Impact of Assets Structure on Financial Performance of Quoted Construction Firms in Nigeria

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Abstract
This study examined the relationship between asset structure and financial performance. The study used the secondary data from the retrieved from the various websites of the quoted construction firms in Nigeria from 2012 to 2018. A document review guide was used to collect the secondary data that are fit for the study from the financial statements of the quoted construction firms under study. The financial performance was analysed using Return on Asset (ROA) and Earnings per Share (EPS), this formed the dependent variables. The independent variable of adopted was the asset structure measured using the Fixed and Current Asset. The variables were validated by conducting descriptive statistics, correlation test and the unit root test using the Augmented Dickey Fuller (ADF). Two simple regression models were employed for the study and were analysed with the aid of a statistical program (Eviews 11). The results of the study indicated that fixed asset have a positive and significant impact on return on asset. Also, the study found that current asset have positive and significant impact on earnings per share. The study recommends that the construction firms should limit debtors as it greatly affects the current asset, invest more money in fixed assets as this will also increase the profitability of the firms and will in the long run maximize the return on asset (ROA) and Earnings per Share (EPS) and firms should avoid keeping non-performing funds.

Keywords: Return on asset, earnings per share, fixed asset, current asset, construction firms

1. Introduction

Assets Structure is defined as those items that are acquired presently that will bring returns in the future. United States Financial Accounting Standards Board Concepts Statement 6, defined assets as "probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events". Also, the United States Institute of Management Accountants defined assets as "any owned physical object (tangible) or right (intangible) having economic value to its owners; an item or source of wealth with continuing benefits for future periods, expressed, for accounting purposes, in terms of its cost, or other value, such as current replacement cost". This study adopts the definition of Koralun-Bereźnicka, (2013) [8] of Asset structure since it was explicitly disaggregated into its functions (Fixed and Asset) (Peterson, 2002) [15].

Financial performance can be defined as the ability of an economic unit to earn new resources from daily operations over a given period of time. Its major objective is to enhance shareholders' wealth and firm's value; financial performance analysis is vital for the triumph of an enterprise (Pandey, 2005) [14].

Asset structure is seen as one of the crucial strategies used to attain profitability and to understand the financial performance of an organization. Assets structure captures two categories, the non-current asset (fixed asset) and the current

asset. However, it seems as if concentration on the impact of assets structure on financial Performance of quoted construction firms in Nigeria have not being enough as many research studies have focused on the manufacturing and banking sectors for example, the studies of Okwo, Ugwunta and Nweze (2012) [12], Ishmael and Kehinde (2013) [7] and Olatunji and Adegbite (2014) [13] have only focused on either investment in fixed asset and financial performance or investment in current asset and financial performance.

The general objective of this study is to assess the impact of assets structure on financial performance of quoted construction firms in Nigeria. The specific objectives are: to examine the impact of fixed asset of the quoted construction firms in Nigeria on Return on Asset (ROA) and to examine the impact of current asset of the quoted construction firms in Nigeria on Earnings Per Share (EPS). The following questions were asked: is there any significant relationship between the fixed asset of the quoted construction firms in Nigeria and Return on Asset (ROA) and is there any significant relationship between the current asset of the quoted construction firms in Nigeria and Earnings Per Share (EPS)? while these hypothesis were formulated in the null form: there is no significant relationship between the fixed asset of the quoted construction firms in Nigeria and Return on Asset (ROA) and there is no significant relationship

between the current asset of the quoted construction firms in Nigeria and Earnings Per Share (EPS).

2. Materials and Methods

Assets Structure: Peterson, (2002) [15] simply stated that assets are those items of value acquired today that will bring future returns. There is a classification that sees total assets as either non-current assets (fixed assets) or current assets. Other classifications are usage (operating and non-operating assets) and physical existence (tangible or intangible assets). In order to maintain its activity, firms typically need these two types of assets, fixed assets and current assets.

