AN EMPIRICAL ANALYSIS OF EFFECT OF CAPITAL STRUCTURE ON FIRM PERFORMANCE: EVIDENCE FROM MICROFINANCE BANKS IN NIGERIA

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ABSTRACT: *Issues surrounding capital structure and performance which have been widely debated in the finance literature, yet there has not been consensus as to how composition of firm's capital impact on firm performance including Nigeria. Thus this study investigated the relationship between capital structure and firm performance in the microfinance banking subsector in Nigeria from 2009 to 2018. The study employed explained variables (debt to equity ratio, long term debt ratio and total debt ratio) representing capital structure and the explanatory variable (return on equity) representing firm performance. Descriptive statistics and regression technique were used for the analysis. The results revealed a negative and insignificant relationship between Debt to equity ratio and return on equity, a positive and insignificant relationship between Long term debt ratio and return on equity and a positive and significant relationship between Total debt ratio and return on equity. The results also indicated that F-statistic is 37.16701 with a probability of 0.026372 indicating that the combined effect of the explained variables on firm performance represented by return on equity is statistically significant. It is therefore recommended that microfinance banks in Nigeria and beyond should devise strategies that are effective to expand their debt profile in order to achieve better performance.*

KEYWORDS: debt to equity ratio, long term debt ratio, total debt ratio, return on equity, microfinance banks.

INTRODUCTION

Source of capital refer to the place or platform where financial resources can be acquired. A firm can source for fund; either internally or externally or both, which constitute the firm's structure of capital (Sharon & Celani, 2019). Structure of capital refers to the blend of firm's financial liability (Uremadu & Onyekachi, 2019). It could also refer to the put together of debt quantity and equity quantity a firm employed to finance business operations (Aramvalarthan, Kannadhasan, & Babu, 2018). It could be seen as the debt and equity mixture that the firm explore to finance business operation (Aziz & Abbas, 2019). Structure of capital is the sum of debt and equity quantum or preference shares, common stock and other debt obligations. Irrespective of the industry, as business expands, capital requirement also increases, thus it needs fund and this needed fund can come from any of these source (debt, equity or combination of both). The source of fund must be considered base on cost-benefit. A source of fund to an organization should be more profitable to the firm than other sources of fund.

Short term funds are needed to finance working capital of an entity. The short term fund needs may come in the form of raw materials purchase need, salary and wages payment needs, fished goods inventory need etc. Thus short term financing source can be defined as any source of funds from which funds are loaned and borrowed for a period not more than a year. It is purely lack of experienced financial management to finance medium term and long term funding needs with short term funds. In the same vein, it is bad financial management to finance short term and medium term funding needs with long term funds. Analysts in the field of finance are in debate on advising the business organizations on the best structure of capital to employ while undertaking decisions (Olarewaju, 2019).

It has been a traditional concept to divide the capital structure between debt and equity. How much debt and how much of equity thus constitutes the critical question for financial managers. It seems certain factors need to be examined before deciding the structure of capital for any organization. The structure could change over time but at any given point, adjustment may be made depending on whether the weight of debt is low or high. More debt could increase shareholders risk but when the conditions are right, it could increase their returns substantially. If debt-equity is well-structured, the cost of capital could increase which will lead to increase in the value of the firm (Aziz & Abbas, 2019).

There are few studies that exist on both public and private sector of Nigeria to detect the nexus between structure of firm's capital and performance of a firm. To the best of my understanding, no study exists which focused on the microfinance banking subsector of Nigeria. Specific purpose of this study is to ascertain the link between debt ratio and equity ratio with the performance of microfinance banking subsector in Nigeria.

Statement of the Problem

Importance of microfinance banks to any economy including Nigeria cannot be disputed (CBN, 2019; Murad & Idewele, 2017; NDIC, 2018). Microfinance is a category of financial services targeted at individuals and small firms who lack access to conventional banking and related financial services (Gyimah & Boachie, 2018; Ngwa, 2019; World Bank, 2019). Microfinance banks aimed to bridge the gap by bringing micro level of financial services to people and small firms who otherwise would not have means to financial services. Micro, small and medium enterprises sector accounts for over 90% of all registered business, provides more than 80% of employment and contributes about 50% of gross domestic product but always lack access to financial services which in turn influence their balance sheet negatively (Duru, Ehidiamhen, & Chijioke, 2018).

