DETERMINANTS OF EFFICIENCY IN PENSION FUND ADMINISTRATORS IN NIGERIA

AHMED, Ibrahim Abdullahi
Department of Business Administration,
Nasarawa State University Keffi

OPUSUNJU, Michael Isaac
Department of Business Administration
Nile University of Nigeria

ABSTRACT

This study investigated determinants of efficiency of pension fund administrators in Nigeria. The study used ex-post facto research design. The population of the study comprised 21 pension fund administrators registered by the National Pension Commission in Nigeria. The study used purposive sampling method to select 10 registered Pension Fund Administrators. The study collected data from the companies' financial statements and used panel regression to analyze the data. The study found that determinants of efficiency of listed Pension administrators in Nigeria include short term debt to total and total debt to total asset. Total debt to total asset was found to have a negative and statistically significant effect on efficiency of pension administrators in Nigeria. The study recommends that pension fund administrators in Nigeria should to obtain short term debt and also ensure more realization of total asset since it can enhance efficiency. Total debt to total asset should be maintained in order to increase efficiency of pension fund administrators.

Keywords: Efficiency, pension fund administrators, short term debt to total asset, total debt to total asset

INTRODUCTION

Efficiency in pension fund administration has attracted increased research attention, given the important roles pension administrators plays in an economy; and has been a key target that banking sector regulations seeks to achieve (Husain & Abdullah, 2008). Also, equity and debt choice has been and will continue to be vital management decision of firms. Hence pension fund administrators need to pay attention to optimal capital structure, failure to which, they may not be able to use available resources economically. The efficiency of any firm is directly influenced by capital structure decisions, thus making it a vital managerial decision (Iswatia & Anshoria, 2007). Capital structure decisions involve the decisions about the combination of sources of funds a firm uses to finance its operations and capital investments. These sources include debt financing and equity financing. One of the most important goals of financial managers is to maximize shareholder's wealth through determination of the best combination of financial resources for a company and maximization of the company's value by determining where to invest their resources.

Over the years, the government of Nigeria implemented Pension Reform Act of 2004 and the new Pension Reform Act 2014 which stipulated that Pension Fund Administrators helped in opening Retirement Savings Account (RSA) for employees; invest and manage pension fund assets; payment of retirement benefits and account for all transactions relating

to pension funds under their management. The Pension Fund Administrators registered with PENCOM indicate a good capital structure (mix of debt and equity) that can lead to efficiency in terms of input and output. However, despite the use of short term debt to total asset, total debt to total asset and total debt to total equity as determinants of efficiency, pension administrators hardly pay pensioners promptly with the desired returns, due to inefficiency in the use of input to realize output.

Prior studies have investigated determinants of organizational in Nigeria, Kenya, and the USA, using various organizations such as their data base (Ekpulu & Bingilar, 2016; Ezugwu & Alex, 2016; William, Shaibu, & Roger, 2015; Aja, 2014; Millicent, 2013; Sanni, 2012; Adeoti, Gunu, & Tsado, 2012; Tsado & Gunu, 2011; Isaac, 2009; Sule & Ezugwu, 2009; Abdullahi, 2007). However, none of these studies focused on pension fund administrators. Thus, this study seeks to fill the research gap by investigating determinants of efficiency of pension fund administrators. The scope of the study covers a period of 5 years (2015-2019). This period is chosen, in order to cover the current issues on Pension Fund Reform Act of 2004 and Pension Amendment Act of 2014 in Nigeria. The study surveyed only the officially registered Pension Fund Administrators by National Pension Commission (PENCOM) from 2004-2017. This period was chosen because it was the period when most of the reforms of Pension Fund Administration in Nigeria took serious effect.

As earlier stated, the objective of this study was to examine the determinant of efficiency of pension fund administrators in Nigeria. The specific objectives are to:
1. Examine the effect of short term debt to total asset on efficiency of pension fund administrators in Nigeria;

2. Determine the effect of total debt to total asset on efficiency of pension fund administrators in Nigeria; and

3. Evaluate the effect of total debt to total equity on efficiency of pension fund administrators in Nigeria.

The following null hypotheses were formulated to guide the study:
H_{o1}: Short term debt to total equity has no significant effect on efficiency of pension fund administrators in Nigeria.
H_{o2}: Total debt to total equity has no significant effect on efficiency of pension fund administrators in Nigeria.
H_{o3}: Total debt to total equity has no significant effect on efficiency of pension fund administrators in Nigeria.

