FUDMA JOURNAL OF ACCOUNTING AND FINANCE RESEARCH [FUJAFR]
VOLUME 1, ISSUE 3; ISSN: 2992-4693 (ONLINE); 2992-2704 (PRINT)

Firm Structural Attributes and Capital Structure Adjustments among Listed Manufacturing Firms in Nigeria using Static and Dynamic Approaches

Jimoh Ibrahim*
Aderemi Olalere Adebayo
Johnson Kolawole Olowookere
Adewumi Zaid Adeyemi
Titilayo Moromoke Oladejo

Department of Accounting, Osun State University, Osogbo, Nigeria
**Correspondence E-mail: jimohibrahim889@gmail.com*

https://doi.org/10.33003/fujafr-2023.v1i3.62.52-63

Abstract

The study examined the effect of firm structural attributes on capital structure adjustments of Nigerian listed manufacturing companies. Out of the 56 listed firms 35 listed manufacturing firms were selected using the purposive sampling approach. Dynamic and static estimation techniques were applied. The results from both static and dynamic panel data revealed that assets tangibility had a positive and significant effect on capital structure adjustments with (t= 4.463; t = 2.965; p <0.05). Non-debt tax shields (t= -2.831; t= -4.478; p <0.05) had negative but significant effect on capital structure adjustments. Furthermore, static result showed that firm size (t= -5.617; p <0.05) had negative but significant while dynamic results revealed firm size (t=6.956; P<0.05) had a positive and significant effect on capital structure adjustments. This study concluded that structural attributes serve as firm-level determinants to understanding of factors influencing the capital structure and speed of adjustments of listed companies in Nigeria. It was recommended that management of firms need to expand in size and investing in tangible assets to enhance their profit level, this will enable them to enjoy large profit levels with a large reduction in debt ratio.

Keywords: Assets Tangibility, Firm Size, Manufacturing Firms, Structural Attributes, Speed of Adjustments.

1.0 Introduction

Companies, in particular those that produce goods, contribute significantly to a nation's economy through a variety of means. This is because the manufacturing industry is one of the economic recovery systems and the prosperity of manufacturing businesses can stimulate the growth of other companies as well as the economy (Abate, 2012; Efuntade & Akinola, 2020). Thus, no organisation in the world can be an island of itself without leverage or sourced external fund to finance its assets or business operations. Corporate bodies are being prompted to pay attention to how business characteristics variables impact the adjustment of their capital structure. Financial constraints, financial surpluses or deficits, external financing costs, the difference between the discovered and optimal debt ratios, economic distress, the ownership of the business, capital market access costs, macroeconomic factors, and corporate governance structures are some of those variables that led to the emergence of the issues surrounding capital structure adjustment. These factors influence how quickly the capital structure is adjusted to its optimum level (Buvanendra et al., 2017). Hence, capital structure adjustment is a way in which company adjust its debt and equity to achieve the optimum capital structure, thereby leading to speed of adjustments. Wendy and Salim (2019) state that only when data from the prior period is available can the speed of adjustment towards goal leverage be established. Mawitjere et al. (2016) state that a dynamic approach is implemented by tracking the direction shifts and the company's rate of adjustment speed—the rate at

which it achieves its optimal leverage. The rate at which the capital structure is balanced at the appropriate degree of leverage is known as the speed of adjustment (Surwanti, 2015).

The rate at which businesses reduce the difference between the desired leverage for this time frame and the leverage from the previous year is known as the speed of adjustments (Mawitjere et al., 2016). The adjustment speed of a firm considers the cost of adjustment spent by the firm compared with loss when the firm's leverage deviates from its target. Targeted leverage levels can differ, allowing for a deviation between target and observed leverage (Heshmati, 2001). Firm structural attributes such as asset tangibility, non-debt tax shields and firm size are attributes which could have an effect on capital structure as explained by the tradeoff theory. Asset tangibility represents tangible assets use or pledge as a security while company source for funds. Due to the difficulty of obtaining public debt, manufacturing companies frequently turn to lease finance and loans from deposit money banks in country with lax bankruptcy laws. Instead of using an interest tax shield, businesses use a Non-Debt Tax Shield (NDTS) (Ramy, 2020). M'ng et al. (2017) state that when a company employs high depreciation as an NDTS, its capital structure has lower debt levels.

