CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE: PANEL EVIDENCE FROM QUOTED MANUFACTURING FIRMS IN NIGERIA (2011–2020)

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ABSTACT: *In literature, there is a divided view on capital structure and financial performance which necessitated the examination of a panel evidence from selected quoted manufacturing firms in Nigeria. Data set were gathered from annual reports of 14 selected quoted manufacturing firms from 2011 to 2020. The data were analysed via panel full least square multiple regression technique as four hypotheses were tested while the outcome of the regression analysis gave acceptance of the second hypothesis in its null state declaring statistical link between total debt to total equity and return on assets of manufacturing entities in Nigeria. However, the findings were on the rejection side of the first, third and fourth hypotheses relating to total debt, long term debt, and short term debt to total assets. In light of the findings, it is suggested that Management of manufacturing corporations that are active on the stock market should strive to increase their long term debt to total assets so as to improve their business operations and by extension, their financial performance. This recommendation is in alignment with the findings of this study, which established that there is a beneficial link between capital structure and financial performance.*

KEYWORDS: Capital Structure, Financial Performance, Leverage, Manufacturing Company, Shareholders.

INTRODUCTION

Background

Optimal capital structure mix that maximizes shareholders' wealth and market share value for competitiveness is the challenge facing financial managers (Varian, 2015). Capital structure is debt-equity financing combination, leveraging on the debt to increase earnings per share and reduce cost of capital (Saputra, Achsani & Anggraeni, 2015). Capital structure significantly affects not only a firm's financial performance, reducing financing cost but other parameters including liquidity, profitability and continuity.

In 1958, a theory anchored by Modigliani and Miller (M & M) argued the irrelevance of capital structure in influencing a business's value unless some limiting and presumption of complete market hold. The existence of asymmetric information leads to market imperfection, leading to a deviation from M & M's theorem, with more researchers' submissions that capital structure impacts on a firm's performance and market value of shares. However, the traditionalists opposed the Modigliani and Miller (M & M) 1958 view. In 1963, the Modigliani and Miller theorem was re-inverted by incorporating taxes and interest payment (taxes deductible as shield), making debt financing advantageous.

Against M & M hypotheses, exogenous and endogenous factors impact positively or negatively on a firm's share market value or shareholders' streams of cash inflows. Under unfavourable economic condition, incorrect capital structure mix decisions could lead to financial doom or losses and higher interest payments (Tariq, 2014), with consequential negative impact on the shareholders' wealth and market share value, or corporate dissolution in some instances. The distinctiveness of each firm determination of capital choices, operations and activity is a key factor for internal success.

Systematically, environmental and economic volatility leads to capital market imperfection, making optimal capital structure mix decision a challenging task, and asymmetry information apparently a challenge to finance managers and investors of funds (Owolabi & Inyang, 2019). Managers who optimize a firm's capital structure by discovering the leverage equalization are rewarded, (Ariekpar, 2020). It is extremely beneficial to the management to examine the firm's debt structure (Akinsulire, 2014).

Some literature that evidence capital structure and firm performance include Berger and Pulti (2006), and Margaris and Psillaki (2007). Abor's (2005) work supported positive association of capital arrangement on company attainment (Goyal, 2013; Saeed et al., 2013; Taani, 2014; Zectum & Tian, 2007) while the reverse was observed in the work of Victor and Badu (2012), Shabita and Alsawalhal (2012), Leon (2013), Emori (2015), and Saputra et al. (2015). The works of Tariq (2014) and Mohammad (2012) have mixed outcomes. Many authors implemented various variables to test the effect of resources arraignment on firm output (Varian, 2015). Debt reduces tax liability and leverage higher profit with positive correlation (Adewale & Ajibola, 2013; Majahid & Akhtai, 2014). Contrary studies (Riaz, 2015; Vijaykumar & Karunaiathal, 2014) confirm negative relationship. When moderate debt is used, positive outcome is recognized. In the Agency theory, excessive debt usage has no one track stimulant evidence (Rodianova & Lugmon, 2019).