LITERATURE REVIEW

Determinants of Efficiency
Several determinants of efficiency in accounting discourse exist. However, this study aligns with Akinsulire (2014), and Semiu and Collins (2011) in adopting total debt to total assets, total debt to total equity and short term debt to total assets as determinants of efficiency.

Total Debt to Total Assets

The total debts to total assets measure the amount of total funds provided by creditors in relation to the total assets of a firm. Generally, creditors would prefer low ratio for all debts because the lower the ratio, the greater is the cushion against creditors losses in the event of liquidation. Total debt to total assets is a debt ratio that defines the total amount of debt relative to assets. This enables comparison of debt to be made across different companies. It is a broad ratio that includes long-term and short-term debts; as well as all tangible and intangible assets (Akinsulire, 2014). Debt ratio is a solvency ratio that measures a firm's total liabilities as a percentage of its total assets. In a sense, the debt ratio shows a company's ability to pay off its liabilities with its assets. Companies with higher levels of liabilities compared to assets are considered highly indebted and riskier for lenders. It helps investors and creditors analyze the overall debt burden on the company as well as a firm's ability to pay off its debt in the future, especially, during uncertain economic times. The debt ratio is calculated by dividing total liabilities by total assets. Both of these numbers can easily be found in the balance sheet. A lower debt ratio usually implies a more stable business with the potential of longevity. Each industry has its own benchmarks for debt, but 0.5 is reasonable ratio (Ojo, 2012). Firms with higher debt ratios are better off looking to equity financing to grow their operations. Debt ratios measure a firm's ability to repay long term debt. It is a financial ratio that indicates the percentage of a company's assets that are provided via debt. It is the ratio total debt, the sum of current liabilities and long term liabilities and total assets as well as the sum of current asset, fixed assets and other assets such as goodwill (Semiu & Collins, 2011).

Total Debt to Total Equity
Total debt to total equity ratio measures the proportion of creditors fund in relation to shareholder's fund. Creditors would like this ratio to be lower; because the lower the ratio, the higher the level of firm's financing that is being provided by shareholders and the larger the cushion (margin of protection) in the event of shrinking asset values or outright losses. This is a measure of how much suppliers, lenders, creditors and obligors have committed to the company versus what shareholders have committed (Kurfi, 2003). Total debt to total equity refers to the ratio of debt to equity capital of a company. As a result of the payment of interest and repayment of principal amount of the debt, a large part of the firm's cash flow would decrease (Magpayo, 2011). A higher debt to equity ratio indicates that more creditors' financing is used than investors financing. The debt to equity ratio is considered a balance sheet because all of the elements are reported on the statement of financial position.

Short Term Debt to Total Assets
This measures how relative short-term debts to total assets of a firm are to be repaid within an accounting period. Scholars argue that the shorter the debt, the better the firm is in improving its performance. The short term debt to total assets ratio is a measure of the financial leverage of the company. It tells what percentage of the assets is financed by short term debt. Short term debt is debt due for repayment within or less than 12 months and is not included in the long term liabilities figure on the statement of financial position. It includes creditors and accruals (Akinyomi, 2013). Short term debt to total assets ratio shows the percentage of company assets that are financed with loans and other financial obligations that last about a year. The short term debt ratio is calculated by dividing current liabilities by total assets. Both of these numbers can easily be found in the balance sheet. A

lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has short term debt.

Concept of Efficiency

The efficiency of an enterprise is measured by its ability to produce output with minimum cost or making maximum profit. The issue of technical efficiency (TE) was first introduced by Kumbhakar and Lovell (2000), who stipulated that efficiency is the ability to produce or get the maximum output from a set of input (output oriented) or to produce output using the lowest amount of input (input oriented). The issue of efficiency is often associated with the quality of labor or human capital, which is often identified as the main input in production of output, and helping the process of economic growth. An increase in human capital investment through education and training will produce a more knowledgeable labor force. The evaluation of efficiency in the banking sector is essential in the assessment of financial soundness and resilience, and provides useful information which can be used to stimulate economic growth, since banking institutions are the main financial intermediaries that mobilize funds from diverse sources and allocate them to more productive activities.