Considering the microfinance bank's undisputable role in meeting desirable economic objectives and mitigating against challenges that are confronting the sector, the CBN interjected microfinance policy, the regulatory and supervisory framework on the 15th December 2005 and reviewed in 2011; review came up as a result of liquidity crises in the sector which led to the closure of 224 out of the 820 microfinance banks between 2009 and 2010 (CBN, 2019). The policy focus was mainly to improve on level of financial inclusion and financial deepening of the sector, so as to boost access to financial services for the active business units in the rural area to strive and

eliminate poverty. The drive to meet these objectives, the microfinance banking sector has been identified by the central bank of Nigeria as a vital sector. In order to contend with such hurdles such as low level of capital, infirm corporate governance, ineffective risk management, dearth of requisite capacity and mission drift. The desire to improve on the above factors influenced the central bank of Nigeria to implement a policy which increased the minimum capital requirement of microfinance banks; two hundred million naira (₦200,000,000) for unit microfinance banks, one billion naira (₦1,000,000,000) for state microfinance banks and five billion naira (₦5,000,000,000) for national microfinance banks, and also creating room for merger and acquisition to have healthy microfinance banks (CBN, 2018). According to Enyia and Inyang, (2018), the policy met to improve the microfinance subsector is vital, as robust economic growth and development cannot be attained without putting the microfinance banking sector which has the capacity to create micro credit facilities to individuals, micro and small firms; the sector that accounts for over 90% registered business and 80% employment creation.

Despite all efforts from the central bank of Nigeria, NDIC and scholars input, the failure rate of microfinance banks in Nigeria remain high and the surviving microfinance banks are not giving the desired results. The central bank of Nigeria and NDIC in September 2018 gave an indication to revoke the operating licenses of another 154 microfinance banks. From the indication, microfinance banks that had closed down already amounted to 62, insolvent ones were 74, terminally distressed were 12 and voluntarily liquidated microfinance banks were 6. This ugly situation is worrisome and calls for investigation.

Capital structure is one of the key sectors of financial management and has been widely recommended by researchers; its relevance is taken from the fact that structure of firm's capital is tightly related to the ability of firms to fulfill the needs and boast the wealth of various stakeholders (Teece, 2019). The distress and failure rate could be caused by lack of financial management; proper mix of debt and equity. This study therefore stands to ascertain the link between debt ratio and equity ratio with the performance of microfinance banking subsector in Nigeria.

Conceptual framework
Vital components of firm's capital structure are debt and equity (Ullah, Uddin, Abdullah, & Islam, 2017). Employing more debt in the firm's capital structure to finance business obligations in the place where more equity should be applied could lead to low performance. Thus, the decision lies on the combination of debts and equity quantum in financing firm's instant, long term assets and operations (Olarewaju, 2019). Conceptually it has been a controversial issue, scholars opinion differs in regards to how firm's performance reflects how effectively business organization manages its assets while there is a multitude of capital structure indicators which could affect its operations. Some of such indicators include:

Debt to equity ratio refers to the measure of long term solvency of an organization. This ratio is a financial and liquidity estimate which shows the percentage of the firm's fund that come from creditors and investors (Nzotta, 2018). It also estimates the strength of the organization to meet its long term business obligations as it comes to time. The debt to equity ratio can be defined mathematically as:

Long term debt ÷ total equity

Long term debt ratio is the ratio which links the long term debt of the firm to the long term capital. The ratio is also a measure of solvency and relates to the long term leverage position of the firm and the level of risk. The long term debt ratio could be defined mathematically as:

Long term debt ÷ total assets

Total debt ratio relates the total debt of the organization with all capital. Current liability and long term debt sum up to the total debt, while total capital consists of the total capitalization of the firm. Total debt ratio can be express as:

Total debt ÷ total capital

In the same vein, growth and valuation ratios can be of measure of firm performance (Nzotta, 2018). One of such growth and valuation ratios is the return on equity.
Return on equity is the estimate of profitability and as well measures the level of growth of a firm. Ganiyu, Adelopo, Rodionova, and Samuel, (2019) defined return on equity as revenue before interest and tax over the book value of equity or shareholders equity.