The best amount of leverage is obtained by striking a balance between the expenses of raising debt and the advantages of interest payments. Firm size is a measure of an organization's total assets, both present and future (Okonkwo & Azolibe, 2020). A smaller company would be less able to bring in more debt than one with more employees since it would require fewer collateral assets to pay off debt in the case of bankruptcy. These variables, which are financial and relate to capital structure modifications under management control, such as business size, assets tangibility, and non-debt tax shields, have been disregarded and have not received enough attention. Although there is a wealth of empirical information on capital structure adjustments in developed nations, research in developing nations like Nigeria is still at an early stage, and until recently, developing nations' manufacturing businesses were not given enough attention in capital structure adjustment research. Numerous researches such as (Aggarwal & Padhan, 2017; Chang et al., 2008; Doorasamy, 2021) have concentrated on firm's capital structure in different parts of developed and developing countries. However, reviewed researches (Kieschnick, 2017; Nguyen & Nguyen, 2020; Sathyamoorthi et al., 2019; Uddin et al., 2019; Wu, 2019) focused a great deal of attention on the variables that affect a firm's capital structure and/or financial performance in industrialized nations, but capital structure modifications were overlooked. Due to differences in their approach and scope, the aforementioned research produced conflicting results. Furthermore, the prior studies did not take into account the connections between changes in a firm's capital structure and its structural features. Certain research mentioned above failed to take into account the structural characteristics of the organizations that are financed in nature, such as business size, non-debt tax shielding, and asset tangibility.

The aforementioned research' analyses did not also consider both static and dynamic approaches. In light of this, the study addressed a research vacuum by investigating the impact of firm structural characteristics on changes to the capital structure of Nigerian listed manufacturing companies. Therefore, this study examined the effect of firm structural attributes (asset tangibility, non-debt tax shields and firm size) on capital structure adjustments of listed manufacturing firms in Nigeria.

2.0 Literature Review

Theoretical Framework

The study was anchored on Trade-off Theory. To bolster their argument that there is a target debt level that optimizes company value by weighing the benefits of debt versus the expenses associated with debt

financing, Modigliani and Miller established the trade-off theory in 1963. The advantages of debt include tax deductions for interest payments and a drop in free cash flows, which suggests that a high leverage ratio can lead to an increase in company value. On the other hand, a high level of leverage results in agency expenses and financial difficulties for the company.

Empirical Review

Asset Tangibility and Capital Structure Adjustments

Abdullahi and Suleiman (2020) used multiple regression method to discovered that assets tangibility had a positive effect on leverage while assessed how firm characteristics affected the capital structure of cement companies in Nigeria from 2010 to 2015. In addition, Ramy (2020) revealed that asset tangibility had positive impact on capital structure decisions while reviewed the factors that affect capital structure and capital structure dynamics. Ezeani (2019) studied the determinants of capital structure and speed of adjustment in Nigerian non-financial firms. The author used GMM to disclosed that assets tangibility and firms' leverage are positively related. Kim (2017) buttressed that companies having a variety of tangible assets should be able to obtain debt financing more easily and affordably even if the value of a particular asset declines. Belkhir et al. (2016) established that tangible asset positively connected with leverage. Buvanendra et al. (2017) assessed the effect of firm characteristics, corporate governance on capital structure adjustments of 90 listed firms in India and Sri Lanka between 2004 and 2013. The authors employed GMM and OLS regression to established that assets tangibility and firms' leverage are positively related. Based on the review of prior and empirical literature. Hence, the study hypothesized that there is no significant effect of assets tangibility on capital structure adjustments.

Non-Debt Tax shields and Capital Structure Adjustments

M'ng et al. (2017) examined the determinants of capital structure of public listed companies in Malaysia. The authors employed panel data estimation technique to established that firm can reduce debt levels in its capital structure by using high depreciation as an NDTS. Khan et al. (2020) assessed the firm characteristics determine capital structure of Pakistan listed firms on the Pakistan Stock Exchange during the period of 2008-2017. The authors used Quantile Regression Approach to revealed that NDTS had negative and significant effect on financial leverage. This also affirmed by Onofrei et al. (2015) who discovered negative relationship between leverage and non-debt tax shelters. Based on the review of prior and empirical literature. Hence, the study hypothesized that there is no significant effect of non-debt tax shields on capital structure adjustments

Firm Size and Capital Structure Adjustments

A company that has more large assets will be better able to attract more financing since it will have additional secured assets to pay off debt in the case of bankruptcy (Awan et al., 2011). Muigai and Muriithi (2017) investigated the moderating role of firm size on the link between capital structure and financial distress of Forty (40) listed non-financial enterprises in Kenya from 2006 to 2015. The authors used panel regression estimation to established that business size considerably impacted the relationship between capital structure and financial distress of non-financial enterprises. The studies (Nguyen et al., 2017; Marughu & Nwaobia, 2020; Okonkwo & Azolibe, 2020) established that size of a company was positively affect its debt level. Memona et al. (2020) employed generalized method of moments to discovered that the size of the firm had positive impact on the adjustment speed. Razaq et al. (2023) affirmed that firm size had positive and significant effect on sustainability reporting. This was established while examined the effect of corporate attributes on sustainability reporting of listed non-financial firms in Nigeria from 2011-2020. However, Surwanti (2015) studied the speed adjustment of

leverage company in Indonesia. He used dynamic panel data to disclosed that firm size negatively affects the peed of adjustment. The studies of (Mawitjere et al., 2016; Naveed et al. 2015; Uddin et al., 2019) used GMM to established that firm size negatively affects the leverage structure and speed of adjustment. Hence, Hence, the study hypothesized that there is no significant effect of firm size on capital structure adjustments.

