Corporate Leverage and Financial Performance: Evidence from Quoted Commercial Banks in Nigeria

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DOI: 10.56201/wjeds.v9.no4.2024.pg1.26

Abstract

This study examined the effect of leverage on the financial performance of quoted commercial banks in Nigeria. It covers the period 2014-2023 and used a sample of thirteen quoted commercial banks on the Nigerian Exchange Group. Return on equity was proxy for dependent variables while Total Debt Ratio measures as total asset to total debt, Debt Equity Ratio measures as total debt to total equity, Short Term Debt Ratio measures as total assets to total short term debt, Long Term Debt Ratio measures as total assets to total short term debt and Time Interest Earned Ratio measures as interest charge to earnings before interest and tax. The study used the fixed effect model to analyze data collected and findings of the study showed that short term debt and total debt have negative impact on return on equity of the selected commercial banks. The regression coefficient proved that a unit increase in the variables will lead to 0.3% and 1.0% decrease in return on assets. The model found that long term debt, debt equity ratio and interest earned ratio have positive impact on return on assets of the selected commercial banks. The study concludes that leverage significantly affects commercial banks financial performance as it enhances managerial efficiency. This is so, as managers are burdened with the payment of interest, thus, leaving few cash flows for perquisites; thus, aligning their interest with that of shareholders. The study recommended that since financial leverage decision is very critical to the survival and performance of banks, an appropriate debt-equity mix should be adopted, so as to improve their financial performance and remain competitive.

Keywords: Corporate Leverage, Financial Performance, Quoted Commercial Banks, Nigeria

INTRODUCTION

The objective of every corporate organization is to make profit and maximize shareholders wealth. It shows how the management of a profit making organization is able to in accordance with their capabilities and market condition fertilize investor funds and create added value for shareholders (Radevic, Lekpek & Siljkovic, 2013). It is a function of the micro and macro operating environment. At the micro operating environment, profitability depends on internal factors which are within the control of the firm such as financing leverage, capital structure, management quality, investment policy and composition of asset. While at the macro level profitability depend on the external factors such as the growth of the economy, competition and the market at large. Decline in profitability of corporate organization can lead to lack of fund for investment which motivates management for external source of financing such as debt. Financial leverage refers to the debt component of corporate capital. According to Meyer (1982) increase debt capital enhance corporate investment but makes firms to be susceptible to risk

Changing market factors and an altering policy climate had a substantial impact on world's banking sector. After decades of deregulation, globalization and financial innovation the banking sector flourished until the near collapse of the financial market a few years ago. As a consequence a fundamental reassessment of the banking sector is requested (Rosenthal, 2011). Current efforts to reform regulation and supervision will lead to a new era of reregulation and will likely impact banks' profitability. Banks act as an intermediary between those who are in need for money and those who have excess of money. Looking more closely to this question there could be a more detailed explanation. Namely, in a perfect capital market of Modigliani-Miller (MM), financial institutions are superfluous (Santos, 2001); namely, entities can borrow and save directly through the capital markets. Furthermore, capital markets suffer from the information asymmetry and the agency problem. The agency problem refers to the dissimilar incentives of borrowers and savers, in a broader context it refers to the dissimilar incentives of principles and agents (Jensen and Meckling, 1976).

Financial leverage is traditionally viewed as the use of debt component of capital structure, through the use of fixed income securities, such as loans and bonds. It has a significant influence on the company's ability to achieve its ultimate goal, such as maximizing the shareholders wealth (Taani, 2012). Generally, increased leverage results of increase in return and risk (Tally, 2014). However, the use of leverage is associated with two different possible outcomes either positive such as maximizing the profit or negative such as minimizing the profits. Financing leverage is determined by profitability, corporate size, liquidity, cash flows, tax and dividend policy (Rajin, 2012). It is measured in terms of debt equity ratio, long term debt to total debt, total debt as percentage of total asset and short term debt to total debt (Rehman, 2013). Financial leverage is intended to earn more on the fixed charges funds than their costs (Tally, 2014). The effect of financial leverage in maximizing the return of the shareholders' is based on the assumptions that the fixed- charges funds such as the loan and debentures can be obtained at a cost lower than the firm's rate of return on net assets (Damouri, 2013).

However, the controversies on the effect of financial leverage on corporate profitability have deepened in the financial market of the emerging economics such as Nigeria. The theoretical assumptions underlying the different scholars are based on the financial market of the developed countries which is more efficient compared with the Nigerian financial market which is characterized with insider dealings and undefined regime. The market cannot be considered deregulated or regulated to determine cost and availability of debt which have direct effect on profitability. Managers sometimes have no choice than to borrow at higher cost of capital above firms' market rate of return thereby having negative effect on the profitability. Hence, the effects of financial leverage on profitability of listed deposit money banks need to be examined to ascertain the causal relationship among the variables. The finance management functions of determining the capital structure of the firm is very important to the short and the long run sustainable growth of corporate entities. The separation of ownership from management means that owners' investment must generate return which depends on corporate policies such as the financing policy, the dividend policy, the investment policy and the capital structure policy. How well a firm achieves its operational objective have a lot to do with these policies. Financial leverage is an important component in capital structure along with equity and retained earnings. One of the main debates in corporate finance is the impact of financial leverage on a firm's investment.

Various theories has been formulated to examine the relationship between capital structure and corporate performance, the pecking order theory is when firms favor internal to external funding, if external funding is used then debt funding is used rather than equity Myers (1984). Firms have funds raised internally as their first choice, the second choice would be through raising debts from external sources, and the last choice would be through external equity. Ranked one of the most significant forms of cost, asymmetric information theory included in the work of Modigliani and Miller (1958) contends that the management has more insider information than investors. Jensen and Meckling, 1976; Harris and Raviv, 1991) emphasized that a dispute may occur between equity holders and debt holders on the one hand and between equity holders and the management on the other which result to creates agency cost. The above illustration can better applied in the advance financial market and difficult to be applied in the developing financial market like Nigeria.