Some authors who examined Nigeria capital structure include Salawu (2007), Adesola (2009), Onaolapo and Kajola (2009), Akintoye (2009), Babalola (2014), Yinusa and Babalola (2018), and Idode, Adeleke, Ogunlowo and Ashogbon (2014) using static analysis rather than dynamic relationship, while some past empirical works are dynamic relationship in analysis, leaving a vacuum for research.

The metrics that shareholders used to measure firms' financial performance are incomes from business assets, profitability and liquidity on historical and current performance (Erasmus, 2008). Financial performance and capital structure are inseparably knotted (Zeitun & Tian, 2007). The study by Akinyomi (2013) posited that debt/capital and debt equity correlated to return on assets and equity. Appah et al. (2013) argued the significant negative relationship with performance by short term debt, long term debt and total debt.

Adeoye and Olojede (2019) and Ajayi and Obisesan (2020), including existing literature on capital structure, explored many substitutes to examine the effect of capital structure on performance of firms. Commonly used ratios in existing literatures are debts to total assets ratio or equity shares ratio, and short or long term debts to total assets or equity (shareholdings). Equity holders bear the majority risk than debt holders (Aliu, 2010). Leveraging on the proportion of debt-equity by Nigerian manufacturing firms in the capital structure has been challenged (Rahman, Saima & Jahan, 2020).

The manufacturing sector is pivotally growing the Nigerian economy by contributing to gross domestic product through productions, employment and export earnings. Therefore, understanding combination of financing and it impact becomes imperative for the management and shareholders. Examining the impact of financing mix of quoted manufacturing companies in Nigeria becomes vital.

Divergent disagreements from literature on financing mix of quoted manufacturing companies' financial performance and M & M hypothesis form the basis of this study. The question is: Has capital structure mix affected Nigerian quoted manufacturing companies' performance financially?

In view of the stated question above, the influence of capital structure of quoted companies' financial performance is examined in Nigeria while, specifically, the aims of the study are to:

i. Assess relationship between total liabilities to entire assets and Nigerian quoted manufacturing firms' financial performance
ii. Assess the relationship between the relative debts to equity ratio and performance of Nigerian quoted manufacturing firms
iii. Observe the relationship between short-term debt to total assets ratio and financial performance of Nigerian quoted manufacturing firms
iv. Evaluate the relationship between long-term debt to total assets ratio and financial performance of Nigerian quoted manufacturing firms.

Scope of the Study

The study considered 14 firms out of the quoted manufacturing firms listed on Nigeria Stock Exchange due to their financial status and data set from the annual reports spanning the period 2011 to 2020 (10 years).

LITERATURE AND THEORETICAL REVIEW

The theories underpinning this work were M & M theory, pecking order, and agency theory.

Capital Structure Model

Capital structure arguments originated from Modigliani and Miller's (1958) concerning "capital structure irrelevance." This has been contested by researchers on 1 restrictive assumptions that gearing impacted not on firm's worth, which in real situations it does not hold. Assumptions include no taxation, no transaction costs, and perfect market with homogeneous expectation. The presence of interest payment on debt has advantages of tax as a deductible expense in the revered M & M theory of 1963 impact influences on the value of the firm. Unlevered firms' gross earnings are subject to higher tax while leveraged firms have advantages of tax deductions (Bouarara, 2018).

Trade-off Theory

Trade-off theory states that each mode of financing comprises its own set of advantages and disadvantages, as well as costs and benefits (Awan & Amin, 2014). Optimizing a firm's capital structure between cost and benefit of debt financing refers to trade-off (Myers, 1984). Accordingly, firms with high profits have tax shield benefit when using high degree of gearing in firm structure (Kausar, 2014). This notion is criticized for not anticipating cost adjustment (1984). Retained profits are consequentially ignored on the capital structure, as they have no associated cost or risk (Adeoye & Oloyede, 2019).

Agency Cost Theory

Jensen and Meckling (1976) and Jensen (1986) posited that agency cost occurred from separation of ownership control and manager interests that result in conflicts. The motive to maximize managers' benefit may make the owners of a company to maximize their own benefit.