Inflation and Capital Structure Adjustments

Aggarwal and Padhan (2017) established that increases in inflation tends to make firms borrow instead of raising equity and high economic growth makes firms to raise more equity while examined the impact of capital structure on firm value in Indian hospitality industry. Ibrahim et al. (2023) employed Generalized Method of Moments to discovered that inflation had a positive influence on the capital structure adjustments while examined the influence of firm attributes on capital structure adjustments of listed manufacturing firms in Nigeria from 2010 to 2019. Pervaiz et al. (2021) studied adjustment speed towards target capital structure and its determinants. The authors employed panel data estimation method to discovered that inflation rate had relationship with capital structure adjustments

Gross Domestic Product (GDP) and Capital Structure Adjustments

Kaloudis and Tsolis (2019) evaluated the capital structure and speed of adjustment in U.S. firms. A comparative study in microeconomic and macroeconomic conditions. The authors used quantille regression approach to showed that the GDP growth had positive and significant impact on capital structure among United States economy companies for 44 years. Also, Ibrahim et al. (2023) and Surwanti (2015) discovered that economic growth (GDPg) demonstrated the positive effects of adjustment speed. Firms that operate in a country with increased real GDP, have a higher level of economic wealth thereby tend to issue more debt than equity (Chipeta & Mbululu., 2013; Muthama et al., 2013). However, Annalien (2010) employed the OLS to revealed that GDP growth does not have a statistically significant relationship with capital structure among south African firms. Kayo and Kimura (2011) found a negative correlation and made the case that companies typically get higher net incomes and higher revenues during periods of economic activity's boom.

3.0 Methodology

The research design used for this study was correlational. The Nigerian Exchange Group (NGX) named 56 manufacturing companies as the study's population. Purposive sampling technique was employed to select Thirty- five (35) listed manufacturing companies**.** Secondary data collected from published financial report and accounts of selected 35 listed manufacturing firms from 2010 to 2021, Descriptive statistics, correlation analysis, static and dynamic panel estimation techniques were used. To validate the data, the following diagnostic tests such as Multicolinearity, Heteroskedasticity and Autocorrelation, in addition to other specification tests like Breusch Pagan tests were conducted.

Measurement of Variables

Dependent variable was capital structure proxied by Financial Leverage FLEV the ratio of total debt to total equity of book value (Abdullahi & Suleiman, 2020; Buvanendra et al., 2017; Ezeani, 2019). Independent variables are: Non debt tax shields (NDT) represented as ratio of depreciation to total asset (Onofrei et al. 2015); Asset Tangibility (AST) represented as the ratio of non-current asset to Total assets (Belkhir et al., 2016) Firm size (FIS) represented by Natural log of assets (Okonkwo & Azolibe, 2020; Inflation (INF) represented by Consumer Price index in % (Aggarwal & Padhan, 2017); GDP growth (GDPg) represented by Changes in GDP over time expressed in % (Muthama et al., 2013).

Model specification

This model of this study is as follows:

$Flev_{it} = \lambda_0 + \lambda_1 Fsi_{it} + \lambda_2 Ast_{it} + \lambda_3 Ndt_{it} + \lambda_4 Inf_{it} + \lambda_5 Gdp_{it} + \varepsilon_{it}$ ..... (1)

The explicit representation of the equation above in dynamic panel form is given as:

$Flev_{it} = (1-\delta)Flev_{it-1} + \lambda_1 Fsi_{it} + \lambda_2 Ast_{it} + \lambda_3 Ndt_{it} + \lambda_4 Inf_{it} + \lambda_5 Gdp_{it} + \varepsilon_{it}$ ..... (2)

Where, $Flev_{it-1}$= Lagged of financial leverage, $(1-\delta)$ reprensts SOA,*Fsi*=Firm size, *Ast*= Assets tangibility, *Ndt*= Non debt tax shields, *Inf*= Inflation, *Gdp*= Gross domestic product,= $constant\ \lambda_0$, ε_{it} Error term, *i*=company, *t*=time.

