Liquidity, Size and Financial Performance of Deposit Money Banks in Nigeria

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Abstract

This study examines the impact of liquidity and size on financial performance of deposit money banks (DMBs) in Nigeria. The data for the study were collected from the annual reports and accounts of all DMBs quoted in the Nigeria Stock Exchange within the period of 2007 and 2016. OLS regression and correlation analysis were used to test the hypotheses in addition to some diagnostic tests conducted on the data. The results of the study revealed that the both liquidity and size have significant positive impact on Return on Asset and Return on Equity. The study recommends that DMBs in Nigeria should work toward improving management of their liquidity and total asset to enhance their financial performance.

Keywords: Liquidity, Size, Financial performance, DMBs

Introduction

Performance is the result of the fulfillment of the tasks assigned. Company performance describes how individuals in the company try to achieve a goal. Company performance illustrates the magnitude of the results in a process that has been achieved compared with the company's goal. Financial performance is a determinant of an organization's income, profits, increase in value as evidenced by the appreciation in the entity's worthiness (Asimakopoulos, Samitas & Papadogonas, 2009). Measures of financial performance fall into investor returns and accounting returns. The basic idea of investor returns is that, the return should be measured from the perspective of shareholders e.g. share price and dividend yield. Accounting returns focus on how firm earnings respond to different managerial policies, which can be measured using different accounting ratios (Alan, 2008).

Financial performance was measured differently by different researchers, but in a wider perspective four (4) major groups of accounting ratios were used to measure financial performance. According to Radut (2008), the most argued measures that provide an important view and complex understanding of the financial performance of a company are Profitability ratios, Leverage ratios, Liquidity ratios and Efficiency ratios. Furthermore, financial ratios that are usually used as measures of financial performance are further divided into three broad categories that will provide a review of the overall financial position of a company. These categories include; ratios that indicate the structural change within a company; ratios that indicate the profitability of a company, and ratios that have an impact on the valuation of companies from a market perspective (De Villiers & Middleberg, 2013).

The term 'Liquidity' refers to the ability of a firm to meet its short-term maturing obligations within one year. The Liquidity resources of a firm may be kept in various forms: cash in hand and cash at bank in current assets, reserve drawing power under a cash credit or overdraft arrangement and short term deposits. Cash balances in current account provide the highest degree of liquidity. A firm can maintain liquidity if it holds assets that could be shifted or sold quickly with minimum transaction cost and loss in value. The test of liquidity is the ability of the firm to meet its cash obligations when they are due and to exploit sudden opportunities in the market. Whenever one speaks of a firm's liquidity, one tries to measure firm's ability to meet expected and unexpected cash requirements, expand its assets, reduce its liabilities or cover any operating losses. Liquidity in Commercial Bank means the bank's ability to finance all its contractual obligations when due, and these obligations can include lending, investment and withdrawal of deposits and maturity of liabilities, which happen in the normal course of the Bank actions (Amengor, 2010).

Brown (2009), Stated that Firm size refers to how large or small firm is measures by the firm's market value. Therefore, firm size can be concluded as how large a company is reflected by its total asset, sales, or market capitalization. According to White et al (2003), Size affect smaller firms (measured by total assets or total capitalization) tend to out- perform the market even when returns are adjusted for risk. According to Haugen (2001), Firm size is a picture of large or small companies that appear in the value of total assets, and it's measured by logarithm of total assets. From the statement above, we can conclude that

Firm size is describes how large or small of a company measured by its total assets or by its total capitalization.

Researches on the impact of liquidity and size on financial performance of businesses were carried out by many researchers (Foyeke, Ojeka, & Aanu, 2015; Abbasi, & Malik 2015; Muhammad, 2014; Inyiama1 & Chukwuani 2014; Pervan & Višić, 2012; An Yi, et.al 2011; Tahir,2016; Fang, Neo & Tice, 2008; Sheik Ali Banafa,2016; Omondi & Muturi ,2013; Tita, D & Habibuw, 2015; Purnomosidi, et.al, 2014; among others) in different countries. The outcome of the researches showed positive, negative and mixed results on the individual independent variable and combination of the both variable (liquidity and size) on financial performance of businesses.

