

Influence of Firm Size on Financial Performance of Deposit Money Banks Quoted on the Nigeria Stock Exchange

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Abstract

This research work investigated the influence of firm size on the financial performance of deposit money banks quoted on the Nigerian stock exchange. The research work is necessitated by the need to find the factors that respond positively or negatively to the financial performance of deposit money banks in Nigeria. Five deposit money banks were sampled with the aid of Taro Yemeni sampling technique to represent the entire banking industry in Nigeria. The firm size proxied by log of total assets represents the explanatory variable while the financial performance measured by profitability proxied by return on asset is the dependent variable. The analysis was conducted using the pooled OLS regression and fixed effect/random effect regression with the aid of STATA for panel regression. In addition, descriptive statistics and correlation analysis were computed. The finding of the study indicates that firm size insignificantly negatively influenced financial performance as a result of diseconomies of scale. The study therefore recommends that the industry should minimize the cost of expansion and enjoy maximum benefits of economies of scale in addition to other factors that may stimulate financial performance should be considered instead of the firm size that indicate insignificantly negative effect.

Keywords: Firm size; Financial performance; Deposit money; Stock exchange; Influence; Diseconomies.



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1. Introduction

1.1. Background to the Study

Firm size is taken as an essential variable and mixed result is always present in an attempt to review the relationship between firm size and profitability. The nature of the relationship that exists between firm size and profitability is very essential such that it can create an insight into the factors that can enhance profitability. Firm size is described as a quantity and array of production capability and potential or the quantity and diversity of services a firm possesses and can make available concurrently to its clients (Shaheen and Malik, 2012). The Organization for Economic Co-operation and Development OECD (2005) defined small and medium enterprises (SMEs) as firms with employees ranging from 10 to 250 and firms with more than 250 employees are large firms while those with less than 10 employees are micro firms. This definition may vary country wise. In US, firms with 250 to 500 employees are large firms while the SMEs have 50 to 249 employees. Micro enterprises have up to 49 employees. On the other hand, European Union defined firm size with the use of financial data such that firms with turnover of more than EUR 50 million are large firms while firms with the turnover between EUR 2 million to 49 million are classified as SMEs. Firms with less than EUR 2 million in turnover are classified as micro-sized firms.

Corporate financial performance is the gaining of a competitive advantage through efficiently managing and exploiting the resources of an entity in several ways. According to Nzioka (2013), there are two kinds of performance, financial performance and non-financial performance. Financial performance is on variables related directly to financial report.

1.2. Statement of the Research Problem

Firm size has been taken as a fundamental variable in explaining corporate financial performance and a number of studies have made effort to explore the influence of firm size on the financial performance but with an inconsistent and controversial results. Some scholars reported positive result while others reported negative thus calling for further studies. The subject of financial performance has received significant attention from scholars in various areas of business and economics. Since financial performance has implications to organization's health and ultimately its survival, it is also the primary concern of business practitioners in all types of organizations. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large. Large size bank have greater access to large wholesale deposits and have greater power to control cost of deposits and lending rates but these advantages can only be translated into good financial performance with accompanying cost efficiency. Large branch networks provide proximity convenience that may result in higher deposits but the cost of operating such large branch networks, if economies of scale are not exploited, impact negatively on financial performance (Nzioka, 2013). Some studies in this area adopted a survey research approach while some adopted a theoretical approach. This research work focuses on an empirical analysis of the influence of firm size on corporate financial performance of deposit money banks quoted on the Nigerian stock exchange.

1.3. Objective of the Study

This study has the objective of evaluating the relationship that exists between firm size and financial performance. The specific objective is to examine the influence of firm size (log of total assets) on the financial performance of deposit money banks quoted on the Nigerian stock exchange as measured by return on asset.

This research work posed a research question as follows;

Does firm size have any significantly positive influence on the financial performance of Nigerian deposit money banks?

The study therefore formulated the following hypothesis;

H_{01} : Firm size has no significantly positive influence on financial performance of deposit money banks quoted on the Nigerian stock exchange.

The significance of the study emerges from the fact that the banking sector plays a significant role in enhancing the country's economy, and providing essential services for people in Nigeria. The current study will empirically test the influence of firm size on financial performance. This will give management of deposit money banks a feel of the influence of these important organizational factors on financial performance and will hence be in a better position to moderate this influence through various management practices and strategies. From that base, it is likely that the findings from this study will be of use to other organizations apart from the banking sector. This is because the study will shed light and provide evidence on the influence of size on financial performance.

In Nigeria, a few researches have investigated factors affecting Nigerian deposit money banks from the point of view of size and related factors. The current study will therefore be a base for other studies in the same field, and it will help in adding value to this subject. In this respect, this study can be used by scholars and researchers alike in academics or future research in the subject of firm size or financial performance.