Agency theory is premised on contractual relationship of principal agents (shareholders and managers), observing contract of principal agents. According to Abdul (2018), excessive interest payments can have a negative impact on shareholders due to high gearing, making the firm unprofitable.

Pecking Order Theory

The pecking order theory is based on unequal knowledge, as managers have more information than investors, making managers issuing debt than equity when it is positively evident that future payment is assured. There is no well-defined debt-equity target in firm financing. (Myers & Majluf, 1984). Issuing equity is interpreted by investors as a sign of stock overvaluation. Equity financing is preferred as last option due to information asymmetry (Ishaya, 2018).

LITERATURE REVIEW

2.2.1 The mix percentage of financing a firm is capital structure: external liability and owners' funds for financing firm (Kennon, 2018). Akinyomi (2016) posited a strategic financing through mix of long term capital and equity. Owolabi and Inyang (2019) also supported the utilization of mix securities for financing productive endeavors in a firm. Capital structure encompasses liabilities and equity in the left hand side of statement of financial position excluding short term liabilities, for financing firm assets to achieve better financial performance (Ajibola & Qudus, 2018). Shehu (2019) indicated that leverage leads to improvement in the fundamental worth of an enterprise. Managerial approaches must be considered in a firm's capital structure as to tax position, flexibility of a firm's finance, conservatism or aggressiveness in all target areas. Managers are rewarded for optimal capital structure equalization in a firm (Chandrasekharan, 2019).

Factors of Mix Financing

Profitability: It exemplifies the excess of income over expenses or in terms of how much they make from what they invest. If investments and payouts are constant, more profitable enterprises should grow less leverage over time (Frank & Goyal, 2009).

Tangibility: According to theories, high tangibility had a positive association with leverage. Asset-holding companies utilize their assets as collateral when securing loans, which lends credence to the capital structure trade off theory (Ajayi & Obiesan, 2020). Leverage is expressed as the relationship between debt and equity. Borrowed funds are invested to enlarge potential returns from an investment or project with tax shield advantages.

Total Debt to Total Assets: This pinpoints the ratio of total debt rate of return made relative to the total asset. Leverage index explains the share between the net debt in a firm's earnings before interest, taxes, depreciation and amortization, and total assets at the end. If debt financing to total assets ratio is high, it can result in bankruptcy risk, (Akinsulire, 2014). High index of liabilities to total assets indicate highly indebted firms (Shehu, 2019).

Total Debt to Total Equity: This indicates the connection between shareholders' funds relative to the outsiders' financing, long term debt.

Total Assets: This evidences long debts against the firm's total assets, whether the assets can repay the principal and interest at maturity.

Ordinary Share Capital: This refers to owners money invested in the shares of a firm plus retain profit and profit of past years (Alfred, 2017).

Financial Performance: Company performance, according to Babalola (2018), is its capacity to meet its target objectives with the resources available to it. Suleiman (2013) defined company financial performance as the outcome of a company's assessment or strategy on how successfully it met its targets and objectives. Corporate performance is divided empirically into two measurements: accounting and market base measurements. Return on equity (ROE), Return on assets (ROA) and Gross margin (GM) are accounting base measurements computed from financial statements of a firm. This is more reliable than market base which are price to earnings ratio (P/E ratio), and market value of equity to book value of equity, which may be affected by economic environment due to deficiency of stock maturity and liquidity resulting

from market behavior (Abor, 2005; Varian, 2015). It refers to a company's ability to compare itself to industry competitors (Ariekpar, 2020).

Empirical Review Literature

Akinyomi (2016) employed Pecking order theory to examine food and beverage manufacturing enterprises for the period 2007 to 2015. The result of the correlation analysis on debt to capital, equity and age of firm all significantly and positively associated with return on asset and on return on equity. Appah, Okoroafor and Bariweni (2016) applied agency theory to examine 32 listed firms on the Nigerian Exchange Group (2005–2015) using panel analysis. Results showed that both short- and long-term debts significantly have adverse nexus with firms' outcome likewise with non-tax debt and liquidity. In Turkey, Nassir (2016) 136 quoted indukstrial enterprises captured, using their annual reports. The outcome demonstrated a negative relationship between capital structure and company's performance.

