tolerance level occurs when each of the independent variables is regressed on the other independent variable. Low tolerance levels indicate high levels of multicollinearity. Oke, Akinkunmi & Etebafia (2019), argued that a tolerance level that is lower than 0.2 indicates problem of multicollinearity. Therefore, in this study, VIF for the five independent variables are shown in Table 5 below. A VIF figure greater than or equal to 5 (≥ 5) shows serious multicollinearity (Kothari & Garg, 2014).

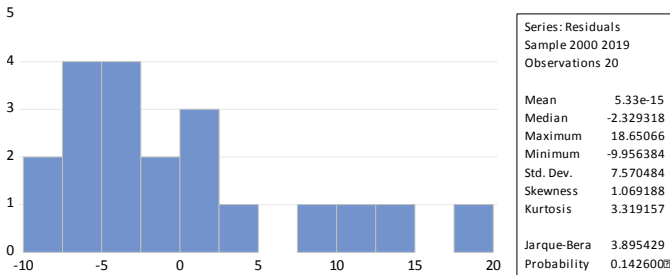| Variables	VIF	1/VIF
STDTC	1.08	0.9259
LTDTC	1.10	0.9091
TDTC	1.25	0.8000
ECTC	1.24	0.8065
Mean VIF	**1.17**	

Source: *Output obtained from E-View, 2021.*

Table 4: Variance Inflation Factor and Tolerance Level

Table 4 above revealed that VIF and TV of the explanatory variables are within the acceptable limit as established by Kothari & Garg (2014) and Oke, Akinkunmi & Etebafia (2019). This therefore means that all the variables (STDTC, LTDTC, TDTC and ECTC) are free from multicollinearity which might lead to spurious regression result.

NORMALITY TEST

This test is meant to determine the normality of data distribution. The null hypothesis for the test assumes that the data are not normally distributed. This is presented in Table 5 below:

Series: Residuals	
Sample 2000 2019	
Observations 20	
Mean	5.33e-15
Median	-2.329318
Maximum	18.65066
Minimum	-9.956384
Std. Dev.	7.570484
Skewness	1.069188
Kurtosis	3.319157
Jarque-Bera	3.895429
Probability	0.142600

Source: Output obtained from E-View, 2021
Table 5: Normality Result

Table 5 is showing the mean, median, minimum/maximum, standard deviation, skewness and kurtosis values. Also, it indicates the Jarque-Bera statistics and its corresponding probability value. The data is positively skewed, with kurtosis of 3.319157 (<7). Again, the Jarque-Bera is 3.895429 with an insignificant probability of 0.142600, signifying that the study is to fail accepting the null hypothesis of no normal data. Meaning that, the data for this study are normally distributed.

SERIAL CORRELATION LM TEST

A test of Autocorrelation (serial correlation) is conducted to check if the error terms of the variables are correlated, as shown in table 6.

Breusch-Godfrey Serial Correlation LM Test

				Remarks
F-stat	4.47	P(F-stat)	0.5417	N Sig.**
Obs*R-squared	8.15	P.Chi-Square(1)	0.4389	N Sig.**
Durbin-Watson = 1.489123 (*Absence of Autocorrelation)				

Source: Output obtained from E-View, 2021
Table 6: Summary of LM Test Result

The summary of Breusch-Godfrey Serial Correlation LM result in table 6 indicates a Durbin-Watson value of 1.489123 with non-significant probability values of F-statistics and Chi-square of 0.5417 and 0.4389 respectively. With a null hypothesis of no serial correlation, we fail to reject the null considering the results of the F-stat (4.47) and R^2 (0.407668) and both their probabilities greater than the 5% level of significance. More so, the Durbin Watson value of 1.489, clearly signifies that there are no cases of serial autocorrelation.

C. STATIONARITY TEST

In a multiple linear regression, testing for stationarity of data series is very essential an initial step. This is because non-stationary variable inputs in a multiple regression analysis are known to yield spurious or false regression results leading to wrong conclusions about hypothesis, and economic

forecasts (Webb, Linn & Lebo, 2020). Knowing the unit root of the variables in question also determines the appropriateness of the model adopted for the study.