The study covered the sample of five deposit money banks quoted on the Nigerian stock exchange. The period of study is 12 years from 2005 to 2016. The variables of study is the firm size measured by log of total asset as the explanatory variable and financial performance measured as return on asset as the dependent variable.

2. Conceptual Frame Work

2.1. Concept of Firm Size

Shaheen and Malik (2012) described firm size as the quantity and array of production capability and potential a firm possesses or the quantity and diversity of services a firm can concurrently make available to its clients. Firm size plays a significant and crucial role in explaining the kind of relationships the firm has within and outside its operating environment. Babalola (2013) argued that the larger a firm is, the more the influence it has on its stakeholders, and so large firm tends to outperform small firms. In today's world, the size of a firm is crucial to its success due to the phenomenon of economies of scale. Abdurahman *et al.* (2003) stated that the nature of the relationship that exists between firm size and profitability is a key element in business success, which may shed some light on the factors that boost profitability.

3. Empirical Review

3.1. Effect of Firm Size on Financial Performance

Maja and Josipa (2012) evaluated the influence of firm size on financial performance from 2002-2010 and the result revealed that firm size has a significant positive (weak) influence on firm profitability. Abondo (2013) examined the effect of firm size on the financial performance of deposit taking MFBs from 2008 to 2012 using secondary data with regression analysis using SPSS to show the relationship between the independent variables and the dependent variables under consideration. The result finds the factors used as independent variables are the factors influencing the profitability of commercial banks in Kenya. Dogan (2013) also investigated the effect of firm size on profitability. The result of analysis indicates positive relation between firm indicators and profitability. Nzioka (2013) examined the relationship between firm size and financial performance targeting a population of 43 commercial banks in Kenya with panel data was from 1998 to 2012. The study found all the independent variables to be statistically significant. Olawale *et al.* (2017) also investigated the effect of firm size on the performance of firms in Nigeria using panel data set of 12 non-financial firms operating in Nigeria in the period of 2005-2013 and analyzing the panel data using a pooled regression model, fixed effect model and random effect model to identify the relationship between firm size and the performance of firms listed on the Nigeria stock exchange. The result of the study reveals that firm size in terms of total asset has a negative effect on performance while in terms of total sales firm size has a positive effect on performance. Ngumo *et al.* (2017) examined the determinants of corporate financial performance of microfinance banks in Kenya, adopting a descriptive research design and used secondary data from 7 banks for a period of 5 years from 2011 to 2015. The data collected was analysed using correlation and regression analysis and found statistically significant relationship between firm size and financial performance.

Mehrjardi (2012) studied the effect of size and profitability of banks in Kenya. This study measured profitability using return on asset and had only size as the independent variable. The study found that there was positive relationship between bank size and profitability of banks varied with customer base, number of branches, deposit liabilities and market share as there was high positive correlation coefficient. The study further revealed that there was greater variation of profitability of commercial banks as results of change with customer base, number of branches, deposit liabilities and market share in all tiers.

Salim (2012) examined the relationship between bank size and financial performance of commercial banks in Kenya. The study aimed specifically to determine the relationship between bank size factors such as total deposits,

total loans, and total assets, and financial performance, and further investigated the relationship between branch network size and financial performance. The findings of the study established strong correlations between all the studied factors of bank size. [Obigbemi et al. \(2015\)](#) evaluated the role of financial performance and the size of the firms in the voluntary disclosure of Nigerian companies using the financial data of 137 companies both from the financial and the non financial sectors in Nigeria using the weighted logistic regression method of analysis to evaluate the type of relationship that exist between corporate governance disclosure practices of Nigerian companies with company size and financial performance. The study revealed that there is a significant positive relationship between firm size and corporate governance voluntary disclosure. [Mohamed \(2015\)](#) investigated the impact of firm size on liquidity using a sample of 18 banks in Tunisia for a study period from 2000 to 2010. The study found insignificant impact of firm size on bank liquidity. [Akinyomi and Olagunju \(2013\)](#) examined the effect of firm size on the profitability of Nigerian manufacturing sector. Panel data set over the period of 2005 to 2012 was obtained from the audited annual reports of the selected manufacturing firms listed in the stock exchange. Return on asset was the proxy for profitability while log of total assets and log of turnover were used as proxies for firm size. The results of the study revealed that the firm size both in terms of total assets and in terms of total sales has a positive effect on the profitability of Nigerian manufacturing companies.

[Serrasqueiro and Nunes \(2008\)](#) investigated the relationship between firm size and performance of small and medium sized Portuguese companies for the period 1999 to 2003. The study found positive and statistically significant relationship between size and profitability of SMEs while statistically insignificant relationship between size and profitability was found in large Portuguese companies.