THEORETICAL LITERATURE REVIEW

Capital structure became an avenue of research focus to finance scholars from the publication of Modiglian and Miller, (1958) that titled "irrelevance theory of capital structure". Different scholars have come up with different theories on the debate of capital structure. This study concentrated on the following theories:

Static Trade off Theory
The theory of Static trade-off opined, trade-off exists between the gains of increasing debt quantum and the costs of increasing indebtedness. Gains in going for more debt instead of more equity funds are mainly in the relief of tax while the extra costs of extra debt relate to the greater risks from financial distress. The theory thus postulated that business organizations should have a gearing level that is optimal and the gearing level which is optimal for a business organization is reached at a point where the extra gains of taking an extra debt capital equals the extra costs of taking on the extra debt. Thus, the theory has been criticised by several other theories on the basis that organizations do not have an optimal gearing level.

Pecking Order Theory
The pecking order theory has become vital and considered among the most influential theories of investment since the publication of Myers, (1984) which tittled "The capital structure puzzle" (Jibran, Wajid, Waheed, & Muhammad, 2012). It strives to criticise the theory of static trade-off, which opined that business organizations have a gearing level that is optimal. The theory opined that business organizations indicated preference in selecting their source of fund. This theory states

that, the most fancied source of funding for business organizations is earnings from undistributed profit, follow by various forms of debt and lastly by equity fund. The reason has been that, utilizing earnings from retained sources to finance business activities is cheaper and convenient when compared to any other sources of finance. In this regard, if there are no earnings from the undistributed profit or the retain earnings is inadequate, debt has become the next alternative due to its relative tax gain. The last option for funding an organization in the pecking order theory is equity.

Market Timing Theory
The theory of market timing states that, selection of the method of financing can be influence by capital market available opportunities and that these opportunities occurs as a result of skewness of information. Hence, it emphasized that, decision makers of business organizations should understand when the future expectations for the business organization are than the prospects of investors, also when the chances for the future are worse than the prospects of investors. In line with the privilege information, the theory evoke that decision makers should consequently identify situations where organization's shares are at present under or overvalued. Accordingly, organizations move on such information to issue new shares when they consider the stock price to be overvalued and should consider share repurchases when they consider the share price to be undervalued. Making gain from the opportunities in the market to issue new securities or buy back existing securities influences the gearing level (Ater, 2017). In the nutshell, the theory submits that organizations do not have an optimal gearing level target and the opportunities in the market and market timing influenced their decisions of financing most of the times (Abeywardhana, 2017).

Theory of Agency Cost
The theory of agency cost has been one of the most essential theories in the field of finance since from the publication of Jensen and Meckling, (1976) which tittled "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure". The theory proposes that various interest groups, including that of business organization's shareholders, providers of debt and the decision makers in the organization do influence capital structure of the organization. The theory submitted that, each interest group has it choice and expectation; thus, in selecting a source of finance structure, a balance will be reach in considering the interest of the various parties; the shareholders, debt providers and the organization's decision makers. The theory of agency cost only back the submission of the static trade off theory by concluding that "optimal" capital structure for an organization can be obtained by trading off not just the extra benefits and extra costs of extra debt but also by trading off the "agency costs" of additional debt and/or the "agency costs" of additional equity (Akingunola, Olawale, & Olaniyan, 2017).

Empirical Review
Empirical results disagree on the point that firm performance reflects how well firm manages its financial asset while there are several indicators of firm's capital structure which could influence firm's performance. In line with this theoretical assumption, several authors in the field of corporate finance across the globe have made attempt to inquire into the impact of capital structure on business organization performance. Kimoro, Muturi and Gekara, (2019) explored the effect of

profitability on capital structure selection for commercial banks operating in Kenya with multiple regression approach in measuring the link between the firm's capital structure selection and level of profitability. The study found that firm profitability had significant impact on the capital structure selection and exhibited a negative and linear correlation with capital structure selection. The study further found a moderating significant effect of ownership on the capital structure selection.

Nassar, (2016) ascertained the effect of capital structure on financial performance in Borsa Istanbul between 2005 and 2012 with multivariate regression analysis in measuring return on asset, return on equity and earnings per share as firm performance indicators and debt ratio as a proxy of capital structure . The results show that, there is a negative significant relationship between capital structure and firm performance.