Efficiency is three fold, comprising productive or technical efficiency, allocative efficiency and cost or economic efficiency (Coelli, Rao, O'Donnell, & Battese, 2005; Debreu, 1951; Farrell, 1957; Koopmans, 1951). In computing technical efficiency score, single or multiple inputs and outputs are required (Coelli *et al.*, 2005). In addition, inputs' prices are needed to compute allocative efficiency. A multiplication of technical efficiency and allocative efficiency yields economic efficiency. There is also the notion of frontier efficiency, where a best performing firm is identified and its efficiency value is one; a deviation from the best performing or inputs is what gives inefficiency levels. Therefore, frontier efficiency is relative. When maximum output is obtained from a given input or inputs used, the efficiency is technical. On the other hand, when inputs are used in optimal ratios, allocative efficiency is determine; and where inputs are reduced to produce a given output, technical efficiency is input-oriented, but where given inputs are employed to raise output level, technical efficiency is output-oriented (Coelli *et al.*, 2005).

EMPIRICAL STUDIES

Mercedes and Joaquín (2019) analyzed factors accounting for technical efficiency of Spanish industrial firms from 1991-1994 using the Survey of Business Strategies (SBE) of the Ministry of Industry and Energy. They analyzed whether efficiency can be explained by factors external to the firm such as degree of competition, company characteristics (size, organisation, location, participation of public capital, etc.), as well as the effects of dynamic disturbances that may affect the degree of utilization of the productive capacity. Relatedly, Amir, Qin and Muhammad (2016) examined technical efficiency of SMEs in export-oriented surgical instruments cluster of Pakistan. The study observed prevalence of technical inefficiencies. Indirect inputs, labor, material and energy were found to be significant determinants of technical efficiency.

Eriki and Osagie (2015) examined determinants of performance efficiency of 19 banks in Nigeria in 2009. Three performance efficiency measures of constant returns to scale (CRS), variable returns to scale (VRS) and scale efficiency models are used by employing the Data Envelopment Analysis (DEA) approach. The estimation process was done using DEA

frontier software. The study found that bank size and age positively relates to bank performance efficiency, while board independence and board ownership structure negatively relates to bank performance efficiency in Nigeria.

Ac-ogbonna (2018) evaluated determinants of technical efficiency of ten privatized manufacturing firms in Nigeria. The study adopted DEA and ordinary least square regression as the techniques of analysis and the period of analysis was five years before and five years after privatization. The study revealed that concentration ratio, size and age of firms essential determinants of technically efficiency. It also shows that, concentration ratio will lead to higher monopoly power, with age firms gain experience and with size, firms gain more strength to control or have a larger share of the market. David and Ernest (2017) examined major determinants of efficiency in the Ghanaian banking industry, using bank specific balanced panel data for 22 banks in Ghana from 2010 to 2016. The study employed Arellano and Bover system generalized method of moment (GMM) estimator to evaluate the determinants of efficiency by regressing micro and macroeconomic variables on two dimensions of bank efficiency: cost and profit efficiency. The results gave an indication that operational cost, credit risk and bank size are the main determinants of cost efficiency in the Ghanaian banking industry; whereas profit efficiency is significantly influenced by operational cost and credit risk.

Tadele (2016) assessed determinants of Ethiopian commercial banks' efficiency. The study was based on secondary source of data. Quantitative data were obtained from published and audited financial statements of commercial banks in the period of 2003 –2012. The result of this study revealed deposit and liquidity has significant positive relationship with commercial banks efficiency. Also, Niringiye, Luvanda and Shitundu (2010) established that firm size relates to technical efficiency of manufacturing firms in East Africa. The results showed a negative association between firm size and technical efficiency in both Ugandan and Tanzanian manufacturing firms. The existence of a positive association between size squared and technical efficiency and a negative association between firm size and technical efficiency in Ugandan and Tanzanian manufacturing firms suggests an inverted U-relationship between firm size and technical efficiency in these countries.