The ambiguity in the theories further deepens the controversies on the relationship between financing leverage and firms' value. The applicability of the theories can better work in the business environment where the degree of market imperfection is less compared to the high degree of market imperfection such as the financial market of the developing countries like Nigeria where the market is characterize with information asymmetric and risk that can affect the performance of the firms contrary to theories. The relationship between debt and profitability of firms has been a center of attention for many researchers over decades; however, there is difference of opinion between different researchers about the relationship between debt and profitability of quoted firms. While some studies found negative relationship between debt and corporate profitability (Rehman, 2013; Onaolapo and Kajola, 2010; Murtala, 2012), others found positive relationship between debt and corporate profitability (Ujah and Brusa, 2013; Maroko, 2014; Leon, 2013). This difference of opinion is due to many reasons including different types of variables, sample size (countries, industries/sectors, firms and periods), and methodologies. To fill this important knowledge gap,

this study therefore examined the relationship between financial leverage and profitability of commercial banks in Nigeria.

LITERATURE REVIEW

Financial Leverage

Financial leverage is a measure of how much firm uses equity and debt to finance its assets. As debt increases, financial leverage increases. Management tends to prefer equity financing over debt since it carries less risk (Matt, 2000). Financial leverage takes the form of a loan or other borrowing (debt), the proceeds of which are re-invested with the intent to earn a greater rate of return than cost of interest. An unlevered firm is an all-equity firm, whereas a levered firm is made up of ownership equity and debt (Andy, Chuck & Alison, 2002). Leverage allows a greater potential returns to the investor than otherwise would have been available, but the potential loss is also greater if the investment becomes worthless, the loan principal and all accrued interest on the loan still need to be repaid (Andy *et. al.*, 2002). Pandey (2010) opined that the financial leverage employed by a company is intended to earn more return on the fixed-charge funds than their costs. The surplus (or deficit) will increase (or decrease) the return on the owners' equity. The rate of return on the owners' equity is levered above or below the rate of return on total assets. Thus, financial leverage is considered as a double-edged sword because it provides the potentials of increasing the shareholders' earnings as well as creating the risks of loss to them.

Measures of Financial Leverage

Total Debt Ratio

Total debt ratio measures the amount of a firm's total assets that is financed with external debt. This measure encompasses all short term liabilities and long-term liabilities. Nwude (2003) contend that this measures portion of the firm's assets that is financed by creditors. As the total debt ratio increase, so do a firm's fixed-interest charges, if the total debt ratio becomes too high, the cash flow the firm generates during economic recessions may not be sufficient to meet interest payments. In terms of its significance to a firm, theoretical literatures predict that debt is positively correlated with level of investment. For example, long and Malitz (1985) found a significant positive relationship between the rate of investment in fixed plant and equipment and level of borrowing. The total debt ratio is measured by dividing total debt with the total assets of the firm. This proxy variable remained most notable measure of leverage ratio of a firm as adopted in many empirical studies (Zeitun and Tian, 2007; Onaolapo and Kajola, 2010; Tze-Sam and Heng, 2011; Kasozi and Ngwenya, 2010; Baker and Wurgler, 2002; Ju et al., 2004; and Booth et al., 1999; Khan, 2012; Azhagaiah and Gavoury, 2011).

Total Debt ratio = $\underline{Total Assets}$

Total Debt

(1)

Debt Equity Ratio

Debt equity ratio is similar to the debt ratio and relates the amount of a firm's debt financing to the amount of equity financing. Actually, this measure of leverage ratio is not actually a new measure; it is simply the debt ratio in a different format. Debt equity ratio is the quantitative measures of the proportion of the total debt to residual owners' equity (Nwude, 2003). Thus, it is

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an indicator of company's financial structure and whether the company is more reliant on borrowing (debt) or shareholders capital (equity) to fund assets and activities. Many empirical studies in different jurisdictions have employed this measure of financial structure in their various studies (Zeitun and Tian, 2007; Majumdar and Chhibber, 1999; Azhagaiah and Gavoury, 2011) among others.

Debt equity ratio

<u>Shareholders Funds</u> Total Debt

2

Long Term Debt Ratio

Although this measure is incorporated in the last two measures highlighted above, some analysts generally use this measure because most interest costs are incurred on long-term borrowed funds, and because long-term borrowing places multi-year, fixed financial obligations on a firm. Titman and Wessels (1988) contend that significant results are good reason for employment of different measures of leverage ratio because some of the theories of financial structure have different implications for not combining them as aggregate "debt ratio". Long term debt ratio is measured by dividing long term debt with the total assets of the firm, and has been adopted in several empirical studies (Titman and Wessels, 1988; Zeitun and Tian, 2007; Tze-Sam and Heng, 2011; Long and Malitz, 1985; Booth et al., 1999).

Long term debt ratio = $\underline{Total Assets}$

=

Long Term Debt

3

Short Term Debt Ratio

Short term debts are debt obligations that mature within one accounting year. This measure is very appropriate to be included in the measures of leverage ratio due to the important of short term funding to a firm. This may be one of the reasons that led to adoption of different measures of leverage ratio rather than narrow measure of financial structure by some scholars. Titman and Wessels (1988) contend that theories have different empirical implications in regard to different types of debt instruments. Thus, mismatching funds is a situation when long term investments are financed by short term debt rather than long term debt. Apparently, the occurrence of this is prone to default as payment of interest and repayment of principal may fall due when the proceeds (cash inflow) from the investment are not readily available. The inability of the firm to repay the principal will expose it to the embarrassments resulting from legal actions. This measure however, indicates the magnitude of current liabilities (obligations) to changes in the value of overall assets of a firm. Schinasi (2000) contends that leverage is the magnification of the rate of return whether positive or negative on a position or investment beyond the rate obtained by a direct investment of own funds in the market.