According to Ejem, Jombo and Oriko (2012), the banking sector in any economy serves as catalyst for growth and development. Banks are able to perform these roles through their crucial functions of financial intermediation, provision of an efficient payment system and facilitating the implementation of monetary policies. In intermediation, banks are involved in the mobilization of savings of the surplus economic units and channeling such funds to the deficit economic units particularly business enterprises for the purpose of expanding productive capacity for economic growth and development. In operating the payment mechanism, the banking system liability serves as a medium of exchange. In execution of monetary policies, banks serve as agents through which the nation's monetary policies are implemented. The generic name "Deposit Money Bank" was adopted for all banks (Commercial and Merchant) operating in Nigeria since the commencement of universal banking in 2001.

This research, is therefore, aimed at examining the impact of Liquidity and size on Financial Performance of the Deposit Money Banks (DMBs) in Nigeria.

Statement of the Problem

Several studies have been conducted on liquidity in respect to firms' financial performance of different industries. Most of the researches established a positive impact of liquidity on firm's financial performance in different countries, economic sectors and different periods. For instance, Tahir, M. (2016) in Pakistan on banking sector; Fang, Neo and Tice (2008) in New Orleans on Wall Street Rule or Wall Street Rules; Kartal Demirgüneş (2016) in Turkey on Turkish Retail Industry; Goel, Chadha & Sharma (2015) in India on machinery industry; Khidmat & Rehman(2014) in Pakistan on chemical sector; Ehiedu, V.C (2014) in Nigeria on some selected companies; Sheikhdon & Kavale (2016) in Somalia on commercial banks in Mogadishu; Vieira (2010) in Europe on airline companies.

Whereas studies of Vintilă and Nenu (2016) in Romania on Listed Companies; Mengesha (2014) in Addis Ababa, Ethiopia on Metal Manufacturing Companies; Durrah, et.al (2016) in Oman on Food Industrial Companies Listed in Amman Bursa; and Ali, S. A (2015) in Jordan on commercial banks established a negative impact of liquidity on firm's financial performance.

Furthermore, several studies have been conducted on size in respect to firms' financial performance of different industries. Almost all of the researches established a positive impact of firm size on firm's financial performance except that of An Yi; Davey, & Eggleton (2011) in China on Chinese Companies' IC Disclosure which show's negative impact of firm size on financial performance.

However, studies by Foyeke, Ojeka and Aanu (2015) in Nigeria on disclosure Practices of Nigerian Companies; Abbasi & Malik Q (2015) in Pakistan on Growing Firms; Muhammad, U. (2014) in Pakistan on commercial bank; Foyeke, Ojeka & Iyoha (2014) in Nigeria on of Corporate Governance Disclosure Practices of Nigerian Companies; Inyiama1 & Chukwuani (2014) in Nigeria on Brewery Sector; Odalo, Achoki & Njuguna(2016) in Kenya on Agricultural Firms Listed in the Nairobi Securities Exchange; and Pervan & Višić (2012) in Croatia on influence of firm size on it business success, found positive impact of firm size on financial performance.

In a nutshell some studies were conducted on both variables (liquidity and firm size) impact on financial performance, studies of Sheik Ali Banafa (2016) in Kenya on listed non financial firm; and that of Omondi & Muturi (2013) in Kenya on Listed Companies at the Nairobi Securities Exchange, established a positive result. While that of Tita, D & Habibuw (2015) in Indonesia PropertyAndreal Estate Companies Listed at Indonesia Stock Exchange, shows a negative result. However that of Khodamipou, hahramGolestan & Khorrami (2013) in Tehran on companies listed on the Tehran Stock Exchange, and Purnomosidi et.al (2014) in Brawijaya (Indonesia) on property industries, established a mixed result on the impact of liquiditity and firm size on financial performance.

None of the Researches conducted in respect to liquidity and size on financial performance was carried out in Nigeria based on the reviewed literature except on individual variable such as, that of Ehiedu (2014) on impact of liquidity on profitability of some selected companies; Foyeke, Ojeka and Aanu(2015) Firm Size and Financial Performance; Inyiama & Chukwuani (2014) Firm Size and Firm's Financial Performance: A Study Based on Brewery Sector of Nigeria. These motivated the researchers to conduct a research on both liquidity and size on financial performance. In addition all nigerian researches reviewed so far, no study was conducted on Deposit Money banks' (DMBs) in Nigeria, whereas this study is on DMBs.