The Augmented Dickey-Fuller (ADF) Test (Dickey & Fuller, 1979) was employed to ascertain the stationarity or otherwise of the variables (see Appendix 2). It is based on the simple logic that non-stationary process has infinite memory as it does not show decay in a shock that takes place in the process. Decision rule is based on the null hypothesis that: "the variable has a unit root (non-stationary)" as against alternative hypothesis that "the variable has no unit root (stationary)". Decision is reached by comparing the ADF test-statistics (at both Level and First Difference for each variable) with the 5% significance level. The null hypothesis is accepted where p-value is greater than 5%, but rejected where p-value is less than or equal to 5%. Table 7 summarises the result of the test.

Variables	t-statistics	Critical Values @5%	Order of Integration	Prob.	Remarks
ROE	/4.111152/	/3.040391/	I(1)	0.0060	Stationary
STDTC	/10.83821/	/3.052169/	I(1)	0.0000	Stationary
LTDTC	/5.386851/	/3.040391/	I(1)	0.0005	Stationary
TDTC	/5.373656/	/3.040391/	I(1)	0.0005	Stationary
ECTC	/5.599027/	/3.040391/	I(1)	0.0003	Stationary

Source: Output obtained from E-View, 2021
Table 7: Summary of Unit Root Results

From the result in Table 7, all the study variables are non-stationary at level - they all have p-values greater than the 5% significant level, but become stationary after differencing once (p-values less than 5% significant level). This indicates that the variables are all integrated of order I(1); a necessary and compulsory precondition for the use of Co-integration test to determine the long-run relationship among the variables.

D. REGRESSION RESULT

Regression is one of the most popular and common statistical technique in social sciences. With a multiple regression model, the study established the relationship between the response variable (return on equity) and the independent variables (short-term debt/total capital, long-term debt/total capital, total debt/total capital and equity capital/total capital) of Deposit Money Banks in Nigeria. This is presented in Table 8 below:

Variables	Coefficient	Std. Error	t-statistics	Prob.
C	68.72981	18.27818	3.760210	0.0019
STDTC	-18.92512	8.293336	-2.281968	0.0375
LTDTC	-43.07761	21.61109	-1.993310	0.0447
TDTC	-25.27434	23.66294	-1.068098	0.3024
ECTC	-22.50751	19.30048	-1.166163	0.2618
R^2 = 0.747541	**Adj. R^2 = 0.729552**	**F-Stat = 2.579553**	**Prob(F-Stat) 0.040001**	

Source: Output obtained from E-View, 2021
Table 8: Summary of Regression - Least Square Method

$$\Delta ROE_t = \alpha_1 + \sum_{i=1}^{p} \alpha_1 \Delta STDTC_{t-i} + \sum_{i=1}^{q} \alpha_2 \Delta LTDTC_{t-1} + \sum_{i=1}^{q} \alpha_3 \Delta TDTC_{t-1} + \sum_{i=1}^{q} \alpha_4 \Delta ECTC_{t-i} + \varepsilon_{jt}$$

$$\Delta ROE_t = 68.72981 - 18.92512 STDTC_{t-I} - 43.07761 LTDTC_{t-i} - 25.27434 TDTC_{t-i} - 22.50751 ECTC_{t-I}$$

Table 8 above shows the result from the data analysed for this study. As can be deduced in the table, the model estimated give almost a perfect result compared to the various

theories as well as empirical literatures reviewed on the nexus between capital structure and bank performance. The estimated model above has an R^2 and Adjusted R^2 OF 0.747541 and 0.729552 respectively as its coefficient of variation. This indicates that majority of the variations or changes in the capital structure of the understudied banks in Nigeria is largely determined by the dependent variable selected for this study. This is further supported by the F-statistic which is given at 2.579553 and significant at 5% level of significance from the F-statistics probability. This shows that the coefficients of the variables in our model are statistically different from zero.