Applying pecking order concept, Lawal et al. (2014) employed regression analysis to determine the effect of a company's performance resulting from capital structure. The result revealed adverse firm performance of debt-to-equity. The performance of small- and medium-sized businesses and their capital structure was examined in Netherlands, 2008 to 2015 using pane regression analysis by Schulz 2017. The analysis showed a negative and significant association between firm capital structure and return on assets. Arikekpar (2020) observed capital structure and Nigerian manufacturing firms' performance (2014 to 2018) utilized a fixed effect regression, and the result discloses a favorable impact on the outcome from the chosen companies.

There was a study on the influence of a firm's capital arrangement on Indonesia listed financial sector performance in 2009 to 2013 (Saputra et al., 2015). The examined study discovered that financial mix impacted negatively on firms measured by return on assets (ROA). Hassan et al. (2014) assessed debts as it is related to a firm's structure performance. Data were analysed by pooling data panel regression model. A positive significant relationship exists between EPS and return on assets (ROA); alternatively, no significant association between ROE and Tobin's Q in pecking order theory.

An investigation was carried out in Nigeria using dynamic panel model on data set collected from quoted non-financial firms to test the effect of capital structure on firms' performance. Generalised method was employed and the result shows a significant association if moderate debt is used. On the contrary, when more than disproportionate debt is engaged, it impinges on firms' performance (Yinusa et al., 2019).

METHODOLOGY

The population of the study consists of all quoted manufacturing companies on Nigerian stock exchange, and the sample size of 14 firms were in the study with data set sourced from the yearly annual reports of selected manufacturing firms for 10 years. Analysis was done by descriptive and Panel least square Vector Error Correction Model (PVECM) technique and multiple regression technique.

Model Description

The model adopted in testing the hypotheses is presented below:

$R0A_{it} = \beta_0 + \beta_1 TDTA_{it} + \beta_2 TDTE_{it} + \beta_3 STTA_{it} + \beta_4 LTTA_{it} + \varepsilon_{it}$

where: ROA = Return on total asset,

$\beta_0, \beta_1 - \beta_4$ = parameters to be estimated,

TDTA = Total-debt to total assets, TDTE = Total-debt to total equity, STTA = Short-debt to total assets, LTTA = Long-debt to total assets, ε = error term signifying other variables not captured in the study and it = Firm i at time t.

Discussion of Variables

Measurement of variables adopted from past studies as shown below.

Table 1: Measurement of Variables

Nature of Variables	Measurement	Sources
Independent	Total debt/Total assets	Akinyomi, 2013
Independent	Total debt/Total equity	Khalaf, 2013
Independent	Short term debt/Total assets	Amara & Bilal, 2014
Independent	Long term debt/ Total assets	Abdullah, 2014
Dependent	EBIT/Total assets	Abor, 2008

Source: *Author's compilation (2022)*

RESULTS AND DISCUSSIONS OF FINDINGS

Table 2: **Descriptive Statistics**

	ROA	TDTA	TDTE	STDTA	LTDTA
Mean	0.090430	0.437143	0.880594	2.504872	0.193488
Median	0.045281	0.255367	0.515806	0.290369	0.112041
Maximum	6.174312	13.92398	17.59549	11.77450	2.320664
Minimum	-0.993239	0.012927	0.009140	0.008615	0.003549
Std. Dev.	0.532019	1.176843	1.682389	17.09989	0.260029
Skewness	10.72985	10.86453	7.607679	8.155882	4.551070
Kurtosis	124.0403	124.9929	72.44498	67.84632	34.07675
Jarque-Bera	88149.11	89567.41	29482.32	26081.53	6116.910
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	12.66022	61.20007	123.2832	350.6820	27.08838
Sum Sq. Dev.	39.34308	192.5095	393.4303	40644.44	9.398514
Observations	140	140	140	140	140