Moreover, studies of Sheik Ali Banafa (2016), Omondi & Muturi (2013), Tita, D & Habibuw, G(2015), Khodamipou, hahramGolestan & Khorrami (2013), and Purnomosidi et.al (2014) reviewed in this paper that used liquidity and firm size as their independent variables were carried out in foreign countries and this study will be carried out on the Nigerian DMBs. It is against this background therefore, this study is aimed at examining the impact of liquidity and size on financia performance of Deposit money banks in Nigeria.

Literature Review

Several studies have been conducted on liquidity in respect to firms' financial performance of different industries. Most of the researches established a positive impact of liquidity on firm's financial performance in different countries, economic sectors and different periods. For instance, Tahir (2016) on impact of liquidity management on profitability in banking sector in Pakistan uses Liquidity as his IV and profitability as his DV and the result shows that there is significant relationship between liquidity and profitability in banking sector in Pakistan. ; Fang, Neo and Tice (2008) on the relation between stock liquidity and firm performance uses the data collected from annual report of sample of 3,174 out of 11,243 firms (i.e report of 1990, 1993, 1995, 1998, 2000, 2002, and 2004) The study find that firms with liquid stocks have better firm performance as measured by the market-to-book ratio. Also the study found no evidence that liquidity enhances blockholder intervention. Kartal Demirgüneş (2016) in Turkey studied on the effect of liquidity on financial performance (in terms of profitability) used a time series data of Turkish retail industry (consisting of Borsa Istanbul (BIST) listed retail merchandisingirms) in the period of 1998-2015 his study shows that there is significantly positive relationship between financial performance and liquidity. In India on machinery industry Goel, Chadha & Sharma (2015) analysed the data on financial leverage and liquidity measured by financial ratios using regression analysis. It was found out that financial leverage has significant impact on different measures of operating liquidity of the Indian machinery firms.

Sheikhdon & Kavale (2016) in Somalia on commercial banks in Mogadishu found out that liquidity management drivers have significant and positive influence on financial performance of banks. Vieira (2010) analyzed the relationship between liquidity and profitability in a group of companies comprising the major airline carriers in the world between 2005 and 2008, significant positive correlation between liquidity and profitability on the short run was found, in the medium run it was confirmed that the relationship is positive. It was observed that in almost 2/3 of the cases companies with a bad indicator of profitability or liquidity faced a deterioration of the other indicator. Thus and equilibrium between liquidity and profitability seems to be a condition for financial stability over the medium run. Finally it was observed that during the year of 2008 companies with a high liquidity indicator had a much better performance than the less liquid companies.

However, whereas studies of Vintilă and Nenu (2016) on the impact of Liquidity and Profitability Analysis on the Romanian Listed Companies analyze data by Correlation and multivariate regression models, the study found out a statistically significant negative relationship between liquidity and corporate financial performance. In addition, Mengesha (2014) in Addis Ababa, Ethiopia on Metal Manufacturing Companies established a significant negative relationship between cash conversion cycle and profitability measures of the sampled firms. Durrah, et.al (2016) examined the relationship between liquidity ratios and indicators of financial performance (profitability ratios) in the food industrial companies listed in Amman Bursa during the period (2012-2014). The results showed no relationship between all liquidity ratios and the gross profit margin, while there is a weak positive relationship between the current ratio and each of the operating profit margins and the net profit margin. Similarly, Ali (2015) investigate the effect of liquidity management on profitability in the Jordanian commercial banks, the data were analyzed using Regression analysis established an

increase in the capital ratio and the liquid asset ratio which leads to decrease in the profitability of the Jordanian commercial banks, all of them established a significant negative impact of liquidity on firm's financial performance.

Furthermore, several studies have been conducted on size in respect to firms' financial performance of different industries. Almost all the researches established a positive impact of firm size on firm's financial performance except that of An Yi; Davey, & Eggleton (2011) in China on Chinese Companies' IC Disclosure which show's negative impact of firm size on financial performance.