Also, Table 8 above shows that Short-term debt/Total capital (STDTC) has a negative relationship with Return on equity (ROE) of Deposit Money Banks of Nigeria. This is based on coefficient value of -18.925. This implies that a 1% increase in Short-term debt/Total capital (STDTC) will lead to a decrease on the Return on equity (ROE) of Deposit Money Banks of Nigeria by 18.925% and vice versa. The p-value of 0.0375 which is less than the conventional alpha value of 0.05 shows that is very significant. This means that the null hypothesis that states that Short-term debt/Total capital (STDTC) has no significant effect on Return on equity (ROE) of Deposit Money Banks of Nigeria was completely rejected. The rejection of the null hypothesis implies that there is significant effect of Short-term debt/Total capital (STDTC) on the Return on equity (ROE) of Deposit Money Banks of Nigeria

Furthermore, Table 8 above revealed that Long-term debt/Total capital (LTDTC) has a negative relationship with Return on equity (ROE) of Deposit Money Banks of Nigeria. This is based on coefficient value of -43.07. This juxtaposes that a 1% increase in Long-term debt/Total capital (LTDTC) will lead to a decrease on the Return on equity (ROE) of Deposit Money Banks of Nigeria by 43.07% and vice versa. The p-value of 0.0447 which is less than the conventional alpha value of 0.05 shows that is very significant. This means that the null hypothesis that states that Long-term debt/Total capital (LTDTC) has no significant effect on Return on equity (ROE) of Deposit Money Banks of Nigeria was rejected. The rejection of the null hypothesis implies that there is significant effect of Long-term debt/Total capital (LTDTC) on the Return on equity (ROE) of Deposit Money Banks of Nigeria.

Also, the coefficient of Total debt/Total capital (TDTC) shows that it has a negative relationship with Return on equity (ROE) of Deposit Money Banks of Nigeria. This is based on coefficient value of -25.274. This implies that a 1% increase in Total debt/Total capital (TDTC) will lead to a decrease on the Return on equity (ROE) of Deposit Money Banks of Nigeria by 25.274% and vice versa. The p-value of 0.3024 which is greater than the conventional alpha value of 0.05 shows that is very insignificant. This means that the null hypothesis that states that Total debt/Total capital (TDTC) has no significant effect on Return on equity (ROE) of Deposit Money Banks of Nigeria was not rejected. The failure to reject the null hypothesis implies that there is no significant effect of Total debt/Total capital (TDTC) on the Return on equity (ROE) of Deposit Money Banks of Nigeria.

Finally, the last variable in our model, Equity capital/Total capital (ECTC) has a negative relationship with Return on equity (ROE) of Deposit Money Banks of Nigeria. This is based on coefficient value of -22.507. This implies that a 1% increase in Equity capital /Total capital (ECTC) will lead to a decrease on the Return on equity (ROE) of Deposit Money Banks of Nigeria by 22.507% and vice versa. The p-value of 0.2618 which is greater than the conventional alpha value of 0.05 shows that is not significant. This means that the null hypothesis that states that Equity capital t/Total capital (ECTC) has no significant effect on Return on equity (ROE) of Deposit Money Banks of Nigeria was not rejected. The failure to reject the null hypothesis implies that there is no significant effect of Equity capital t/Total capital (ECTC) on the Return on equity (ROE) of Deposit Money Banks of Nigeria.

E. HYPOTHESES TESTING

The Table 9 below presents the summary results based on the a priori expectation, reported sign from the model and the significance level of the variables.

Relationship	Expected sign	Reported sign	P-value	Observation	Decision
STDTC	Negative sign	Negative sign	0.0375	P-value<0.05	Reject null
LTDTC	Negative sign	Negative sign	0.0447	P-value<0.05	Reject null
TDTC	Negative sign	Negative sign	0.3024	P-value>0.05	Accept null
ECTC	Positive sign	Negative sign	0.2618	P-value>0.05	Accept null

Note: *** represents significant level at 5% respectively
Source: Output obtained from E-View, 2021
Table 9: Summary of Hypothesis Testing

F. DISCUSSION OF FINDINGS

This part discusses the study findings regarding the implications of capital structure on the performance of Deposit Money Banks in Nigeria.