Uremadu and Onyekachi, (2019) studied the effect of capital structure on corporate performance in Nigeria. The study employed return on asset, long term debt to asset ratio, total debt to equity ratio with special focus on consumer goods industrial sector of the economy with multiple regression analysis. The results from the research found a negative and insignificant impact of capital structure on corporate performance of the consumer goods firm sector of Nigeria. Aramvalarthan, Kannadhasan, and Babu, (2018) investigated the dependence among capital structure and corporate in India with the application of panel data method in measuring the link between return on equity, firm size, tangibles and capital structure. The result shows that financial leverage has a positive significant effect on the financial performance of the firm.

Aziz and Abbas, (2019) ascertained the association of different debt financing on firm's performance in fourteen economic sectors of Pakistan from 2006 to 2014 with the use of regression method. The results of the study indicated that debt financing have negative but also significant impact on firm performance in Pakistan.

Dada and Abbas, (2016) examined the effect of capital structure on firm performance by measuring asset turnover, tangible asset and return on asset in selected firms in Nigeria between 2010 and 2014. The results from the panel data approach shows that assets turnover and tangible assets have a significant positive relationship with Tobin's Q. Risk indicated a significant negative association with Tobin's Q. Age on the other end had a significant negative link with ROA and Sales growth indicated a significant positive association with return on asset.

Muigai and Murithi, (2017) ascertained the moderating effect of firm size on the association between firm's capital structure and financial distress of non-financial firms in Kenya from 2006 to 2015 with feasible generalized least square regression model. The results from the study showed that firm size has a significant moderating effect on the relationship between capital structure and financial distress of non-financial firms.

Mulyana, Zuraida, and Saputra, (2018) evaluated the impact of profitability, liquidity and leverage on earnings and its effect on the value of firms in Indonesia stock exchange between 2011 to 2015. The study employed hypothesis testing on secondary data of 150 manufacturing organizations

sourced from corporate website and the official website of the stock exchange in Indonesia with causality method application. It was revealed that profitability, liquidity and leverage do individually and collectively effect firm's earnings.

Shen, (2017) empirically investigated the association between capital structure and corporate performance in China from 20111 to 2015 with regression method in analyzing return on equity, return on asset, gearing ratio, long term debt capital ratio and current debt capital ratio. The research found a weak degree of negative correlation betweenasset liability ratio and performance of listed companies in China.

Cheema, Mahboob, Farooq, and Yousaf, (2017) investigated the link between capital structure and financial performance of Shariah and non Shariah companies in Pakistan between 2009 and 2015 with multiple regression method. Dependents variable measured by ROA and ROE while capital structure as the explained variable measured by long term debt ratio, short term debt ratio, and sales growth ratio non-debt tax shield and inside holding. Results from the multiple linear regression and correlation revealed that capital structure affect the performance of firm in the case of non-Shariah but do not significantly affect performance of Shariah companies.

Kehinde, (2014) conducted the study to explore the relationship between capital structure and survival dynamics of business organization, using multiple linear regression technique. Dependent variable was measured by equity and debt while independent variable was measured by dividend. The result showed that capital structure of the firm do not satisfied the optimal capital structure status of the Modigliani and Miller of the firm.

Gharaibeh, (2015) embarked on the research to find out the impact of capital structure on the financial performance of listed companies in the Bahrain Bourse from 2009 to 2013. The study employed ROE, ROA, EPS and dividend yield as firm financial performance indicators and capital structure as explained variable. Ordinary least squares method was utilized to ascertain the impact of capital structure on the ROE, ROA, EPS and dividend yield. Capital structure represented by total liability to total assets have positive significant effect on ROE but have no significant impact on ROA, EPS and dividend yield. The results also revealed that lagged performance measures of ROE, ROA, EPS, and dividend yield have positive significant effect on the current year's firm performance.

Kirmi, (2018) studied the link between capital Structure and profitability of listed petroleum and energy firms in Kenya with descriptive and causal research design techniques in measuring the impact of short and long-term debt on return on asset from 2012 to 2016 . The findings from the study established a high positive association between short term debt and return on asset and an average negative association between long term debts and return on asset and a weak positive association between total debt and return on asset.