BASELINE THEORY

Agency theory
The agency theory was developed by Jensen and Meckling (1976) who argued that the theory refers to the relationship between a principal, such as shareholders and agents such as the company executives and managers. Shareholders who are the owners or principals of the company, hires the agents to perform work. Principals delegate the running of business to the directors or managers, who are the shareholder's agents. Although managers are said to be rational, but cannot be trusted to remain faithful by always acting in the best interest of the principal since they are also presumed to be self-interested (Williamson, 1975). Therefore, managers must be controlled to avoid moral hazard using some risk-bearing and monitoring mechanisms that checkmate their deviant behaviours. The theory explains how best the relationship between agents and principals can be tapped for purpose of governing a corporation to realize its efficiency. Interest on agency relationship became more prominent with the emergence of the large corporation.

METHODOLOGY

This study adopted an ex-post facto research design. The population of the study consisted registered Pension Fund Administrators in Nigeria, which according to the National Pension Commission (2018) are 21 in numbers. The study used purposive sampling method to select the sample size from the population of the study by considering Pension Fund Administrators that was established on or before the year 2004. The study period begins from 2014 to 2019. Pension Fund Administrators established after 2004 were not considered in the study.

Table 1: Sample Size of the Study

Name Pension Fund Administrator	Years of Establishment
NPF Pension manager Limited	2004
Oak Pension manager Limited	1997
AXA Pension manager Limited	1989
Crusader Pension manager Limited	1990
Fidelity Pension manager Limited	2004
First Guarantee Pension manager Limited	5 August, 2004
Leadway Pension manager Limited	25th August, 2004
Trust Fund Pension manager Limited	1993
ARM Pension manager Limited	1994
Stanbic IBTC Pension manager Limited	19 May 2004

Source: Author's Selection, 2021

The reason for this selection is that these Pension Fund Administrators have adequate data needed to carry out this study since they have engaged in pension fund activities by observing the rules and principles of Pension Act, 2004 and Amended Act, 2014. The data for the study was extracted from the annual reports of the selected Pension Fund Administrators. The secondary data extracted for the period 2014 to 2019 on short term debt to total asset, total debt to total equity, and total debt to total asset. The study also collected data on efficiency were input: Employees, machinery and equipment cost, research and development cost, total asset and output: Operating revenue, net income, earnings per share and market value. The study adopted various statistical tools to analyze the data such as measurement of the variables, descriptive statistics, and correlation analysis and panel regression.

Table 2: Measurement of the Variables

Variables	Measures	Authors

Determinants of Efficiency in Pension Fund Administration	short term debt to total asset, total debt to total equity, total debt to total asset	self-conceptualization
Capital structure	Long-term debt to total asset, short term debt to total asset, total debt to total equity, total debt to total asset, equity.	Self-selection
STDTA	Short term debt/total asset	Akinyome (2013)
TDTE	Total debt/total equity	Kurfi (2003)
TDTA	Total debt/total asset	Ojo 2012
Efficiency	Input and output	Berhan, 2015; Tana et al. 2013
Input	Employees, machinery and equipment cost, research and development cost, total asset	Self-selection and pilot study
Output	Operating revenue, net income, earnings per share and market value	Self-selection and pilot study

Panel Regression

Panel regression technique is used for this study given its superiority over pure cross section or pure time series. The selection of variables for the estimated model was guided by relevant theories and existing empirical studies on the subject. Verbeek (2004) sets out the framework for panel study as:

$$y_{it} = \alpha + x_{it}\beta_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots 1$$

There are several advantages of working with panel data. Awunyo-Vitor and Badu (2012) observe that panel data facilitate identification of effects that cannot be detected using purely cross-section or time series data. According to Greene (2003) however, the fundamental advantage of a panel data set is that, it allows the researcher greater flexibility in modeling differences in behavior across individuals.

The models are stated below:

Model 1:

$$\text{EFF}_{it} = \alpha + \beta_1 STDTA_{it} + \beta_3 TDTE_{it} + \beta_3 TDTE + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots 2$$
Where
EFF_t is the efficiency of firm i at time t
$STDTA_{it}$ is short term debt to total asset of firm i at time t
$TDTE_{it}$ is total debt to total equity of firm i at time t
$TDTA_{it}$ is total debt to total asset of firm i at time t
Hausman Test

Haussmann test is carried out to decide which model is most appropriate between fixed or random effects model. It is carried out with the assumption that the null hypothesis is the preferred model. Random Effect Model is the null hypothesis while the alternative is the fixed effects. It tests whether the unique errors (ui) are correlated with the repressors; the null hypothesis is they are not.