Theoretically, it is argued that short term measure is a good measure of leverage ratio in transition economy with less developed debt market where most firms' external debt finance are majorly commercial bank loans. Lucey and Zhang (2011) are of the view that market liberalization at the country level decreases the use of long-term debt, and debt maturity shifts to short term. Empirical investigation by Khan (2012) revealed that engineering sector firms in Pakistan are largely dependent on short debt but debts are attached with strong covenants which affect the performance of the firm. A good number of authors have employed this measure in their empirical studies

(Timan and Wessels, 1988; Zeitun and Tian, 2007; Long and Malitz, 1995; Khan, 2012) among others. This is measured thus:

Short term debt =

Total Assets Short Term Debt

4

Times Interest Earned Ratio

Times interest earned ratio is one of the measures of leverage ratio that employs income statement data to measure financial structure. This measure tells the financial analyst the extent to which the firm's current earnings are able to meet current interest payments. The earnings before interest and tax of the firms are used because the firm makes interest payments out of operating income.

Theoretical literatures contend that when the times interest earned ratio falls below 1.0, the continued viability of the firm is threatened because the failure to make interest payments when due can lead to bankruptcy. Olatundum and Ademola (2008) point out that when times interest earned declines; the firm is likely to face a high premium. The times interest earned ratio is measures by dividing the earnings before interest and tax with the interest charges. This has remained the used standard to ascertain the ability of the current earnings of the firm to offset its current obligations. Olatundum and Ademola (2008) employed this measure in their empirical study.

Time interest earned ratio Interest Charges =Earnings before Interest and Taxes 5

Fixed-Charge Coverage Ratio

Fixed-charge coverage ratio measures the number of times a firm is able to cover total fixed charges, which include (in addition to interest payments) preferred dividend and payments required under long term lease contracts. Firms in some time are require to make sinking fund payments on bond issues, these are annual payments aimed at either retiring a portion of the bond obligation each year or providing for the ultimate redemption of bonds at maturity. Under most sinking fund provisions, the firm either may make these payments to the bondholders' representative (the trustee), who determines through a lottery process which of the outstanding bonds will be retired, or deliver to the trustee the required number of bonds purchased by the firm in the open market. Either way, the firm's outstanding indebtedness is reduced. In calculating the fixed-charge coverage ratio, an analyst must consider each of the firm's obligations on before-tax basis. However, because sinking fund payment and preferred stock dividends are not tax deductible and therefore must be paid out of after-tax earnings, a mathematical adjustment has been made. Nwude (2003) contend that this measure the extent to which earnings may fall without causing problem to firm as regards the payment of interests and other fixed charges. A high coverage ratio is preferred and suggests strength.

Performance Measures

Return on Assets

Return on Assets (ROA) is measures of firm's performance that reveals to the users of financial statement how well a company uses its assets to generate income. A higher ROA denotes a higher level of firm performance. A rising ROA, for instance, may initially appear good, but turn out be unimpressive if compare with other companies in same line of activities or industrial average. Hence, if company's ROA is below industrial average the company is not utilizing its full capacity. Booth et al. (1999) positthat this measure was used in their study because it was the only variable that can be calculated across countries. They conclude that country comparisons of profitability are therefore difficult. Among other authors that adopted this measure in their empirical studies are Zeitun and Tian (2007), Zeitun (2009), Tze-Sam and Heng (2011), Onaolapo and Kajola (2010) and Khan (2012). The ROA ratio may thus be more useful when compared to the risk free rate of return to be rewarded for the additional risk involved. If a firm's ROA is equal or even less than the risk free rate, investors will be indifferent and better off just purchasing a bond with a guaranteed yield.

ROA = <u>Profit before Interest and Tax</u> Total Asset

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Return on Equity

Return on equity is another measure of firm performance that shows how well a company has used the capital from its shareholders to generate profits. Investors use ROE as a measure of how well a company is using its money. Evidently, numerous empirical studies have employed this measure in quest to observe the predicted relationship between financial structure and firm performance (Tze- Sam and Heng, 2011; Zeitun and Tian, 2007; Onaolapo and Kajola, 2010; Kajola 2008; Zeitun, 2009; Skopljak and Luo, 2012; Khan, 2012).

That is; ROE	=	Profit before Interest and Tax	
		Shareholders' Funds	7

Earnings per Share

Earnings per share are a ratio that measure earnings in relation to every share on issue. This is measured by dividing the profit before interest and taxes with the outstanding number of shares of the firm. This indicates how much each one share of the firm will earn from the yearly proceed. The earnings for every share represent shareholders slice of the pie. As earnings go up over time, the value of that piece of the firm becomes more valuable and this is why the price will be bid Whilst there are not many truisms when it comes to share investment, one is that if earnings rise consistently over the long term, then the share price will follow. Apparently, issue of shares that increases the number of outstanding share dilutes the equity owners' residual value. Tze-Sam and Heng (2011) provide empirical investigation using EPS as a proxy for corporate performance to establish its relationship with financial structure. The measure is derived thus;

EPS = <u>Profit before Interest and Tax</u>

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No of Outstanding Shares

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The Modigliani-Miller: Irrelevant and Relevant Theory

Modigliani and Miller (MM), (1958) opined that under certain key assumptions, firm's value is unaffected by its capital structure. Capital market is assumes to be perfect in Modigliani and Miller's world, where insiders and outsiders have free access to information; no transaction cost, bankruptcy cost and no taxation exist; equity and debt choice become irrelevant and internal and external funds can be perfectly substituted. The theory argued further that a firm should have the same market value and the same Weighted Average Cost of Capital (WACC) at all capital structure levels because the value of a company should depend on the return and risks of its operation and not on the way it finances those operations. Miller brought forward the next version of irrelevance theory of capital structure. He appealed that, capital structure decisions of firms with both corporate and personal taxes circumstances are irrelevant (Miller 1977).