Fixed Asset: These are the non-current assets that cannot be converted into cash during a year of running a business. Fixed Asset includes the property, plant and equipment: land, buildings, furniture and fitting, computers, equipment of manufacturing and other assets which can last for longer periods of time. These assets are more revenue generators than the current assets but the risk involvement is more than in the current assets as it is difficult to convert them into cash and also this involves huge initial capital outlay (Scott, 2003) [16].

Current Asset: These are assets that can be converted into cash during the normal production cycle. A normal production cycle is one year, that is, twelve months. Current physical assets are sometimes referred to as convertible assets. These are physical assets such as stock of raw materials, stock of work-in progress, stock of finished goods, and goods held for resale. (Chan and Sougiannis 2008) [3].

Financial Performance: Bhunia, Mukhuti and Roy, (2011) [2] defined financial performance as firm's overall financial health over a given period of time. Financial performance of a firm for a period can be ascertained through the process of financial performance analysis.

Return on Asset (ROA): ROA is the best financial scorecard of a company's health and an indicator of how its decisions play out. The return on assets ratio, often called the return on total assets, is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. In other words, the return on assets ratio or ROA measures how efficiently a company can manage its assets to produce profits during a period (Delloite University Press, 2013) [21].

Earnings per Share (EPS): Earnings per share is a company's profit divided by the number of common stock shares it has outstanding. EPS shows how much money a company makes for each share of its stock. A higher EPS indicates more value because investors will pay more for a company with higher profits (Corporate Finance Institute, 2019).

The Theory of Constraints (TOC): The basic theory of this study is the throughput accounting theory of constraints, propounded by Tiyahu. M. Goldratt in 1986. The Theory of Constraints is based on the precept of using scientific principles and Logic in guiding human based organizations in carrying out their decision making processes. The main aim of the TOC is to assist organizations in achieving their goals, as well as helping them to continue doing so through changing times. In a nutshell, TOC is a recipe for change. The TOC is

based on the assumption that every organization has, at any given time, at least one limiting factor (or constraint) that reduces its performance and prevents it from accomplishing its goals. This could be in term of sufficient fixed and current assets investment. Insufficient investment in fixed and current assets may hinder management from achieving the degree of their desired profitability.

Based on these theories, this study works on the view that with sufficient assets, management may reduce risk and bankruptcy cost, thus improving the financial performance of the firm.

The Pecking order Theory: This theory was expanded by Myers in 1984 (Myers, 1984) [20]. It is rooted in investment and corporate finance decisions when organizations are exposed to the information not opened to them (Frank, Goyaland and Vidhan 2011) [5].

It quotes that companies prioritize their sources of spending in respect to the cost of financing and raising equity as a financing object of last resort. It was as a result of the idea of information, that retained earnings are considered first in the financing pecking order since they are cheaper and are rarely affected by information asymmetry. Secondly, debt carrying low asymmetry is considered next which serves as a monitoring agent against wasteful expenditure by the management. Finally, external equity is used as a last resort because of its imminent adverse effect in selection (Ayot, 2013) [1].

Demir (2005) [4] studied the association among completion, higher risks and uncertainty competition for 172 manufacturing firms in Turkey for a period covering 1993 to 2003, investment in financial assets or fixed assets, and their effect on the profitability. He concludes that increasing short-term financial investments are bound to reduce the negative effects of volatility, higher interest rates and risk at a significant level while the increasing uncertainty, country risk and real interest rates have a significantly negative effect on the profitability of the manufacturing. Their study is in consistent with the submission of Svetana and Aafo (2012) [17] that fixed asset investment impact positively profitability.

Iqbal and Mati (2012) [6] studied the nexus between firm's profitability and noncurrent assets of the companies which are non-financial companies. Multiple regression analysis was used to find out the impact of noncurrent on profitability. The study concluded that there is a relationship between non-current asset and firm's profitability. However, the expectation is that their study adopts the simple regression analysis and not the multiple regression analysis since they used only current asset and it was aggregated.