Olarewaju, (2019) investigated the dynamic association between capital structure and quoted manufacturing firms in Nigeria between 1990 and 2016. The research utilized Pedroni cointegration tests and Panel Vector Error Correction Method to evaluate the equilibrium among

the dependent and independent variables. The result indicated both in the long run and short run, except itself, none of the variables shocks in the system significantly account for variations in the return on asset.

Dai, (2017) determine the link between capital structure and performance of banks in Thailand bfrom 1997 to 2016 with the application of random effect model in measuring capital structure, size, growth, credit risk and liquidity risk. Evidence from the results proved significant and negative association between capital structure and profitability of Thailand banks which implies that pecking order theory was valid for the period and data set employed. In addition, credit risk and liquidity risk reduce the financial performance significantly.

Ullah, Uddin, Abdullah and Islam, (2017) investigated factors determining capital structure and its impact on debt maturity of the textile industry of Bangladesh from 2010 to 2015 with pooled data technique. The research introduced an analysis of several factors determining capital structure and their effect on debt maturity. Results from the research indicated that age has significant association with all the ratios considered under debt maturity. Opportunities of growth were revealed insignificant on the debt maturity. Short term debt and long term debt have a significant relationship with profitability.

Akingunola, Olawale, & Olaniyan, (2017) examined the link between the decision on capital structure and organization's financial performance in Nigeria between 2011 and 2015. Regression analysis technique was employed for the measurement of debt equity, short term debt, long term debt, asset tangibility, growth, size, ROE and ROA. Short and long term debt have positive significant effect on ROE and ROA for the study period.

Dang, Bui, Dao and Nguyen, (2019) investigated capital structure and its relationship with firm financial performance concentrating on Food and Beverage firms in Vietnam. Explanatory variables measured as ROE, ROA and EPS which stand as indicators of firm performance. Whereas, explained variables were short term debt ratio, debt ratio and long term debt ratio which stand as indicators of firm's capital structure. Via the unbalanced panel data of 605 observations from 61 listed firms in the industrial sub-sector, some significant analyses have been revealed. It was indicated that financial leverage has a strong influence on firm financial performance; debt ratios positively and significantly influenced earnings per share and return on equity but influenced return on asset negatively.

Ganiyu, Adelopo, Rodionova and Samuel, (2019) examined the association between capital structure and firm performance in Nigeria with a generalized method of moment technique for the measurement. The study employed total leverage ratio, long term leverage, short term leverage, asset tangibility, growth opportunity, risk, ownership, age, size and return on equity as variables. The research found a significant relationship between capital structure and firm financial performance.

Abata, Migiro, Akande and Layton, (2017) inquire to know if capital structure can influence firm performance of listed firms in South Africa between January 2000 and December 2014 via the

application of generalized method of moment analysis. The study measured the relationship among Tobin Q, long term debt to total assets, total debt to total assets, total debt to total equity, return on equity and return on asset. The results revealed that total debt to total equity and total debt to total assets were inversely related to both Tobin Q and return on asset, while long term debt to total assets were related positively to return on asset and Tobin Q respectively.

The above empirical findings also revealed issues surrounding capital structure and firm financial performance which have been widely debated in the finance literature, yet there has been no conclusion as to how composition of firm's capital influences firm's financial performance. Studies such as Nassar, (2016); Uremadu and Onyekachi, (2019); Aziz and Abbas, (2019); Shen, (2017) found a negative relationship between capital structure and firm performance while Aramvalarthan, Kannadhasan, and Babu, (2018); Gharaibeh, (2015); Ganiyu, Adelopo, Rodionova, and Samuel, (2019); Dada and Abbas, (2016) found a significant positive relationship between capital structure and firm performance. From the inception of this controversial debate in the finance literature, only few studies have examined the effect of capital structure in Nigeria. To the best of my knowledge, no study has ascertained the effect of capital structure on firm performance in microfinace banking sub-sector in Nigeria. The study therefore stand to employed recent data from the microfinance banking sub-sector to find out the relationship between capital structure and firm performance in Nigeria.

DATA AND METHODOLOGY

Data Source and Sample

Thirty nine (39) microfinance banks in Nigeria were selected for this study. The data sources used for the research were financial statements of the selected microfinance banks for the period. The audited financial statement of the microfinance banks were employed so as to expand the validity and reliability of the findings and conclusions. The data was taken from annual financial statements which cover 10 year period; from 2009-2018.