From hypothesis 1, banks' short-term/total capital is predicted having significant implication on its return on equity. However, from the regression result in Table 9, the coefficient of short-term/total capital (STDTC) as expected is highly significant and negatively related to the financial performance measured by return on equity. This result shows that higher level of short-term debt/total capital lead to lower return on equity (ROE). Furthermore, it may provide support for the proposition that due to agency conflicts, banks over-leverage themselves, thus affecting their performance negatively. This findings are consistent with the finding of previous studies such as Touseef (2014) who establishes a negative and significant relationship with return on equty. However, this is not in line with studies like Ngatno, Apriatni & Arief (2021), Adeniyi, Marsidi & Babatunde (2020) and Uwalomwa & Uadiale (2012) who found a positive and significant relationship between short-term debt and financial performance. Also, researcher like Akinleye & Akomolafe (20190 established positive but insignificant relationship.

Also, the negative and significant coefficient of long-term/total capital (LTDTC) does not support argument that long-term debt increases a firm's performance, which could however be due to the lower ratio of long-term debt in the

capital structure of Nigerian Deposit Money Banks. This findings support the pecking order theory of capital structure which suggests that profitability firms initially rely on less costly internally generated funds before looking out for external finances. It is therefore expected that highly profitable Nigerian banks will require less debt finance. The negative relationship between long-term debt/total capital (LTDTC) and return on equity (ROE) also suggests that there might be agency issues which may lead Nigerian Deposit Money Banks to use higher than appropriate levels of debt in their capital structure, thereby producing lower performance. The significant negative relationship further reflects that bond market in the Nigerian economy is underdeveloped and is consistent with signs of underdeveloped bond market in all markets. This findings is consistent with researchers such as Ngatno, Apriatni & Arief (2021) and Touseef (2014) who established a negative but significant relationship between long-term debt and financial performance while contrary findings was done by Adeniyi, Marsidi & Babatunde (2020), Akinleye & Akomolafe (2019) who established positive and significant impact of long-term debt on financial performance.

Hypothesis 3 predicts no significant relationship between Total debt/total capital (TDTC) and performance (return on equity) of Nigerian Deposit Money Banks. It is however interesting to note that there is empirical evidence of a highly negative relationship between Total debt/total capital (TDTC) and its performance measured as return on equity of Nigerian Deposit Money Banks. The negative relationship further suggests that debt does not improve the financial performance of Nigerian banks which invariably is reflected on their profitability. This findings is in line with the work of Orichom & Omeke (2021), Okonkwo, Adigwe, Ezu & Oko (2020) who found a negative and insignificant relationship between total debt and financial performance while researchers such as Osuji & Odita (2012), Abdulrashid, Pofi, Saminu & Mohammed (2017) found positive and significant relationship.

Hypothesis 4 predicts that banks equity capital/total capital has no significant implication on the performance of Deposit Money Banks in Nigeria. A negative relationship with the return on equity (ROE) was shown from the estimation. Also, the coefficient is not significant at any significance level. The lack of significance of equity capital/total capital suggests that the better performance of Nigerian Deposit Money Banks is not related to equity financing. This result provides weak support for the static trade-off model of capital structure. Findings from this study is consistent with Orichom & Omeke (2021) who found negative and insignificant relationship while scholars such as Chechet & Olayiwole (2014), Akinleye & Akomolafe (2019), Yimka, Peter & Theodore (2020) and Umoh, Udofia, Hanson & Ekanem (2021) established a positive and significant relationship between equity financing and financial performance.

V. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

A. SUMMARY OF FINDINGS

The summary of findings from this study are stated below:

- ✓ Banks' short-term/total capital is predicted having significant implication on its return on equity. However, from the regression result in Table 11, the coefficient of short-term/total capital (STDTC) as expected is highly significant and negatively related to the financial performance measured by return on equity. This result shows that higher level of short-term debt/total capital lead to lower return on equity (ROE).