However, studies by Foyeke, Ojeka and Aanu (2015) on Firm Size and Financial Performance Using the financial data of 137 companies both from the financial and the non financial sectors in Nigeria, this study uses the weighted logistic regression method of analysis to evaluate the type of relationship that exists between corporate governance disclosure practices of Nigerian companies with company size and financial performance. The study reveals that there is a significant positive relationship between firm size and corporate governance voluntary disclosure. Abbasi & Malik (2015) in Pakistan on Firms' Size Moderating Financial Performance in Growing Firm,the secondary cross-sectional data has been gathered from 50 firms listed in Karachi stock Exchange regression analysis And Correlation matrix was used and the results of the regression analysis are demonstrating that the alternative hypothesis of the research that firm size has moderating inspiration between independent variable (Firm growth) and dependent variable (Firm performance) is accepted. The study is cooperative for the management to keep an eye on firm size along with firm growth while enhancing the firm performance; ; Muhammad, U. (2014) in Pakistan on Determinant of commercial bans profitability. The result indicate that capital strength, asset quality, bank size are directly associated with profitability; Inyiama1 & Chukwuani (2014) in Nigeria on the Empirical Investigation of the Interactions between Firm Size and Firm's Financial Performance: A Study Based on Brewery Sector of Nigeria. The study reveal Firm Size has both short and long term positive effect on EPS; with a significant long run influence. There is no causality running from either EPS to Total Assets or otherwise at both periods; Odalo, Achoki & Njuguna(2016) in Kenya on Agricultural Firms Listed in the Nairobi Securities Exchange uses Descriptive Statistics, Correlation analysis & Regression analysis in carrying out the study. And the results indicate that company size as measured by total assets affects financial performance of agricultural companies listed in NSE positively and significantly. Company size had positive and statistical significance on all the three indicators of the financial performance disclosing that large companies were found to have a competitive advantage over small firms; and Pervan & Višić (2012) in Croatia on influence of firm size on it business success, the results of the study revealed that firm size has a significant positive (although weak) influence on firm profitability. Additionally, results showed that assets turnover and debt ratio also statistically significantly influence firms' performance while current ratio didn't prove to be an important explanatory variable of firms' profitability. All found positive impact of firm size on financial performance.

In a nutshell some studies was conducted on both variables (liquidity and firm size) impact on financial performance, studies of Sheik Ali Banafa(2016) in Kenya on The effect of leverage, liquidity and firm size on financial performance of listed non financial firm in Kenya. The findings of the study revealed that the joint effect of Leverage, Liquidity, firm size, Days account receivables (AR) and Days accounts payables (AP) influenced the firm's performance positively; and that of Omondi & Muturi (2013) also in Kenya on Factors Affecting the Financial Performance of Listed Companies at the Nairobi Securities Exchange in Kenya. Findings showed that liquidity had a significant positive effect on financial performance. Company size had a significant positive effect on financial performance. The study also revealed that company age had a significant positive effect on financial performance.

While that of Tita, D & Habibuw (2015) in Indonesia on Factors Affecting the Financial Performance of Property And real Estate Companies Listed at Indonesia Stock Exchange. The research findings can be summarized as follows. Variable leverage and Firm Age has an effect on financial performance. Other variables like liquidity, Firm Size, Managerial Ownership and Block holder Ownership have no effect on financial performance.

However that of Khodamipou, hahramGolestan & Khorrami (2013) and Purnomosidi et.al (2014) established a mixed result on the impact of liquiditity and firm size on financial performance.

Khodamipou, hahramGolestan & Khorrami (2013)The relationship between liquidity and the company size with company value in companies listed on the Tehran Stock Exchange. The financial information of 100 companies listed in Tehran Stock Exchange during the time span of 2007 to 2011 has been studied. For the purpose of data analysis obtained from the study Spss 20 & Eviews 7 software have been used and the results indicate that there is no significant relationship ($p<0.05$) between stock risk and the size of the company with stock return and between the size of the company and the value of the company. Also, the results indicate that there is a direct and significant relationship ($p<0.05$) between market value and liquidity volume as well as there is a significant and positive relationship between liquidity volume and stock return. And Purnomosidi et.al (2014) in Indonesia The Effect of Company's Size, Capital Structure, Good Corporate Governance, Sales Growth, and Liquidity toward Financial Performance and Company's Value. Research results indicate that Financial Performance is influenced by the Size of the Company, Capital Structure, growth Sales. On the other hand, Financial Performance is not significantly affected by good corporate governance and liquidity. Then the company's value is significantly influenced by the Size of the Company, Capital Structure, Sales Growth, Liquidity, and Financial Performance. While there was no significant direct effect between good corporate governance of the Company's value.