Studies on the link between the general asset structure and financial performance also exhibits mixed results. The study by Mawih (2014) [10] studied the effect of assets structure (fixed assets and current assets) on the financial performance of some manufacturing firms quoted on the Muscat Securities Market (MSM), for the period covering 2008-2012. The assets structure was measured by current assets turnover and fixed assets turnover while the financial performance was measured by Return on Asset and Return on Investment. The finding of the study was that the structure of assets does not have a strong impact on profitability in terms of ROE. Another result of the study indicated that only the fixed assets had impact on ROE unlike ROA. Further, the findings suggested that asset structure has an effect on ROE only in Petro-Chemical sector. It also affirmed that there was no effect of current assets on ROE and ROA. On the other hand,

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the study by ZhengSheng and NuoZhi (1997) [19] on the optimal allocation of Asset Structure and business performance concluded that asset structure had more application value and significant meaning in explaining the financial performance. The result is consistent with the study of Kotšina and Hazak (2012) [9].

Sveltana and Aaro (2012) [17], studied the degree at which investment in fixed assets is associated to the return on assets (ROA) sampled firms in the European Union (EU) Member States. A sample of 8,074 firms was used for the study using a period of nine (9) years from 2001-2009. The study used multiple regression model to analyze the association between the independent variable (level of investment on fixed asset) and dependent variable (ROA). The findings showed a strong positive relationship between the level of fixed asset investment and return on asset (ROA). The study disagrees with the study of Mawih (2014) [10].

The population of this study is the 8 (eight) quoted construction firms: Arbico Plc, Julius Berger Nig. Plc, Roads Nig Plc, Skye Shelter Fund Plc, Skye Shelter Fund Plc, Smart Products Nigeria Plc, UACN Property Development Company, Union Homes Real Estate Investment Trust and UPDC Real Estate Investment Trust; the sample size is seven (7) quoted construction firms (Arbico Plc, Julius Berger Nig. Plc, Roads Nig Plc, Skye Shelter Fund Plc, Smart Products Nigeria Plc, Union Homes Real Estate Investment Trust and UPDC Real Estate Investment Trust) this is as a result that one quoted construction company does not have a complete annual report relating to the scope of this study. The variables used for the purpose of this study, are the independent and dependent variables. The independent variables are assets structure while the dependent variable is the financial performance. The independent variable "assets structure" will be measured using the fixed asset and current asset while the dependent variable will be measured using the Return on Asset (ROA) and Earning per Share (EPS). In an attempt to establish empirical evidence on the impact of assets structure on financial performance of quoted construction firms in Nigeria, Mwaniki and Omagwa, (2017) [11] model of financial performance was adapted-Y(ROA)= f(fxdasst), Y(ROE)= f(crtasst). Mwaniki and Omagwa, (2017) [11], used only two components of fixed asset and aggregated current assets.

This study will expand on the scope of their model by capturing the aggregate fixed asset to adapt their model. Therefore, the simple regression equations of this study are as follows: ROA = α_0 + $\beta_1$fxasstt + ε_t…2a, EPS = α_0 + $\beta_1$crasstt + ε_t…2b, Where Y = Financial Performance, ROA = Return on Asset, EPS = Earnings Per Share, α_0 = Intercept, β_1 = Regression of the coefficient of the independent variable, fxasst = Fixed Asset, crasst = Current Asset, ε =

Error Term, t = Time (Annual). The apriori expectations of the variables are given as (β_1-fixed asset and β_1-current asset) > 0. This implies that the independent variables are assumed to have positive impact on the dependent variable (financial performance - ROA and EPS). The regression Model for this study is: $ROA_t/EPS_t = \alpha_0 + \beta_1(fxasst + crasst)_t + \varepsilon_t$

The statistical method used for this research work on data collected is the regression analysis using the Ordinary Least Squares of the E-Views 11 and it is used for time series estimatio n and forecasting and also, to test the hypothesis which is used to show the relationship between two variables. The correlation analyses was performed using the Correlation Matrix. DF = 1, 5 and 10, where DF = Degree of freedom at 1%, 5% and 10% level of significance was used to test the hypotheses using the Generalized Least Square. The regression analysis used is most suited such as in this case. The Ordinary Least Squares was employed for the regression analysis.