- ✓ The negative and significant coefficient of long-term/total capital (LTDTC) does not support argument that long-term debt increases a firm's performance, which could however be due to the lower ratio of long-term debt in the capital structure of Nigerian Deposit Money Banks. This findings support the pecking order theory of capital structure which suggests that profitability firms initially rely on less costly internally generated funds before looking out for external finances. It is therefore expected that highly profitable Nigerian banks will require less debt finance.

- ✓ The finding also revealed no significant relationship between Total debt/total capital (TDTC) and performance (return on equity) of Nigerian Deposit Money Banks. It is however interesting to note that there is empirical evidence of a highly negative relationship between Total debt/total capital (TDTC) and its performance measured as return on equity of Nigerian Deposit Money Banks. The negative relationship further suggests that debt does not improve the financial performance of Nigerian banks which invariably is reflected on their profitability.

- ✓ The finding revealed that banks equity capital/total capital has no significant implication on the performance of Deposit Money Banks in Nigeria. A negative relationship with the return on equity (ROE) was shown from the estimation. Also, the coefficient is not significant at any significance level. The lack of significance of equity capital/total capital suggests that the better performance of Nigerian Deposit Money Banks is not related to equity financing.

B. CONCLUSION

The results of this empirical study suggest that some of the insights from model capital structure theories are portable to Nigeria in that certain firm-specific factors that are relevant for explaining capital structure and financial performance in advanced countries are also relevant in Nigeria. Overall, the empirical results from this study offer some support for the Pecking order theory. Based on the findings of the study, the following conclusions are drawn.

- ✓ The study revealed that Short-term debt/total capital (STDTC) has significant and negative implication on return on equity of Nigerian Deposit Money Banks. Based on the above finding, the study therefore concludes

that Short-term debt/total capital (STDTC) has insignificant negative implication on return on equity of Nigerian Deposit Money Banks.

✓ The study also found that Long-term debt/total capital (LTDTC) has significant effect on return on equity of Nigerian Deposit Money Banks. This means that Long-term debt/total capital (LTDTC) does play significant implication in explaining return on equity of Nigerian Deposit Money Banks. Thus, the study concludes that Long-term debt/total capital (LTDTC) is a significant capital structure factor affecting return on equity of Nigerian Deposit Money Banks.

✓ The study found that Total debt/total capital (TDTC) is not significant in explaining return on equity of Nigerian Deposit Money Banks. This implies that Total debt/total capital (TDTC) does not have the capacity to influence the return on equity of Nigerian Deposit Money Banks. Thus, it is concluded that Total debt/total capital (TDTC) do not influence return on equity of Nigerian Deposit Money Banks.

✓ Lastly, the study confirms that Equity capital /total capital (ECTC) is not significant in explaining return on equity of Nigerian Deposit Money Banks. This implies that Equity capital /total capital (ECTC) does not influence the return on equity of Nigerian Deposit Money Banks. Thus, it is concluded that Equity capital /total capital (ECTC) do not influence return on equity of Nigerian Deposit Money Banks.

C. RECOMMENDATIONS

In line with the findings/objectives of this study, the following recommendations were made:

Nigerian Banks should rely less on short-term debt, which formed the major part of their leverage and focus more on developing internal strategies that can help improve more on their financial performance indicators.

The study also suggests that management and board of directors of commercial banks should from time to time plough back their net profits in to the banking business in form of retained earnings, rather than depending on long-term debt financing.

Since the finding indicated that total debt do not influence the return on equity of Deposit Money Banks in Nigeria, the study strongly recommended that DMBs in Nigeria should look inward and develop other strategies which can drive their performance mechanism and improve their profitability.

The study revealed that equity capital/total capital do not influence the performance of Deposit Money banks in Nigeria. The study therefore, recommended that DMBs should employ high equity-to-debt ratio in their operations in order to reduce bankruptcy risk and reduce the high gearing associated with banking business and enhance net profit. Deposit Money Banks should develop a good strategy targeted at using more of equity to maximise their market performance in such a way that it yields growth opportunities.

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