3.2. Theoretical Framework

This study was guided by different theories that explain the relationship between firm size and financial performance. The theories include human capital model, growth of the firm theory and economic theory.

Theory of Human Capital

This theory was developed by [Doeringer and Piore \(1971\)](#). The interpretation of earnings functions has been dominated by human capital theory. This theory widely interpreted the findings that earnings can increase as a result of increase in firm size. This is under the assumption that large firms hire more able individuals than do small firms. This theory illustrates that firm size is positively correlated with earnings and is entirely consistent with competitive labour markets. The standard approach in labor economics views human capital as a set of skills or characteristics that increase a worker's productivity. It therefore implies that as a firm grows in size, it is able to attract efficient workers and develop its human capital for better performance.

3.3. Growth of the Firm Theory

In the growth of the firm theory Penrose postulated that management is a team effort in which each employee deploys specialized, functional skills as well as more highly-efficient team-specific skills, which enable them to individually and collectively coordinate the many activities of the firm in a coherent manner [Olawale et al. \(2017\)](#). This theory was developed by [Penrose \(1959\)](#) who offered durable principles governing the growth of firms and the rate at which firms can grow efficiently and be profitable. Firms that command huge resources and attract the best management are therefore expected to perform better than their peers according to the growth of the firm theory. [Penrose \(1959\)](#) provides a comprehensive explanation of the link between resource-based relatedness and firm level performance. The current knowledge bases and underutilized resources of the firm determine the direction of firm growth. [Penrose \(1959\)](#) not only articulates why and how these drivers shape the rate and direction of growth, but also argues that ignorance of these limiting factors results in inefficiencies and loss of competitive advantage.

[Penrose \(1959\)](#) also provides causal links between resources and the generation of productive opportunities for growth and innovation. The experience of managers with each other and other resources in the firm affects their image of the unique productive opportunities available for their firms. Managers function as a catalyst in the conversion of firm's resources into firm capabilities and new product applications. In the spirit of dynamic capabilities, new combinations of resources lead to innovation and economic value creation. Large firms are expected to have this more than small firms.

3.4. Economic Theory

Economic theory prescribes that increasing firm size allows for incremental advantages because the size of the firm enables it to raise the barriers of entry to potential entrants as well as gain leverage on the economies of scale to attain higher profitability. The size of a firm affects performance in many ways. Key features of a large firm are its diverse capabilities, the abilities to exploit economies of scale and scope and the formalization of procedures ([Nzioka, 2013](#)).

3.5. Research Design

This study adopts a descriptive research design using a cross-sectional panel data conducting OLS regression and Fixed/Random effect regression analysis to explore the influence of firm size on the financial performance of deposit money banks quoted on the Nigeria stock exchange.

3.6. Target Population and Sample Size

The target population of this study was all the 22 Deposit Money Banks in Nigeria as at 31st December 2016. The banking sector was selected as the target of this study due to its strategic location as the driver and financier of economic development and growth in Nigeria and 2005 to 2016 study period was considered to examine the influence in the post capitalization period.

The sample size of five deposit money banks is taken with the aid of Yameni sampling technique. The sampled deposit money banks are Union Bank plc, United Bank for Africa plc, First Bank of Nigeria plc and Zenith bank plc and Eco Bank plc. This study used purely secondary data. This data was collected from the annual financial report as audited by the independent auditor which is the major secondary data source for banks in Nigeria. Firm size was measured using log of total assets while financial performance was measured using Return on Assets (ROA).

$$ROA_{it} = \beta_0 + \beta_{FS}it + \varepsilon$$

Where, ROA= Performance of deposit money banks as measured by Return on assets

B₀= Constant

β_{FS} = coefficients of the independent variables (Firm Size)

ε = Error term

The tests were done at a significance level of 5%. A correlation analysis was done to establish how firm sizes are correlated to firm performance. Analyzed data was presented in tables.

4. Result and Discussion

Table-A1. Descriptive Statistics for Roa and Fsiz

Variable	Obs	Mean	std.Dev.	Min	Max
roa	60	.135	2.363822	-9.9	9.2
fsiz	60	.8228333	2.10116	.02	8.3

Source: Researcher's computation using STATA V.12

Table A1 present descriptive statistics of the variables of the study. It describes the mean, standard deviation, minimum and maximum value. The average value of return on asset recorded in the period of study is 0.135 and the maximum reached is 9.2. In the case of firm size the average value is 0.823 and the maximum reached is 8.3.