3. Results

Table 7 showed that the coefficient of Fixed Asset is in line with apriori expectation which is the explanatory variable should be greater than 0. Fixed asset has a positive co-efficient of 1.28 which denotes that a unit increase in fixed asset will increase the return on asset by 128%. The fixed asset is significant in explaining the return on asset p-value is less than 0.05 (0.0217 < 0.05). This study therefore reject the null hypothesis 1. The co-efficient of determination as revealed by R-square (R^2) indicates that 30% of the variation observed in the dependent variable-ROA is justified by the influence of the explanatory variable-fixed asset and the other 70% is attributed to other factors not included in the model. The F-statistics which test the goodness of fit has value of 215.7. The Durbin-Watson is 0.95.

The above table 8 showed that the coefficient of Current Asset is in line with apriori expectation which is the explanatory variable should be greater than 0. Current asset has a positive co-efficient of 2.11 which denotes that a unit increase in fixed asset will increase the return on asset by 211%. The current asset is significant in explaining the return on asset p-value is less than 0.05 (0.0491 < 0.05). This study therefore reject the null hypothesis 2. The co-efficient of determination as revealed by R-square (R^2) indicates that 52% of the variation observed in the dependent variable-ROA is justified by the influence of the explanatory variable-current asset and the other 48% is attributed to other factors not included in the model. The F-statistics which test the goodness of fit has value of 4.59 and the Durbin-Watson is 2.73.

Table 1: Annual Reports of the quoted construction firms in Nigeria showing their total assets and performances

Year	Fixed Asset (₦'000)	Current Asset (₦'000)	Total Assets (₦'000)	Net Income/(Loss) (₦'000)	Total Number of Capital Stock Shares (₦'000)
2011	413,445,564	430,360,361	843,805,925	-	29,620,083
2012	420,455,645	394,902,679	815,358,324	16,568,448	36,141,680
2013	567,223,145	348,290,892	915,514,037	16,334,776	36, 108,973
2014	809,546,332	507,153,208	1,316,699,540	17,577,388	37,259,942
2015	904,125,889	513,793,087	1,417,918,976	18,712,610	35,263,627
2016	689,322,199	532,423,918	1,221,746,117	20,666,490	41,327,596
2017	678,289,327	440,680,110	1,118,969,437	23,530,688	43,435,723
2018	679,556,700	440,202,891	1,119,759,591	27,532,907	45,517,577

Source: Quoted construction firms in Annual Reports 2012-2018

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Table 2: Data for ROA, EPS, Fixed Asset and Current Asset

Year	ROA	EPS	Fixed Asset	Current Asset
2012	0.0199720407548	0.4584304880127	420,455,645	394,902,679
2013	0.0188746164859	0.4523744278188	567,223,145	348,290,892
2014	0.0157488406854	0.4717502780868	809,546,332	507,153,208
2015	0.0136857187871	0.5306490452612	904,125,889	513,793,087
2016	0.0156584182249	0.5000651380738	689,322,199	532,423,918
2017	0.0201055510224	0.5417358426380	678,289,327	440,680,110
2018	0.0245969089207	0.6048851633732	679,556,700	440,202,891

Source: Quoted construction firms in Annual Reports 2012-2018 and Author's Computation (2020)

Table 3: Descriptive Statistics

	ROA	EPS	Fixed Asset	Current Asset
Mean	0.018377	0.508555	6783594	4539209
Median	0.018874	0.500065	6795566	4406801
Maximum	0.024596	0.604885	9041252	5324239
Minimum	0.013685	0.452374	4204555	3482908
Std. Dev	0.003669	0.054717	1566147	6780539
Skewness	0.511973	0.836695	0.268917	0.404037
Kurtosis	0.004059	0.101284	0.395056	-1.08270
Jarque-Bera	3.946758	0.927730	0.189954	0.18995
Probability	0.051130	0.628849	0.909394	0.90939
Sum	0.128642	3.559890	4748519	3177441

Source: *Eviews 11 result, 2020*

Table 4: Test of Stationarity-Unit Root Test Using the Augmented Dickey Fuller

Variables	In Level I(0) ADF	First Difference I(I) ADF	Order of integration
ROA	-2.463159	-11.75927***	I(1)
EPS	-3.362741	-2.580062***	I(1)
Fxasst	-1.346478	-2.562356***	I(1)
Crasst	-1.257727	-1.345722***	I(1)