If these key assumptions are relaxed, capital structure may become relevant to the firm's value. So, research efforts have been contributed to relaxing the ideal assumptions and describing the consequences. This theory was criticized on the ground that perfect market does not exist in real life situation. Attempts to relax these assumptions particularly the no bankruptcy cost and no taxation led to the static trade off theory. The irrelevance theory of capital structure, which has been introduced by Modigliani and Miller (1958)-denoted by M&M throughout the researcher paper-was the first break through in relation to the subject of capital structure and its effects on financial performance. They first hypothesized that if markets are perfectly competitive, firm performance will not be related to capital structure, there by suggesting no significant relationship between a firm's capital structure and its performance. The value of the firm is similarly unaffected by its financial structure. Their assumptions of a perfectly competitive market exclude the impacts tax, inflation and transaction costs associated with raising money or going bankrupt. In addition they also assume that disclosure of all information is credible, thus there is no information asymmetry (Hamada, 1969 and Hatfield et.al, 1994).

Static Trade-Off Theory

Kraus and Litzenberger (1973) opined that the static trade-off theory assumes that firm's trade-off the benefits and costs of debt and equity financing and find an optimal capital structure after accounting for market imperfections such as taxes, bankruptcy costs and agency costs. The theory states that there is a benefit to financing with debt, specifically the tax benefit. However there is also a cost of financing with debt, namely the indirect bankruptcy costs and the more direct financial distress costs of debt. This is thus the trade-off that all firms, whom are maximizing value, should focus on when choosing the amount of debt and equity needed to finance their operations. Needless to say, there is a maximum point where the marginal benefit of further increases in debt declines as debt increases, whereas the marginal cost increases.

Hence, this static trade-off theory of capital structure states that optimal capital structure is obtained where the net tax advantage of debt financing balances leverage related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant. Baxter

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(1967) & Altman (1984, 2002) in view of this theory, claim that issuing equity means moving away from the optimum and should therefore be considered bad news. According to Myers (1984), firms adopting this theory could be regarded as setting a target debt-to-value ratio with gradual attempt to achieve it. However, Myers (1984) suggests that managers will be reluctant to issue equity if they feel it is undervalued in the market. The consequence is that investors perceive equity issues to only occur if equity is either fairly priced or overpriced. Van der Sar (2011) noted that leverage enhances firm's performance by limiting conflicts between shareholders and managers as a result of having excess cash. Ebaid (2009) argued that leverage mitigates lower agency costs, since the firm's reputation and the managers' wages are at stake. On the other hand however, higher leverage also means that the firm has higher commitment to fulfill its future obligations, in terms of principal and interest payments. Furthermore, higher leverage ratios also lead to higher costs relating to financial distress. Miller (1977) documented that the cost related to financial distress is not material compared to the benefits of higher leverage ratios. Moreover, the trade-off theory suggests that those firms with higher levels of retained earnings, profitable firms, tend to have higher debt levels because they can more effectively use the tax shields on interest. Besides, since these companies have higher operating profits, the probability and costs of financial distress for them are also lower. Consequently, the trade-off theory expects a positive association between firms' leverage ratios and their performance, (Myers, 1984; Myers and Majluf, 1984; Karadeniz et al., 2009; Chakraborty, 2010).

Pecking Order Theory

The pecking order theory of capital structure as introduced by Donaldson (1961) is among the most influential theories of corporate leverage. It goes contrary to the idea of firms having a unique combination of debt and equity finance, which minimize their cost of capital. The theory suggests that when a firm is looking for ways to finance its long-term investments, it has a well-defined order of preference with respect to the sources of finance it uses. It states that a firm's first preference should be the utilization of internal funds (retain earnings), followed by debt and then external equity. He argues that the more profitable the firms become, the lesser they borrow because they would have sufficient internal finance to undertake their investment projects. He further argues that it is when the internal finance is inadequate that a firm should source for external finance and most preferably bank borrowings or corporate bonds. And after exhausting both internal and bank borrowing and corporate bonds, the final and least preferred source of finance is to issue new equity capital.

Empirical Review

Braunstein (2012) conducted a study addressing capital cost in communication and facilities sector at California, and studied the relationship between cost of capital invested in local rural areas communication and expected return. The study revealed that return on owner's equity increased during the study period from 11.8% to 13.4% and return on investment for the same period increased from 6.84% to 9.11%. Thus the study suggested that required return on invested capital must range between 10% and 12.25% regarding such investments. Al – aghbari(2002)conducted a study aiming at examining the effect of financial leverage on financial performance (firm's value and short term liquidity) by administrating on 10 companies operating in Yemeni industrial and

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foods domains. Main findings of the study were (1) Financial Leverage has substantial effect on firms' value for all firms; (2) financial leverage has a substantial effect on short – term liquidity for all firms.

Aivazian, et al,(2003) study sought to measure the effect of financial leverage on investment decisions, by investigating 863 Canadian companies for the period 1982-1999. Financial leverage was measured based on: (1) Book value of total liabilities divided by book value of total assets; (2) Book value of long-term debts divided by total assets. The study showed that financial leverage has a negative effect on return on investment, where this negativity was more evident in the companies with low growth compared with those with high growth. Al – shimmiri, (2003)study aimed at identifying factor affecting datedness level for Kuwaiti industrial companies, as companies operating in tax free economy. The study showed a relationship between firms' performance and datedness level, as well as a direct relationship between internal investor ownership and financing decisions for these industries, furthermore financing decision has a close correlation with firms size and profitability.