Variables measurement

Independent variable(Capital structure): Firm's Capital structure could be measured by different accounting based techniques like operating leverage, short term liability to total assets, debt to equity ratio, long term liability to total assets, long term debt ratio and total debt to total asset (Nzotta, 2018). This study takes debt to equity ratio, long term debt ratio and total debt ratio as a proxy for capital structure of a firm with modification based on (Nassar, 2016).

Dependent variables(Firm performance): Numerous indicators in measuring firm performance are mainly accounting based measures from financial statements as net profit margin, operating profit margin, return on equity, return on total capital, return on asset, earnings per share, price earnings ratio, sustainable growth rate (Nzotta, 2018) , while volatility in returns and stock market returns are also employed as performance measures of firms performance (Nassar, 2016). Tobin's Q assessment of performance is also explore by some researchers which are combination of market performance and accounting assessment. This study adopts the one accounting based measure of performance; the return on equity.

Return on Equity (ROE) = Net Income/Equity.

Model specification

This study adopted the model employed by (Nassar, 2016) utilizing a multiple regression with explained variable (debt ratio) and explanatory variables (earnings per share, return on equity and return on asset).

On the above strength, this research has derived from (Nassar, 2016) a model to express the relationship between the explained variables (debt to equity ratio, long term debt ratio and total debt ratio) representing capital structure and the explanatory variable (return on equity) representing firm performance to ascertain the relationship between capital structure and firm performance. The mathematical function of this association is as follows:

$$ROE = f(DER, LDR, TDR) \qquad\qquad 1$$

The above function is transformed into the following explicit econometric model in line with (Nassar, 2016) by carrying its parameter and coefficient

$$ROE = \beta_0 + \beta_1 DER + \beta_2 LDR + \beta_3 TDR + \mu \qquad\qquad 2$$

Where;

β_0 = intercept

β_1 = coefficient to be estimated

ROE = Return on equity

DER = debt to equity ratio

LDR = Long term debt ratio

TDR = Total debt ratio

Descriptive statistics

	ROE	DER	LDR	TDR
Mean	0.162410	0.244090	0.118170	0.462200
Median	0.172250	0.232750	0.118350	0.491850
Maximum	0.242500	0.509700	0.213400	0.581400
Minimum	0.030800	0.056800	0.035900	0.307700
Std. Dev.	0.066198	0.151711	0.056733	0.103634
Skewness	-0.828982	0.312630	0.120574	-0.279141
Kurtosis	2.733243	1.861674	1.905915	1.412917
Jarque-Bera	1.175001	0.702806	0.522989	1.179380
Probability	0.555715	0.703700	0.769900	0.554499
Sum	1.624100	2.440900	1.181700	4.622000
Sum Sq. Dev.	0.039439	0.207146	0.028968	0.096661
Observations	10	10	10	10

Source: Eviews 10 output.

The descriptive statistics on the above shows that return on equity has a mean value of 0.162410 while the maximum and minimum values are 0.242500 and 0.030800 respectively. Debt to equity ratio has a mean value of 0.244090, while the maximum and minimum values are 0.509700 and 0.056800 respectively. Long term debt ratio has a mean value of 0.118170, while the maximum and minimum values are 0.213400 and 0.035900 respectively. Total debt ratio has a mean value of 0.462200, while the maximum and minimum values are 0.581400 and 0.307700 respectively.

The Jarque-Bera statistic indicates that all the variables are normally with the following p-values: return on equity (ROE =0.555715), Debt to equity ratio (DER=0.703700), Long term debt ratio (LDR=0.769900) and Total debt ratio (TDR=0.554499).