Source: Eviews 11 at ***1% level of significance

Table 5: Correlation Matrix of the Variables (Dependents and Independents)

	ROA	FXASST
ROA	1	
FXASST	0.261848	1

Source: Eviews 11 result, 2020 at ***1% level of significance,

Table 6: Correlation Matrix of the Variables (Dependents and Independents)

	EPS	CRASST
EPS	1	
CRASST	0.54907	1

Source: Eviews 11 result, 2020 at ***1% level of significance,

Table 7: Test of Hypothesis 1 (Regression analysis for ROA and Fixed Asset)

Dependent Variable: ROA
Method: Ordinary Least Squares
Date: 02/03/20
Time: 01:17
Sample: 2012-2018
Included observations: 7

	Coefficient	Std. Error	t-Statistic	Prob.
C	0.027103	0.006074	4.462001	0.0066
Fixed Asset	1.286330	8.756543	1.468991	0.0217
R-squared	0.301474	Mean dependent var		0.072888
Adjusted R-squared	0.161769	S.D. dependent var		0.067971
S.E. of regression	0.003359	Akaike info criterion		-2.379832
Sum squared resid	0.000056	Schwarz criterion		-2.398086
Log likelihood	9.979408	Hannan-Quinn criter.		-2.574442
F-statistic	2.157937	Durbin-Watson stat		0.958038
Prob(F-statistic)	0.201775			

Source: *Eviews 11 result*

Table 8: Test of Hypothesis 2 (Regression analysis for EPS and Current Asset)

Dependent Variable: EPS
Method: Ordinary Least Squares
Date: 02/03/20
Time: 03:05
Sample: 2012-2018
Included observations: 7

	Coefficient	Std. Error	t-Statistic	Prob.
C	0.412639	0.057848	2.585376	0.5705
Current Asset	2.113055	3.482998	0.606677	0.0491
R-squared	0.524431	Mean dependent var		0.547111
Adjusted R-squared	0.465611	S.D. dependent var		0.577314
S.E. of regression	0.318397	Akaike info criterion		0.816267
Sum squared resid	0.734555	Schwarz criterion		0.868252
Log likelihood	-1.345715	Hannan-Quinn criter.		0.878290
F-statistic	0.368057	Durbin-Watson stat		2.738110
Prob(F-statistic)	0.045972			

Source: *Eviews 11 result*

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4. Discussion

The findings on the study of the impact of assets structure on the performance of construction firms in Nigeria shows that the fixed asset is positive and significant in determining the ROA. The finding supports Sveltana and Aaro (2012) [17], Iqbal and Mati (2012) [6], who found a positive impact of fixed asset on ROA, but disagreed with Kotšina and Hazak (2012) [9] who found a negative impact of fixed asset on ROA. The second model of EPS-Current Asset also showed a positive and significant response in determining the EPS; the finding supports Mwaniki and Omagwa, (2017) [11] and Mawih (2014) [10] who found the same finding with this study.

5. Conclusion

In conclusion from the study on the impact of assets structure on the financial performance of quoted construction firms in Nigeria fixed asset has a positive and significant impact on the financial performance (ROA). Also, current asset has a positive and significant impact on the financial performance (EPS). A one unit increase in fixed asset and current increases the ROA and EPS by 1.28 and 2.11 units respectively. The study further concludes that the assets structure considered in this study are important variables in explaining the financial performance of the quoted construction firms under study.

5.1. Recommendations
Based on the findings, the following recommendations are presented

i) These construction firms should limit debtors as it greatly affects the current asset; they should focus on utilizing the existing ones effectively for them to improve on their financial performance.

ii) Construction firms in Nigeria should invest more money on investment in fixed assets. This will also increase the profitability of the firms and will in the long run maximize the return on asset (ROA) and Earnings per Share (EPS).

iii) Finally, this study in the light of the finding also recommends that construction firms should avoid keeping non-performing funds.

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