Al – Agha (2005) conducted a study aiming at identifying the effect of financial leverage and capital cost on return on investment for companies operating in Palestine, on a sample of (15) industrial companies for the period 1999-2003. Main results of the study were: (1) An inverse relationship between borrowed finance cost and return on investment; 2. An inverse relationship between type of financing employed (owned and borrowed) and their cost. (3) No relationship between financial leverage and return on investment; (4) No relationship between financing total cost and return on investment. Kareem, (2006)conducted a study examining and assessing the relationship between capital cost (using weighted average capital cost and market returns for shares as well as identifying type and nature of the relationship between financing cost and market returns for shares in addition to and share market return, on a sample of (37) industrial companies for the period 1994 – 2004. The study revealed a significant relationship between weighted average capital cost and stocks market returns, where external (debt) financing has more affection stocks market return compared to internal (owned) financing.

Salah, (2007) the purpose of this study was verifying the capacity of profit price percentage, distribution to price percentage, firms assets growth rate, retained earnings to total assets, in explaining stocks return for the period 1980 – 2000. Te study revealed that ranking companies according to their assets growth rate in the previous year was not superior to ranking them according to both profit / price percentage and distribution to price ratio In general the study revealed that distribution to price ratio was superior to the other strategies. Abdel Ghani, (2008) study attempted to find out the effect of financing decision on institutions' financial performance and tax and financing cost effects. The study showed that positive financial performance is contingent on the institution ability in forming the optimal mix of financial structure, the extent to which available financing resources are used in a pace equal to its economic assets turnover to assure forming a wealth, and increasing growth rate, which finally results in maximizing the corporation value meanwhile financial structure is considered as basic element in assessing and measuring corporate financial performance as it is difficult to talk about an economic corporation without financial structure.

Tian and Zeitun (2007) investigated the effect of capital structure on corporate performance of corporations in Jordan using a panel data approach of 167 companies for a period of 15 years from1989 to 2003. The study used ROA, ROE, EBIT and tax plus depreciation to total assets (PROF) as proxies for accounting performance measurements and Tobin's Q, market value of equity to book value of equity (MBVR), price/earnings (P/E) ratio and market value of equity plus book value of liabilities divided by book value of equity (MBVE) as market performance measures. The results show that a firm's capital structure has significant negative effect on the firms' performance using both the accounting and market measurements. The study also finds that the short term debt to total assets (STDTA) as a measure of leverage has a significantly positive effect on the market performance proxy by Tobin's Q. Berger and Bonaccorsi di Patti (2006) proposed a new approach to testing the agency theory of capital structure on the United States banking industry using parametric measure of profit efficiency as indicator to measure agency costs. The study employs dualistic (the use of two-equation: simultaneous equations and econometric techniques) to account for reverse causality from performance to capital structure, using annual information for 695 United States commercial banks to test for agency theory for the period 1990 – 1995. The study finds that there is reverse causality from performance to capital structure and that data on the United States banking industry are consistent with the agency theory of capital structure. In other words, they found that higher leverage is associated with better firm performance. Margaritis and Psillaki (2007) considered a similar relationship for a sample of New Zealand small and medium sized enterprises using distance functions as a measure of firm performance, and also found that financial leverage has a significant positive relationship with firm performance.

Mwangi, Makau and Kosimbei (2014) investigate the relationship between capital structure and performance of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya. The study used secondary panel data contained in the annual reports and financial statements of the sampled listed firms, and employs panel data models (random effects) and feasible generalized least square (FGLS). The results show that financial leverage is statistically negatively related to performance measured by return on assets and return on equity. Maina and Kondongo (2013) in an attempt to validate Modigliani and Miller (1963) theory in Kenya, examined the effects of debtequity ratio on performance of firms listed at the Nairobi Securities Exchange for the period 2002-2011. The study finds that firms listed at Nairobi Securities Exchange rely more on short term debt. The result also reveals that significant negative relationship exists between debt-equity ratio and all measures of performance. The result also provides support for MM theory that capital structure is relevant in determining the performance of a firm. Ebaid (2009) carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. ROE, ROA, and gross profit margin were used as proxies for performance while financial leverage was measured using short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression technique was applied to determine the relationship between the leverage and performance. The result reveals that leverage has no impact on a firm's performance. Maroko (2014) examined the influence of capital structure on organizational financial performance of firms listed in Nairobi Securities Exchange. The study employs secondary data sourced from financial statements of sampled listed firms', which were selected using stratified random sampling technique. Multiple regression technique was used to explain the relationship between

financial leverage, cost of equity, debt interest and organization financial performance. The findings showed that positive relationship exist between financial leverage, cost of equity, debt interest and organization financial performance.

Gweji and Karanja (2014) investigated the effect of financial leverage on firm performance of deposit taking savings and credit co-operative in Kenya. The study utilized secondary data sourced from financial statements of 40 savings and credit co-operative societies (SCCOS) sampled for the study from 2000 to 2012. Descriptive and analytical designs were both adopted. The result show perfect positive correlation between financial leverage surrogated by debt-equity ratio with ROE and profit after tax at 99% confidence interval, and a weak positive correlation between debtequity ratio with ROA and income growth. Innocent, Ikechukwu and Nnagbogu (2014) conduct a study on the effect of financial leverage on financial performance: evidence from quoted pharmaceutical companies in Nigeria for the period 2001- 2012. Financial leverage surrogated by debt ratio (DR), debt-equity ratio (DER), and interest coverage ratio (ICR) was used as independent variable while financial performance proxy by ROA was used as dependent variable. The study utilized secondary data sourced from financial statements of 3 pharmaceutical companies quoted on the Nigerian Stock Exchange. Descriptive statistics, Pearson correlation and multiple regressions were employed in order to determine the relationship between financial leverage variables and performance measure variable identified in the study. The results showed that debt ratio and debt-equity ratio have negative relationship with ROA, while interest coverage ratio has a positive relationship with ROA in Nigerian pharmaceutical industry. The study also reveals that on aggregate financial leverage variables have no significant effect on financial performance of sampled companies.