Source: Computed by the authors using E-views 10, 2022

Table 2 reveals average return on asset (ROA), as 0.09% with maximum of 6.17% and minimum of -0.9%. respectively. Total debt to total asset (TDTA) shows a mean of 0.43%, with maximum and minimum of 13.9% and 0.01%. Average total debt to total equity (TDTE) is 0.88% having maximum and minimum of 17.5% and 0.009% respectively. The short debt to total asset (STDTA) has a mean of 2.50%; with maximum and minimum of 11.7% and .008% correspondingly. The average long debt to total asset (LTDTA) revealed 19% having maximum and minimum values of 2.32% and .003% in that order. Disparity observed from the standard deviation, relating the high values to the mean values suggesting widespread variation. The difference between the Skewness and Kurtosis of the data were revealed by The Jarque-Bera statistic and no departure from normality, while the probability is significance.

Table 3: Correlation Result

	LNROA	**LNTDTA**	**LNTDTE**	**LNLTDTA**	**LNSTDTA**
LNROA	1.000000				
LNTDTA	0.084279	1.000000			
LNTDTE	0.179041	0.596710	1.000000		
LNLTDTA	0.238915	0.227317	0.148395	1.000000	
LNSTDTA	0.205262	0.452525	0.337193	0.240302	1.000000

Source: *Researcher's computation, 2022*

The Table 3 correlation shows a relationship that exists between the independent and dependent variables. The results discovered a positive association between TDTA and ROA, as indicated by the value 0.084279, meaning an increase in the total debt to total asset ratio would equally increase the returns on assets of the firms and vice versa. The value 0.179041 specifies a positive association between the total debt to total equity ratio and Return on assets. The value of 0.238915 suggests a significant and positive association between LDTA and ROA of the firms in Nigeria. The value of SDTA to ROA (0.205262) also follows a positive direction. Positive associations exist among the variables under study.

Unit Roots Test

The Unit Roots test was carried out by Levin, Lin and Chu (LLC) to test for non-stationarity among the variables. The result shows that all the variables integrated at order I (1) 1st differences. The outcome influences the type of estimation techniques and regression test to be employed for analyses.

Table 4: Pedroni Residual Cointegration Test

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-1.119146	0.0485	-4.997963	0.0271
Panel rho-Statistic	2.316800	0.9897	2.094073	0.9819
Panel PP-Statistic	-2.046058	0.0204	-5.930530	0.0000
Panel ADF-Statistic	0.500161	0.6915	-2.148407	0.0158

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	3.402377	0.0197
Group PP-Statistic	-6.248590	0.0000
Group ADF-Statistic	-0.938994	0.1739

Sources: Computed by the authors using E-views 10, 2022

Table 4 above is the Pedroni Residual Cointegration test result. Four (4) out of the 7 displayed statistics are statistically significant at 5% LOS. Therefore, the null hypotheses of "no co-integration", is rejected. The implication of this finding is that there is a long-run relationship exhibited among the variables. Therefore, the error correction model of panel least squares technique is employed to capture the long-run behavior of the independent variables on the dependent.

Table 5: Panel Least Squares (Error Correction Model) Result

Dependent variable: LNROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.043852	0.014814	2.960160	0.0037
D(LNTDTA)	-0.177992	0.086437	-2.059220	0.0417
D(LNTDTE)	0.106874	0.056639	1.886924	0.0016
D(LNLTDTA)	1.142766	0.517629	2.207692	0.0292
D(LNSTDTA)	-0.000281	0.001728	-0.162759	0.8710
ECM(-1)	-2.433210	0.235846	-10.31696	0.0000
R-squared	0.681314	F-statistic		21.89961
Adjusted R-squared	0.669286	Prob(F-statistic)		0.000000
		Durbin-Watson stat		1.253943

Source: Authors Computation, 2022

Regression Results

The results from the Error Correction Model of panel least squares technique of estimation capture that TDTA has a negative coefficient (-0.177992) which impacts on ROA. A percent increase in *TDTA* signifies 18% decrease in *ROA*; the result is statistically significant at p-value of 0.0417.