Descriptive Statistics of the Variables

Table 3: Descriptive statistics of the Variables

	EFF	STDTA	TDTA	TDTE
Mean	0.155787	0.186555	0.461306	0.518228
Median	0.093723	0.108072	0.197274	0.253694
Maximum	1.438547	1.137345	4.358706	3.984761
Minimum	0.012931	0.012850	0.012782	0.012782
Std. Dev.	0.240071	0.239882	0.728122	0.707204
Skewness	3.557470	2.644734	3.367054	2.753054
Kurtosis	17.14862	9.395923	16.18263	12.00248
Jarque-Bera	627.0143	172.2158	547.8246	278.4046
Probability	0.000000	0.000000	0.000000	0.000000
Sum	9.347205	11.19329	27.67835	31.09369
Sum Sq. Dev.	3.400414	3.395055	31.27953	29.50815
Observations	60	60	60	60

Source: E-view, version 9.00

The mean value of Eff is 0.155and the median value is 0.09. This shows that the presence of an outlier as can be confirm the difference between minimum value and maximum value. This shows that the presence of an outlier as can be confirm the difference between minimum value and maximum value. The mean value of STDTA is 0.188 and the median value is 0.10. This shows that the presence of an outlier as can be confirm the difference between minimum value and maximum value. The study also revealed that the mean value of TDTA is 0.46and the median value is 0.19. This shows that the presence of an outlier as can be confirm the difference between minimum value and maximum value while the mean value of TDTE is 0.51 and the median value is 0.21. This shows that the presence of an outlier as can be confirm the difference between minimum value and maximum value.

Table 4 Correlation Matrix of the Variables

	EFF	STDTA	TDTA	TDTE
EFF	1.000000	0.161768	0.099274	-0.049585
STDTA	0.161768	1.000000	0.573953	0.685540
TDTA	0.099274	0.573953	1.000000	0.651089
TDTE	-0.049585	0.685540	0.651089	1.000000

Source: E-view, version 9.00

Table 4 indicates that there is a negative/positive association between the variables in the study. This implies that there is weak positive association between short term debt and efficiency of selected Pension Administrators in Nigeria. Also, there is weak positive association between total debt to total asset and efficiency of selected Pension Administrators in Nigeria. The finding also revealed that there is weak negative association between total debt to total equity and efficiency of selected Pension Administrators in Nigeria. There is no strong correlation between the variables and then there is no problem of multicollinearity.

Table 6: Hausman Test Result

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.282765	3	0.1522

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
STDTA	0.871781	0.529876	0.030271	0.0494
TDTA	0.019614	0.047840	0.000485	0.1999
TDTE	-0.117028	-0.139465	0.000472	0.3016

Source: Researcher's Computation Using E-Views 9.0, 2021

The Hausman test indicates that random effect model is the most appropriate to fixed effect model given the probability value of more than 0.05. Thus, the null hypothesis which states that random effect model is more appropriate and is accepted.

Table 7: Panel Regression Result
Dependent Variable: EFF
Method: Panel EGLS (Cross-section random effects)
Date: 04/06/21　 Time: 08:26
Sample: 2014 2019
Periods included: 6
Cross-sections included: 10

Total panel (balanced) observations: 60
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.107142	0.057357	1.867972	0.0670
STDTA	0.529876	0.197884	2.677703	0.0097
TDTA	0.047840	0.052739	0.907111	0.3682
TDTE	-0.139465	0.059336	-2.350424	0.0223

Effects Specification				
			S.D.	Rho
Cross-section random			0.127613	0.2927
Idiosyncratic random			0.198389	0.7073

Weighted Statistics			
R-squared	0.664717	Mean dependent var	0.083479
Adjusted R-squared	0.619970	S.D. dependent var	0.215747
S.E. of regression	0.202392	Sum squared resid	2.293898
F-statistic	3.681059	Durbin-Watson stat	1.740107
Prob(F-statistic)	0.017197		

Unweighted Statistics			
R-squared	0.668363	Mean dependent var	0.155787
Sum squared resid	3.201957	Durbin-Watson stat	1.246622

Source: E-view, version 9.00

Decision rule: 5%

The regression result shows that the model is fit for the study since the f-statistics is significant at 5% level of significant. The result also shows that STDTA has positive effect on efficiency of selected Pension Administrators in Nigeria. The study also revealed that TDTA has positive effect on efficiency of selected Pension Administrators in Nigeria while TDTE has negative effect on efficiency of selected Pension Administrators in Nigeria. These effects are significant and insignificant since the P-value are less than 5% or more than 5%. Thus, we can conclude that STDTA has a positive and significant effect on TDTA has positive effect on efficiency of selected Pension Administrators in Nigeria. Also, TDTA has a positive and insignificant effect on efficiency of selected Pension Administrators in Nigeria. It also found that TDTA has a negative and significant effect on efficiency of selected Pension Administrators in Nigeria.