Thaddeus and Chigbu (2012) studied the effect of financial leverage on bank performance using 6 banks from Nigeria. The study utilized secondary data from Nigerian Stock Exchange fact book and the financial statements of the sampled banks. Debt-equity and coverage ratios were taken as proxies for financial leverage and these constitute the independent variables, while earning per share (EPS) representing performance is the dependent variable. Multiple regression technique was used to establish whether relationship exist between financial leverage and performance of sampled banks. The findings show mixed results. While some banks report positive relationship between leverage and performance, others revealed negative relationship between leverage and performance. Laurent (2002) studied the relationship between leverage and corporate performance in France, Germany and Italy. The multiple regression technique was adopted on the study variables (leverage, tangibility, short-term liabilities, inventory and size). The study found mixed evidence depending on the country; while negative relationship was reported in Italy, the relationship between leverage and corporate performance is significantly positive in France and Germany. Laurent (2008) investigates the relationship between leverage and corporate performance of medium-sized firms from seven European countries using a maximum likelihood procedure to estimate a stochastic cost frontier and the parameters of an equation relating cost inefficiency to leverage simultaneously. Findings indicate that relationship between leverage and corporate performance varies across countries which tend to support the influence of institutional factors on this relationship.

Akhtar et al. (2012) examined the relationship between financial leverage and financial performance using the Fuel and Energy Sector of Pakistan. The findings showed a positive relationship between financial leverage and financial performance of the companies thus confirming that the firms having higher profitability may improve their performance by having high levels of financial leverage. In addition, the study provides evidence that the players of the fuel and energy in Pakistan can improve their financial performance by employing the financial leverage and can arrive at a sustainable future growth by making vital decisions about the choice of their optimal capital structure. Akinmulegun (2012) tests the effect of financial leverage on selected indicators of corporate performance [Earnings per Share (EPS), Net Assets per Share (NAPS)] in Nigeria using the Vector Auto-Regression (VAR) technique. Findings indicated that leverage shocks exert significantly on corporate performance. Also, the measures of corporate performance (EPS, NAPS) depends more on feedback shock and less on leverage shock but the leverage shocks on EPS indirectly affect NAPS of firms as the bulk of the shock on NAPS was received from EPS of the firms. Akande (2013) apply the Ordinary Least Square (OLS) regression analysis on panel data collected from financial statements of 10 Nigerian firms over 20 years from 1991- 2010. ROA, ROE, EPS and DPS on one hand and DC (total debts to capital employed) on the other hand, were surrogated for firm's performance and debt financing respectively. The findings show that positive relationships exist between DC and ROE, EPS and DPS, while negative relationship exists between DC and ROA. The study therefore, concluded that financial leverage will considerably impact on firm performance.

Onaolapo and Kajola (2010) investigate the effect of capital structure on financial performance of companies listed on the Nigerian Stock Exchange. This study was performed using 30 non-financial companies in 15 industry sectors in a 7-year period from 2001 to 2007. The results showed that financial leverage (debt ratio) has a significant negative effect on financial performance (ROA and ROE) of sampled firms. Fosu (2013) examined the relationship between capital structure and firm performance using panel data approach comprising 257 South African firms for the period 1998- 2009. The results uncover evidence that provides support for significant positive relationship between financial leverage and firm performance. David and Olorunfemi (2010) studied the impact of capital structure on corporate performance of firms in the Nigerian petroleum industry for the period 1999- 2005. The study employed panel data analysis using fixed-effect estimation, random-effect estimation and maximum likelihood estimation. The study found that there is positive relationship between leverage and firm performance surrogated by earning per share and dividend per share.

Chinaemerem and Anthony (2012) aimed out a study on the impact of capital structure on financial performance of Nigerian firms using a sample of 30 non-financial quoted companies on the Nigerian Stock Exchange (NSE) for a period of 7 years from 2004- 2010. Panel data for the selected companies were generated and analyzed using ordinary least squares (OLS) method of estimation. The results show that a firm's capital structure surrogated by debt ratio has a significantly negative relationship with the firm's financial performance surrogated by ROA and ROE. This finding provides evidence in support of agency cost theory. Al-Taani (2013) investigated the relationship between capital structure and firm's performance across 45 Jordanian manufacturing companies listed on Amman Stock Exchange for a period of 5 years from 2005-

2009. The study variables include: return on assets (ROA), profit margin (PM), short term debt to total assets (STDTA), long term debt to total assets (LTDTA) and total debt equity (TDE). ROA and PM constitute the dependent variables and were used as proxies for performance, while STDTA, LTDTA and TDE represent the independent variables and were taken as proxies for capital structure. Two multiple regressions in which ROA was regressed on STDTA, LTDTA and TDE, and PM was also regressed on the same explanatory variables were used. The results show that there is no significant relationship between STDTA and ROA, TDE and ROA, STDTA and PM, LTDTA and TDE and PM. However, the result also reveals that significant negative relationship exists between LTDTA and ROA.