The short term debt to total asset (STDTA) has negative coefficient of 0.000281 but insignificant on Return on asset.

The log of TDTE depicts a positive impact on Return on asset (*ROA)*, and it is significant at 0.0016 p-value and a percent increase in TDTE increases return on asset by approximately 11%, which means that the higher the debt-equity ratio, the better the returns on asset reported by the manufacturing companies in Nigeria (Arikekpar, 2020). The coefficient of LNLTDTA on ROA (1.142766) reveals a positive influence. A percent increase in LNLTDTA will significantly bring about an increase of 114% in the ROA of quoted manufacturing firms in Nigeria. The result has a p-value of 0.0292 meaning it is statistically significant at less than 5% level.

The value 0.681314 indicates coefficient of determination (R-squared) that 68.1% of variations in ROA of manufacturing firms is attributable to changes in variables such as TDTA, TDTE, LTDTA and STDTA in Nigeria. Adjusted R-squared value of 0.669286 = 67% confirms that the model is of good fit because about 67% variations are captured by the explanatory variables taking into account the degrees of freedom in the model. The F-value is 21.8 while the Durbin-Watson statistic of 1.25 indicates the absence of auto-correlation. This implies that the problem of serial autocorrelation does not constitute a problem in the research analysis.

The result revealed that the error correlation model (ECM), which is used to switch to short run model indicated a feedback of 2.4% of the previous year's disequilibrium from the long-run elasticity of the impact of capital structure of quoted manufacturing companies on their performance in Nigeria; this means that the previous years' deviation from long-run equilibrium is corrected at a speed of 2.4%. The explanatory variables maintain the ROE equilibrium through time. This result is also statistically significant at the 5% level of significance.

Test of Hypotheses

Hypothesis One

H_0: There is no statistically significant relationship between total debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

H_1: There is a statistically significant relationship between total debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

DISCUSSION

From Table 5, according to the hypothesis, there is no significant relationship between total debt to total assets ratio and financial performance of Nigerian quoted manufacturing firms as it revealed a negative coefficient (Saputra et al., 2015). The null hypothesis is rejected while the alternative hypothesis is accepted.

Hypothesis Two

H_0: There is no statistically significant relationship between total debt to total equity ratio and financial performance of quoted manufacturing enterprises in Nigeria.

H_1: There is a statistically significant relationship between total debt to total equity ratio and financial performance of quoted manufacturing enterprises in Nigeria.

Discussion

The hypothesis tested indicates that total debt to total equity ratio has no bearing on the financial performance of quoted firms in Nigeria. The result demonstrates that the total debt to total equity ratio exhibits a positive and statistically impacts on the return on assets of quoted manufacturing firms in Nigeria (Akinyomi, 2016) as TDTE displays a coefficient of 0.106874 with a probability of 0.0016. The null hypothesis is rejected and the alternative hypothesis accepted.

Hypothesis Three

H_0: There is no statistically significant relationship between long-term debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

H_1: There is a statistically significant relationship between long-term debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

Discussion

According to the hypothesis, there is a significant relationship between the long-term debt to total assets ratio and financial performance of quoted manufacturing firms as the result shows a coefficient of 1.142766 and a p-value of 0.0292. The result presented a positive impact; therefore, the null hypothesis of no significant relation is rejected while the alternative hypothesis is accepted.

Hypothesis Four

H_0: There is no statistically significant relationship between short-term debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

H_1: There is a statistically significant relationship between short-term debt to total assets ratio and financial performance of quoted manufacturing enterprises in Nigeria.

Discussion

The hypothesis tested indicates no significant relationship between short-term debt to total assets ratio and financial performance. The results demonstrated that the short-term debt to total assets ratio has a significant negative impact on the return on assets, with a coefficient of -0.000281 and p-value of 0.8710; therefore, the null hypothesis of no significant relationship between STDTA and ROA is accepted and the alternative hypothesis is rejected.