4.1. Regression Analysis

Table-A2. Regression Result

Ind. Var	OLS				FIXED EFFECT			
	Coefficient	Std error	T	P > t	Coefficient	Std error	T	P > t
Constant	0.2158337	.3296552	0.65	0.515	.3613904	.3486594	1.04	0.305
fsiz	-.0982383	.1471566	-0.67	0.507	-.2751352	.1908361	-1.44	0.155
F	0.45							
P- Value	0.5071							
R-Square	0.0076							
Wald chi ²					0.1552			
P- Value								
R Squared								
Within					0.0371			
Between					0.9239			
Overall					0.0076			

Source: Researcher's Computation Using STATA V. 12

Table A2 shows the results of both the OLS and fixed effect regression. The OLS shows the f-value of 0.45 and its P-Value is 0.5071 which means that the overall model is fit. Further, both the OLS and the random effect showed the value of R² as 0.0076 which is the multiple coefficient of determination that gives the proportion or percentage of the total variation in the dependent variable explained by the explanatory variable (firm size). Hence, it signifies that approximately only 8% of total variation in Roa of deposit money banks quoted on the Nigeria stock exchange is caused by firm size.

The regression results as shown in table A2 indicate that firm size in both the OLS and fixed effect regression has negative effect on the financial performance measured by roa but the effect is not statistically significant at 5%.

This implies that as the deposit money banks increases in size, the financial performance reduces. This is a clear indication of the fact that some increases in size of firms brings about diseconomies of scale instead of economies of scale the large firm enjoys and as a result brings down the level of performance. This result is consistent with the findings of Olawale *et al.* (2017), Shepherd (1972), Goddard *et al.* (2006) and Mohamed (2015). On the other hand, this finding contradicts the findings of Nzioka (2013), Maja and Josipa (2012), Abondo (2013), Dogan (2013), Ngumo *et al.* (2017), Mehrjardi (2012), Salim (2012), Akinyomi and Olagunju (2013), Obigbemi *et al.* (2015), Ravenscraft and Scherer (1987) and others.

Therefore fixed effect regression line $roa = .3613904 - .2751352fsiz$ indicates that the financial performance reduces with an increase in firm size and increases with decrease in firm size but there is no statistical evidence to suggest that the effect is significant since the P- value is greater than the significant level of 0.05

Table-A3. Correlation Result

	ROA	Fsiz
roa	1.0000	
fsiz	-0.0873	1.0000

Source: Researcher's Computation using STATA V.12

The correlation result indicates that there is a negative effect of firm size on financial performance of deposit money banks quoted on the Nigerian stock exchange but the effect is not statistically significant.

5. Conclusion

The study has examined the influence of firm size on financial performance of deposit money banks quoted on the Nigerian stock exchange. The finding of the study indicates insignificantly negative influence of firm size on the financial performance of deposit money banks quoted on the Nigerian stock exchange. This result is consistent with the findings of Olawale *et al.* (2017), Shepherd (1972), Goddard *et al.* (2006) and Mohamed (2015). On the other hand, this finding contradicts the findings of Nzioka (2013), Maja and Josipa (2012), Abondo (2013), Dogan (2013), Ngumo *et al.* (2017), Mehrjardi (2012), Salim (2012), Akinyomi and Olagunju (2013), Obigbemi *et al.* (2015), Ravenscraft and Scherer (1987) and others. The study has provided empirical evidence that there is no statistical evidence to suggest that firm size has significant influence on the financial performance of deposit money banks quoted on the Nigerian stock exchange.

6. Recommendation

Based on the findings from the study where the study observed that firm size has negative and insignificant effect on financial performance of deposit money banks quoted on the Nigerian stock exchange, it is therefore recommended that the banking industry should minimize the cost associated with expansion and adopt every possible strategy to utilize maximum benefit of economies of scale. Nigerian deposit money banks should consider other quantitative and qualitative factors towards improving the financial performance rather than relying on firm size which has insignificantly negative effect.

6.1. Suggestions for Further Study

This study focused on the influence of firm size on financial performance of deposit money banks quoted on the Nigerian stock exchange. The size variables used in the study included log of total assets. Another study that incorporates other size variables such as branch network, number of deposit accounts and number of loan accounts is suggested. This would shed more light on how these size variables are related to financial performance. This study had only one explanatory variable (firm size) that was used to measure performance: return on assets.

Further studies that incorporate other performance factors, including return on equity and riskiness of assets is recommended to give a clearer picture on how these performance factors are affected by size. Another study is also recommended that could factor in other bank performance measures such as asset quality, Tobin Q, Capital adequacy ratio and return on equity in addition to the performance measure utilized in this study.

The current study was conducted on deposit money banks quoted on the Nigerian stock exchange. There is therefore need for a similar study to be carried out in other sectors of the economy. The sectors that may be considered for study include the manufacturing sector or telecom sector to establish whether size variables affect financial performance.

Lastly, financial performance is affected by very many variables. This may include management quality, corporate governance, reward systems and years of operation among others. Future research should be conducted to establish how these other variables come into play to influence financial performance.

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