Leon (2013) investigated the impact of capital structure on financial performance of 30 listed manufacturing firms in Sri Lanka for a period of 5 years from 2008- 2012. The study used correlation and regression techniques in the analysis of data using statistical package for social sciences (SPSS). The results show on one hand, that there was a significant negative relationship between leverage and return on equity, and on the other hand, there was no significant relationship between leverage and return on assets. Rehman (2013) investigated the relationship between financial leverage and financial performance of 35 listed sugar companies in Pakistan for a period of 6 years from 2006-2011. Correlation technique was used by taking financial leverage proxy by debt-equity ratio as independent variable and financial performance surrogated by EPS, NPM, ROA, ROE and sales growth as dependent variables. The results show that financial leverage has a positive relationship with ROA and sales growth, and negative relationship with EPS, NPM and ROE. Yoon and Jang (2005) conducted a study on the relationship between return on equity (ROE), financial leverage and size of 62 restaurant firms in US for the period 1998 to 2003 using ordinary least squares (OLS) regressions. Results show that high leveraged firms were less risky in both market and accounting-based performance measures. The results also found support for positive relationship between financial leverage and both measures of performance. Additionally, the results further indicate that firm size had a more dominant effect on ROE than debt, and regardless of the level of leverage, smaller firms were relatively more risky than larger firms. Ujah and Brusa (2013) examined the effects of financial leverage and cash flow volatility on earnings management using 559 US firms for a period of 20 years from 1990 to 2009. The findings provide evidence that suggest that financial leverage and cash flow has an impact on the extent to which firm's manage their earnings.

RESEARCH METHODOLOGY

This study intends to examine the relationship between financial leverage and profitability; secondary data were used. Ex-post facto research design was employed in obtaining, analyzing and interpreting the relevant data for hypotheses testing. The rationale for the variety is that ex-facto research design allows the researcher the opportunity of observing one or more variables over a period of time (Uzoagulu, 1998). Specifically, panel data were adopted in data analysis. The secondary data that will be used in this study comprises quantitative data on short term debt, debt equity ratio, total debt ratio, long term debt ratio and time interest end ratio which was sourced from the financial statement of the quoted manufacturing firms and stock exchange facts book. There are several studies performed in the area and the researcher has gathered information from

these studies to enhance this research work and to proffer solution to the research problem. Firm annual statements and reports are deemed to be reliable because they are statutorily required to be audited by a recognized auditing firm before publication. The population of comprises deposit money banks, however, sampled firms will be limited to 15 quoted commercial banks. The researcher put many factors into consideration in the selection of the sample firms. Such factors as highlighted by the researcher includes: firms that were listed in NSE before the year of inception of the study, firms that changed their financial accounting year-end within the period of the study were excluded in the sample, firms that ceased operation at any point during the period of the study were also be excluded, and as well as firms that had problems with NXG and Securities and Exchange Commission within the period under review. These criteria were adapted in order to guide against data omission and ensure uniformity in the presentation.

Technique for Analysis

To obtain the observed values on the expectation of the impact of financial structure on firm performance, panel data survey over a ten year period was employed. Panel data structure allows us to take into account the unobservable and constant heterogeneity, that is, the specific features of each quoted firm. The researcher employed pooled Ordinary Least Square (OLS), Fixed Effects and Random Effects regression models to test the various hypotheses. Pooled OLS regression technique is popular in financial studies owing to its ease of application and precision in prediction (Alma, 2011).

In addition, OLS method has been employed in a wide range of economic relationships with fairly satisfactory results (Koutsoyiannis, 1977). Citing the work of Gaur and Gaur (2006), Ujunwa (2012) stressed that fixed effects and random effects models will aid to observe variations among cross-sectional units simultaneously with variations within individual units over time. It assumes that variables are strictly time disparity or time invariant. This undermines an exploration of the effect of slow changing within individual firms' factors. Hence, the rationale for adopting Fixed Effects and Random Effects models estimator as additional test is to enable the researcher control time contrast and time invariant variables, and thereby control for the effect of the unobserved heterogeneity in the dataset. Ujunwa (2012) opines that coefficient of estimations are reliable when regression parameters do not change over time and do not differ between various cross-sectional units. Therefore, when the regression estimation differ widely between the two models (Fixed and Random Effects models), the adoption of Hausman test will be essential. Panel data over the period from 2010-2016 is used and in line with notable literature, such as the work of Majumdar and Chhibber (1999), Zeitun and Tian (2007), and Onaolapo and Kajola (2010), firm's performance measure was regressed on each of the variants of financial structure and other control variables holding other factors that may affect firm's performance not included in the equation constant. These analytical techniques will enable the researcher attain justifiable and robust results.

$$Y = \beta_0 + \beta_{1Xit} + \mu$$

Where Y=Dependent Variable β_{1Xit} =Independent variable β_0 =Regression Intercept μ =Error Term

3.1

Disaggregating	g Equation 3.1 to form the multiple regression models, we have			
ROE = F(TDR, DER, STDR, LTDR, TIER)				
Transforming equation 3.2 to econometrics form, we have				
$ROE = \beta_0 + \beta$	$\beta_1 TDR + \beta_2 DER + \beta_3 STDR + \beta_4 LTDR + \beta_5 TIER + \mu$	3.3		
Where ROE	= Return on Equity			
TDR =	Total Debt Ratio measures as total asset to total debt			
DER =	Debt Equity Ratio measures as total debt to total equity			
STDR =	Short Term Debt Ratio measures as total assets to total short term debt			
LTDR =	Long Term Debt Ratio measures as total assets to total short term debt			
TICD		• ,		