Estimate Equation
Dependent Variable: ROE
Method: Least Squares
Date: 10/06/19   Time: 15:38
Sample (adjusted): 3 9
Included observations: 7 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.300131	0.061384	-4.889386	0.0394
DER	-0.456087	0.422452	-3.446748	0.0748
LDR	0.300354	0.974985	0.820889	0.4980
TDR	0.548642	0.152606	5.14799	0.0296
ECM(-1)	-0.349325	0.210365	-2.160566	0.0387

R-squared	0.786726	Mean dependent var	0.165457	
Adjusted R-squared	0.760177	S.D. dependent var	0.051254	
S.E. of regression	0.010228	Akaike info criterion	-6.151539	
Sum squared resid	0.000209	Schwarz criterion	-6.190175	
Log likelihood	26.53039	Hannan-Quinn criter.	-6.629068	
F-statistic	37.16701	Durbin-Watson stat	1.999638	
Prob(F-statistic)	0.026372			

Source: E-views 10 output

The estimate result above on the relationship between capital structure and firm performance show that changes in Debt to equity ratio (DER) has a coefficient of -0.456087 meaning that one percentage change in debt to equity ratio leads to .456087 percent change in return on equity in the negative direction with a probability value of 0.0748 which is not significant at 5 percent level. Changes in Long term debt ratio (LDR) has a coefficient of 0.300354 meaning that a percentage change in Long term debt ratio leads to 0.300354 percentage change in return on equity in the positive direction with a probability value of 0.4980 which is not also significant at 5 percent level. Changes in Total debt ratio (TDR) has a coefficient of 0.548642 meaning that one percentage

change in Total debt ratio leads to 0.54842 changes in return on equity in the positive direction with a probability value of 0.0296 which is significant at 5 percent level. The results further show that r-squared is 0.786726 while adjusted r-squared is 0.760177 indicating that 76.0177 percent of changes in return on equity are attributable to the combined effect of the debt to equity ratio, long term debt ratio and total debt ratio. The results also indicated that F-statistic is 37.16701 with a probability of 0.026372 indicating that the combined effect of the explained variables on firm performance represented by return on equity is statistically significant.

The Durbin-Watson statistic indicates 1.999638 showing the absence of serial or autocorrelation among the variables. In addition, the ECM is appropriately signed with a value of -0.349325 with a probability of 0.0387, which is significant at 5% level of significance. The co-efficient indicates that the model has a 34.9325 percent speed of adjustment from equilibrium position on the long run.

FINDINGS

From the results of this research, a positive relationship exists between capital structure and firm performance. These results are inconsistent with Nassar, (2016); Kimoro, Muturi and Gekara, (2019); Uremadu and Onyekachi, (2019); Aziz and Abbas, (2019); Kirmi, (2017) that found a negative relationship between capital structure and firm performance but the study is consistent with Muigai and Murithi, (2017); Gharaibeh, (2015); Ullah, Uddin, Abdullah and Islam, (2017); Akingunola, Olawale and Olaniyan, (2017); Dang, Bui, Dao, and Nguyen, (2019); Ganiyu, Adelopo, Rodionova, and Samuel, (2019); Aramvalarthan, Kannadhasan, and Babu, (2018) who pointed to the positive association between capital structure and firm performance. Our results suggest that firm's capital structure is significant and positively associated with firm performance which defined by return on equity. That mean employing a low level of debt can negatively affects a firm's return on equity; there is need to utilize high level of debt in the microfinance banks in Nigeria.

CONCLUSION

The study investigated the relationship between capital structure and firm performance in the microfinance banking subsector in Nigeria from 2009 to 2018. The study employed explained variables (debt to equity ratio, long term debt ratio and total debt ratio) representing capital structure and the explanatory variable (return on equity) representing firm performance. Descriptive statistics and regression technique were used for the analysis. The results revealed a negative and insignificant relationship between Debt to equity ratio and return on equity, a positive and insignificant relationship was found between Long term debt ratio and return on equity and a positive and significant relationship was found between Total debt ratio and return on equity. The results also indicated that F-statistic is 37.16701 with a probability of 0.026372 indicating that the combined effect of the explained variables on firm performance represented by return on equity is statistically significant.

Recommendations

Capital structure was found to have a positive significant relationship with firm performance, Microfinance banks need to devise strategies that are effective to expand their debt profile in order to achieve better performance.

Limitations/Suggestion for further study

The study concentrated only on the microfinance banking sub-sector in Nigeria. The data set covered only 39 microfinance banks from 2009 to 2018 which covers 10 years. The study employed only descriptive statistics and regression technique. Capital structure a relevant concept particularly in the emerging markets like Nigeria. Further study can be conducted in other finance sectors such as mortgage institutions, insurance companies, deposit money banks, finance houses etc. by also adding more explained and explanatory variables too clarify the results of our study.

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