The $R^2 = 0.66$ indicates that only 66% of variation on financial attribute (capital structure) can be used to explain efficiency of selected Pension Administrators in Nigeria but 34% can be explained by other factors not noted in the regression model which is refer to as error term.

DISCUSSION OF FINDINGS

The results of the analysis indicate that determinants of efficiency variables have positive and significant effect on efficiency of listed Pension Administrators in Nigeria. This implies

that short term debt to total asset has a positive and significant effect on the efficiency of listed Pension Administrators in Nigeria. It also revealed that total debt to total asset has a positive and significant effect on efficiency of listed Pension Administrators in Nigeria while total debt to total asset has a negative and significant effect on the efficiency of listed Pension Administrators in Nigeria. The study is in line with Nor *et al*. (2011) and Eriki and Osagie (2015) who found a statistical significant effect of the independent variable on the dependent variable while Dharmendra and Bashir (2015) findings were not in line with the findings of this study.

The study is also in tandem with agency theory which states that managers will not act to maximize returns to shareholders unless appropriate structures are implemented in the large corporation to safeguard the interest of the shareholders. Agency theory posits that management of organization is expected to ensure that the efficiency of the stakeholders is achieved. The management of a firm should set achievable goals and targets and make investment decisions that lead to improved efficiency hence creating an opportunity for the firm to engage in efficient investments.

In Hypothesis 1, the study found that there was a positive and significant effect of short term debt to total asset on efficiency of selected Pension Administrators in Nigeria. This implies that short term debt to total asset is very unique combination of short term debt and total asset which Pension administers used to achieved efficiency using input and output relationship.

Hypothesis 2 revealed that the study found that there was a positive and significant effect of total debt to total asset on efficiency of selected Pension Administrators in Nigeria. This implies that total debt to total asset is very unique combination of total debt and total asset which Pension administers used to achieved efficiency using input and output relationship.

In Hypothesis 3, the study found that there was a negative and significant effect of total debt to total equity on efficiency of selected Pension Administrators in Nigeria. This implies that total debt to total asset is not very unique combination of total debt and total equity which Pension administers used to achieved efficiency using input and output relationship. This implies that the negative effect reduce the efficiency of selected Pension Administrators in Nigeria. The management of selected Pension Administrators in Nigeria is not efficient in carrying assigned task due to total debt to total equity issues in the organization.

CONCLUSION AND RECOMMENDATIONS

In view of the findings and discussions above, the study concluded that short term debt to total asset is very effective and it used in Pension Administration of Nigeria to achieved efficiency which is measured by input and output. The pension fund administrators of Nigeria used a mixed of short term debt and total asset to realized positive and significant effect in efficiency of the organizations. The also concluded that total debt to total asset is also used in the organization to realize increase in productivity which is efficiency in terms of output and input relationship. The positive results of total debt to total asset encourage firms to achieved efficiency in the organizations. The organization used mixed of total debt and total asset as a ratio to achieved statistical significant result. The further concluded that total debt to total equity has a negative effect on the efficiency of pension fund administrators in Nigeria. This negative effect is due to the wrong combination of these

factors which is total debt and total equity (capital structure) and the more debt may result to this negative effect or more equity may result to this negative effect on the efficiency of Pension fund administrators in Nigeria.

The study therefore, recommends that pension fund administrators in Nigeria should continue to obtain short term debt and   also ensure more realization total asset since it can enhance efficiency. Total debt to total asset should be maintained in order increase efficiency of pension fund administrators. The study recommends that pension fund administrators in Nigeria should continue to seek for total debt since it increases efficiency. They should continue to use total debt and total asset in financing their businesses since it has a positive and significant effect. The study further recommends that pension fund administrators in Nigeria should use total debt to total equity by ensuring that they re-strategies and manage properly total debt collected and total equity in order to correct the negative effect it has in the organizations.