Methodology

The research design adopted for this study is the ex-post facto research design. The study population consists of all DMBs quoted in the NSE within the period of 2007 and 2016. The sampling technique adopted for the study is census sampling technique where the entire banks are studied. The data used for the study is secondary data obtained from the Annual Reports and Accounts of the banks. OLS regression and correlation analysis were used to test the hypothesis at 10% level of significance, in addition to some diagnostic tests conducted on the data.

Results and Discussions

The diagnostic tests were conducted in order to improve the validity of all statistical inferences for the study. The tests include Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, vif test of multicollinearity and Hausman specification test. All tests mentioned were carried out and all necessary steps were taken to ensure the normality and validity of the data.

The correlation between the dependent and independent variables are presented in Table 1.

Table 1 Correlation between FP (ROA, ROE) and independent variables (size and liquidity)

	ROA	ROE	Liquidity	Size
ROA	1.00			
ROE	-	1.00		
Liquidity	0.1896	0.1549	1.00	
Size	0.1438	0.1622	0.0118	1.00

Table 1 shows the correlation coefficients on the relationship between the dependent variables (ROA and ROE) and independent variables (size and liquidity). Both dependent variables (ROA and ROE) are found to be positively related with the explanatory variables (size and liquidity). The correlation coefficient for ROA and independent variables (size and liquidity) are 0.1438 and 0.1896 which shows a weak positive relationship; this indicates that ROA and independent variables are positively related but the relationship is weak. In the other hand correlation coefficient for ROE and independent variables (size and liquidity) are 0.1622 and 0.1549 which shows a weak positive relationship; this indicates that ROE and independent variables are positively related but the relationship is weak. The vif test for multicollinearity reveals an absence of collinearity in the explanatory variables. This is due to the fact that the vif for the variables are less than 5 which signifies absence of collinearity.

Table 2 provides results of panel regression model, estimated using ROA. The robust linear regression model had been run which was found to be more appropriate than FE and RE models due to the presence of heteroscedasticity in the model and therefore preferred. This is based on the test *P-value* (0.000) which indicates presence of heteroscedasticity in the model.

Table 2: Regression Results on the Impact of size and liquidity on ROA and ROE

ROA (ROE)	Coef.	Std. Err.	t(z)	P>|t| (|z|)
Size	0.0744 (.820)	0.032175 (.411)	2.31(1.99)	0.021 (0.046)
Liquidity	0.990 (0.044)	0.5806 (.023)	1.70(1.90)	0.088 (0.057)
Constant	-9.385 (-7.466)	5.145 (3.643)	-1.82(-2.05)	0.068 (0.040)
R Square	0.3531 (0.5063)			
Prob > chi2	0.0155 (0.0214)			

Table 2 presents the results for the ROA model presented alongside the results for ROE model in parenthesis. The multiple regression results is arrived at considering the result of the random effect regression estimations for ROA and fixed effect for ROE. This is due to the fact that Hausman test revealed an insignificant p-value for ROA and significant for ROE. The result of Heteroscedasticity test revealed that the model is heteroscedastic as evident by the p-value that is significant i.e. greater than 0.05.

Table 2, reports the panel regression results of the aggregated dataset for the Nigeria Deposit Money Banks. The results show that all the independent variables have a significant positive impact on ROA at 0.10 significant levels with p-value of 0.021, 0.088 and 0.068 respectively. Similarly the result for the second model also revealed that all the independent variables have a significant positive impact on ROE at 0.10 significant levels with p-value of 0.046, 0.057 and 0.04 respectively. Therefore, this form the basis for concluding that size and liquidity exerts influence on financial performance of Nigerian Deposit Money Banks.

The R square for ROA, size and liquidity is found to be 35.31% which indicates that ROA of the Nigerian DMBs is explained by size and liquidity. Similarly R square for ROE is found to be 50.63% indicating that variation of ROE is explained by size and liquidity for upto 50%. The f-value is found to be significant for all the two models indicating that the model is adequate to to explain the relationship between the variables in the models.

Conclusion

This study examines the impact of liquidity and size on deposit money banks' financial performance in Nigeria. The correlation result shows that the variables are positively related but the relationship is weak. Also the regression results for the models revealed that all the independent variables have a significant positive impact on ROA and ROE at all acceptable levels of significant. The study therefore recommends that DMBs in Nigeria should work toward improving management of their liquidity and total asset to enhance their financial performance.

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