TIER = Time Interest Earned Ratio measures as interest charge to earnings before interest

and tax

ANALYSIS AND DISCUSSION OF FINDINGS

Presentation of Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.				
Fixed Effect Model								
STDR	-0.020059	0.039718	-0.505029	0.6144				
TDR	0.017761	0.032794	0.541596	0.5891				
LTDR	0.010077	0.039618	0.254364	0.7996				
DER	0.000690	0.000583	1.182531	0.2393				
С	12.77951	2.643191	4.834878	0.0000				
Effects Specification								
Cross-section fixed (dur	nmy variables)							
R-squared	0.121926	Mean dependent var		13.47700				
Adjusted R-squared	-0.000429	S.D. dependent var		3.084262				
S.E. of regression	3.084923	Akaike info criterion		5.210452				
Sum squared resid	1161.043	Schwarz criterion		5.588663				
Log likelihood	-346.7316	Hannan-Quinn criter.		5.364145				
F-statistic	0.996497	Durbin-Watson stat		2.025478				
Prob(F-statistic)	0.466921							
Random Effect Mod	el							
STDR	-0.001984	0.036762	-0.053971	0.9570				
TDR	0.022684	0.030894	0.734244	0.4641				
LTDR	0.027216	0.035976	0.756499	0.0407				
DER	0.000590	0.000564	1.047408	0.0068				
С	11.18628	2.306632	4.849613	0.0000				
	Effects	Specification						
			S.D.	Rho				
Cross-section random			0.470240	0.0227				
Idiosyncratic random			3.084923	0.9773				
Weighted Statistics								
R-squared	0.719415	Mean dependent var		12.14019				
Adjusted R-squared	0.409639	S.D. dependent var		3.053323				
IIARD – International In	Page 16							

S.E. of regression	3.068004	Sum squared resid		1270.707			
F-statistic	4.668240	Durbin-Watson stat		1.854743			
Prob(F-statistic)	0.000117						
Unweighted Statistics							
R-squared	0.020569	Mean dependent var		13.47700			
Sum squared resid	1295.064	Durbin-Watson stat		1.819744			
Correlated Random Effe	ects - Hausma	n Test					
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.			
Cross-section random		2.523264	- 4	0.6405			

The fixed effect measures the invariant of the interest of the numbers of the conglomerate firms. Model I analysis of the fixed effect results presented above revealed that 25.3% variation return on assets of the sampled commercial banks can be explained by variations in the predictor variables in the model. The F-statistics of denote the goodness of fit in the fixed effect model in explaining variation in the dependent variable. The Durbin Watson statistics of 2.016 greater than 2.0 but less than 2.5, which means the presence of positive serial autocorrelation in the observed values. The fixed intercept by 14.373, shows that the independent variable positively on the dependent variables has negative effect on the dependent variables. The independent variables found that short term debt and total debt have negative impact while long term debt, interest earning ratio and debt equity ratio have positive impact on return on equity. **Discussion of Findings**

The study investigated five measures of financial leverage which are short term debts ratio, total debt ratio, long term debt ratio, debt equity ratio and interest earned ratio and its effect on profitability of commercial banks in Nigeria. The data indicated that the listed commercial banks utilized financial leverage as most listed firms had a stable asset base.

However, findings of the study on the effect of financial leverage on return on equity shows that short term debt and total debt have negative impact on return on equity of the selected commercial banks. The regression coefficient proved that a unit increase in the variables will lead to 0.3% and 1.0% decrease in return on assets. This finding is contrary to the expectation of the result as the variables according to the market timing theory and the tradeoff theory formulated by Meyer in 1983 is expected to have as positive impact on the dependent variable. This finding confirms the irrelevance theory of Miller and Modigliani. The negative impact of the variable can be traced to the high degree of market imperfection in Nigeria and the inability of management to make profitable investment. The negative impact confirms the findings of Kareem (2006) on the negative impact of financial leverage on the stock prices of quoted firms in Pakistan. It also confirms the findings of Ebaid (2009) on the effect of financial leverage on the profitability of quoted firms in Kenya. However, the finding is contrary to the findings of Mwangi et al., (2014), Maina et al., (2013). Further, the model found that long term debt, debt equity ratio and interest earned ratio have positive impact on return on assets of the selected commercial banks. This finding confirm the a-priori expectation of the result and justifies the objective of reforms in the financial market to simplify source of financing and investment in Nigeria such as the deregulation of interest rate in the last quarter of 1986 and the deregulation of stock prices in 1993. The positive impact of the

variable is in line with the objective of Gordons that capital structure is relevant against the irrelevant opinion of Miller and Modigliani. The finding further confirm management objective of shareholders' profit maximization. It is in line with the empirical findings of Maroko (2014), Gweji and Karanja (2014); Innocent et al., (2014) and Thaddeus and Chigbu (2012).

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effect of financial leverage on the profitability of quoted commercial banks in Nigeria. Cross sectional panel data were computed from financial statement of the commercial banks from 2013-2024. After a cross examination of the validity of the models, the fixed effect model was adopted. The model summary found that the independent variables can explain 25.3% variation on return on assets and 50.7% variation on return on equity. The findings revealed that short term debt and total debt have negative impact on return on assets while long term debt, interest earning ratio and debt equity ratio have positive impact. The model summary proved that the independent variables have significant impact on the dependent variables. The results of the model coefficients estimates of the independent variables found an inverse relationship with profitability of listed firms. These findings are consistent with the hypothesis of this study which predicted a negative relationship between financial leverage and profitability of commercial banks. This is an indication that the model used was a moderate predictor in explaining the relationship between financial leverage and profitability of the commercial banks in the Nigeria Exchange Group.

Recommendations

- i. The study recommends that quoted commercial banks on Nigeria stock exchange should formulate optimal capital structure. This is because from the results obtained it is evident that financial leverage has mixed contribution to profitability of the quoted commercial banks
- ii. The quoted commercial banks should pay attention to financing aspects represented by differentiation between different financing sources, and in particular investment debt funds in are turn exceeds capital cost, which affects profitability.
- iii. That since financial leverage decision is very critical to the survival and performance of banks, an appropriate debt-equity mix should be explored and adopted; so that they can improve their financial performance, and remain competitive. Commercial banks should avoid over-reliance on debt, as increase in the proportion of debt in the capital structure increases the risk of financial distress.

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