CONCLUSION AND RECOMMENDATIONS

The findings of this study showed a statistically significant relationship between total debt to total assets index and return on assets. Due to this result, it is concluded that total debt to total assets is an important element of capital structure that influences the financial position of listed manufacturing firms in Nigeria.

Furthermore, the findings of this study also show that there exists a statistically significant relationship between long-term debt to total assets and financial performance of listed manufacturing firms. This therefore means that long-term debt to total assets is a key determinant of the financial success of listed manufacturing firms in Nigeria. Lastly, this study's analysis also shows a significant negative relationship between short-term debt to total assets in relation to the financial performance of manufacturing corporations on the stock market. This is evident in the fact that short-term debt to total assets is not one of the determining factors of the financial success of a manufacturing entity.

The following recommendations are given in accordance with the study's findings:

(i)   In the pursuit of improvement in the financial capacity, establishing and implementing an optimized structure of capital should be the main focus of the management of manufacturing firms listed on the Nigerian Exchange Group.

(ii)   The management of manufacturing corporations that are active on the stock market should strive to increase their long-term debt to total assets so as to improve their business operations and, by extension, their financial performance. This recommendation is in

alignment with the findings of this research, which established that there is a beneficial link between the two.

(iii)   There is a need for the management of manufacturing corporations that participate in the stock market to occasionally monitor their ratio of total debt to total assets as a non-significant negative relationship has been established by the findings of this research in relation to the financial performance of their entity.

IMPLICATION OF FINDINGS

The impact of capital structure on the financial performance of quoted manufacturing firms listed on the Nigerian Exchange Group was investigated in this study. It was limited to only fourteen quoted manufacturing enterprises in Nigeria throughout a ten-year period on the Nigerian exchange. The study tested the impacts of the explanatory variables employed (TDTA, TDTE, LTDTA and STDTA) on the explained or dependent variable (ROA). Total debt to total asset and short-term debt to total asset ratios both exhibited negative impacts on the dependent variable, i.e, return on asset. This, according to the result is held valid in the short-run. An analysis of the long-run behavior might prove the opposite. The total debt is made up of both the long-term and short-term debts; therefore, the influence of short-term debt in the total debt might cause a negative influence of total debt of the return on asset of manufacturing companies in Nigeria, especially in the short-run. The result displayed for the TDTA on ROA is statistically significant at the 5% level, while that of STDTA on ROA is not. It is also held that total debt to total equity (leverage) and long-term debt to total assets exert a positive impact on the return on asset. An increase in any of these two would, ceteris paribus, increase the return on asset of the manufacturing concerns in Nigeria. When a company has access to external sources of financing (debt), there is availability of funds to run the business on one hand and there is increased efficiency on the part of the management as a result of the shareholders' pressure on the other hand. These would in turn lead to sound management of the companies' assets and a resulting increase in the return on assets of the company. Long-term debt also proves positively supportive in terms of increased return on asset of the manufacturing companies. This could be due to the fact that the companies have the benefit of making use of funds sourced from external sources, only to repay at a maturity date that extends far into the future. The coefficients of TDTE and LTDTA are found to be statistically significant at the 5% level of significance. The co-efficient of determination (R^2) revealed a co-efficient of 0.681314 which implies that about 68% of the variation in the ROA is explained by variables such as TDTA, TDTE, LTDTA and STDTA. The adjusted R^2 (0.659286) also reveals that the model is a good fit and the explanatory variables are relevant to explaining the variations in the dependent variable.

The result reveals that the error correlation model (ECM), which is used to switch to a short-run model, indicated a feedback of 2.4% of the previous year's disequilibrium from the long-run elasticity of the effect of capital structure on the financial performance of quoted manufacturing firms in Nigeria. This means that the previous years' deviation from long-run equilibrium is corrected at a speed of 2.4%. The explanatory variables maintain the ROA equilibrium through time. This result is also statistically significant at the 5% level of significance.

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