REFERENCES

Abdul, K. T. Y. (2016). Estimating and analyzing the technical efficiency of banks in Ghana. *The International Journal of Business and Finance Research, 10*(4) 73-90.

Ac-ogbonna, C. (2018). Determinants of the technical efficiency performance of privatized manufacturing firms in Nigeria: An econometric analysis. *International Journal of Develpment and Economic Sustainability, 6*(1) 19-28.

Amir, I., Qin, S., & Muhammad, A. S. (2016). Technical efficiency and its determinants: an empirical study of surgical instruments cluster of Pakistan. *The Journal of Applied Business Research, 32*(2).

Barry, T. A., Lepetita, L., & Tarazia, A. (2010). Ownership structure and bank efficiency in Six Asian Countries. *Philippine Management Review (Special Issue), 18*, 19-35.

Berger, A. N., & De Young, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking and Finance, 21*, 849-870.

Concetta, C., Davide, I., & Marta, Z. (2018). Determinants of firm's technical efficiency in the Italian performing arts sector. A panel data approach over the period 2005-2012. *International Journal of Business Management and Science, 2*(2) 5-9.

David, J. S., & Ernest, C. W. (2017). Determinants of efficiency in the Ghanaian banking industry. Journal of Economics and International Finance, 98(1) 80-88

Dharmendra, S., & Bashir, A. F. (2015). Technical efficiency and itsdeterminants: an empirical study on banking sector of Oman. *Problems and Perspectives in Management, 13*(1-1), 168-175.

Eriki, P. O., & Osagie, O. (2015). Determinants of performance efficiency in Nigerian banking industry: A DEA approach. *International Journal of Economics, Commerce and Management, 3*(2).

Husain, A.-O., & Abdullah, A.-M. (2008). Bank-specific determinants of profitability: The case of Kuwait. *Journal of Economic and Administrative Sciences, 24*(2), 20-34.

Iveta, Ř. (2015). Banking efficiency determinants in the Czech banking sector. 2nd Global conference on business, economics, management and tourism, 30-31 October 2014, Prague, Czech Republic, *Procedia Economics and Finance, 23*(1), 191-196.

Kapelko, M, & Oude, L. A. (2015). Technical efficiency and its determinants in the Spanish construction sector pre- and post-financial crisis. *International Journal of Strategic Property Management, 19*(1) 96-109.

Mahesh, S., Niraj, P. J., Rishi, R.K. & Mahima, B. (2019). Technical Efficiency and Its Determinants on Maize Seed Production in Palpa District, Nepal. *International Journal of Business Management, 2*(2)44-67

Marcelo, M. D. F., Luísa, K. D. M., & David, D. (2019). Determinants of efficiency in education in public expenditure: a cross-country perspective. Kuz University Press.

Mohammad, J. R., Sayyed, M. S. H., Mohammad, H. Z. A. & Ali, Z. H. (2011). Study of the Firms Size Effect on Their Efficiency Based on DEA Approach (Case Study: Firms in Tehran Stock Exchange During 2007 to 2011. *Atlantic Review of Economics, 2*(2) 66-71.

Muazaroh, P., Tandelilin E., Suad, H., & Mamduh, M. H.(2012). Determinants of bank profit efficiency: evidence from Indonesia. *International Journal of Economics and Finance Studies, 4*(2), 22-35.

Niringiye, A., Luvanda, E., & Shitundu, J. (2010). The relationship between firm size and technical efficiency in East Africa Manufacturing Firms. *Journal of Sustainable Development in Africa, 12*(4).

Nor, H. A., & Mohamad, A. N. (2011). The Determinants Efficiency and Profitability of World Islamic Banks. 2010 Int*ernational Conference on E-business, Management and Economics, 3*(2) 55-67.

Sameh, C. K., & Jamel, E. C. (2013). Bank size and efficiency in developing countries: intermediation approach versus value added approach and impact of non-traditional activities. *Asian Economic and Financial Review, 3*(5), 593-613.

Tadele, T. (2016). Determinants of Commercial Banks Efficiency: Evidence from Selected Commercial Banks of Ethiopia. *International Journal of Scientific and Research Publications, 6*(5).