4.0 Results and Discussion

Descriptive Statistics

Table 1: Estimated of Descriptive Statistics

	Flev	Fsi	Ast	Ndt	Inf	Gdp
Mean	0.614	7.306	0.433	3.815	12.351	3.196
Median	0.552	7.337	0.403	3.471	12.156	3.151
Maximum	3.327	9.699	1.457	14.573	16.950	8.006
Minimum	0.021	4.797	-0.103	0.001	8.062	-1.790
Std. Dev.	0.398	0.947	0.297	2.537	2.892	2.993
Skewness	2.142	-0.198	0.435	1.012	0.108	-0.182
Kurtosis	10.473	2.266	2.759	4.638	1.879	2.072
Jarque-Bera	1298.472	12.178	14.268	118.649	22.765	17.383
Probability	0.000	0.002	0.0007	0.000	0.000	0.000
Sum	257.895	3068.334	181.719	1602.108	5187.564	1342.516
Sum Sq. Dev.	66.209	376.034	36.845	2697.379	3505.135	3754.442
Observations	420	420	420	420	420	420

Source: Authors Computation, (2023).

As showed in the Table 1, financial leverage (*Flev*) has an average value of 0.614, implies that equity of selected companies was averagely greater than their liabilities. The max and min. values showed 3.327 and 0.021. Firm size (*Fsi)* had average value of 7.306 while it has max. and min. values of 6.969 and 4.797 respectively. Asset tangibility (*Ast*) has an average value of 0.433, implied that the non-current assets of selected firm constituted 43.3 % of their total assets while it has max. and min. values of 1.457 and -0.103. Non -debt tax shield (*Ndt*) has an average value of 3.815 while it has max. and min. values of 14.573 and 0.001 respectively.

Inflation *(Inf)* had a mean of 12.351, implies that average of inflation rate from 2010- 2021 was 12 % which was very high while it has max. and min. values of 16.95% and 8.06% respectively. Gross domestic product growth *Gdpg* has a mean value 3.19, implies that the average *Gdpg* rate of Nigerian between 2010 and 2021 was not encouraging while it has max. and min. values of 8.0 and -1.79 respectively. The coefficient value of kurtosis of variables such as *Flev* and *Ndt* were greater than 3, implies a flat tails and have a leptokurtic distributions while variables such as *Fsi, Ast,Inf* and *Gdpg* have a coefficient value of kurtosis that less than 3, implied a flat slope and have a platykurtic distributions. The associated probabilities of Jarque-Bera value for all study's variables *Flev, Fsi, Ast, Ndt, Inf* and *Gdpg* were less P<0.000 show that the data is regularly distributed, that there are no outliers or bias in selection, and that the study's conclusions are unlikely to be generalized.

Correlation Analysis

Table 2. Correlation Matrix and VIF

	Flev	Fsi	Ast	Ndt	Inf	Gdp	VIF
Flev	1.000						-
Fsi	-0.261	1.000					1.017
Ast	0.162	-0.048	1.000				1.203
Ndt	-0.068	0.015	0.398	1.000			1.204
Inf	0.175	0.034	-0.073	-0.076	1.000		1.291
Gdp	-0.040	-0.117	0.104	0.109	-0.471	1.000	1.318

Source: Authors Computation, (2023).

As indicated in Table 2, Firm size and *Flev* have a negative link, as seen by the correlation coefficient (-0.261). This suggests that larger businesses can obtain outside funding This is supported by Ezeani (2019) who established negative association exist between Firm size and leverage. he correlation coefficient (0.162) shows a positive relationship between asset tangibility (*Ast*) and *Flev.* It implies that firms with large fixed assets have access to external borrowings. This finding is similar to the result of Efuntade and Akinola (2020) who fund that asset tangibility significantly correlated with leverage. Non -debt tax shield (*Ndt)* has an inverse with *Flev* as depicted by correlation coefficient (-0.068). This finding is in consonance with the outcome of Onofrei et al. (2015) who discovered negative relationship between leverage and non-debt tax shelters. Inflation (*Inf*) positively correlated with *Flev* at coefficient (0.175), suggests that businesses typically borrow money rather than increasing equity when inflation rises. *Gdpg* Gross domestic product growth negatively correlated with *Flev* as depicted by correlation coefficient (-0.040). Since there was no coefficient of variables that above the threshold of 10 on VIF which indicated that the issues of multicollinearity problem may not likely to occur in the study.

Table 3: Estimated Static Panel Regression Results of Model

Variables	**Pool Effect**	**Fixed Effect**	**Random Effect**
C	1.006	-0.703	1.006
	(5.582) **	(-2.116) **	(5.685) **
FSI	0.106	0.113	0.106
	(-5.515) **	(-2.672) **	(-5.617) **
AST	0.292	0.169	0.292
	(4.382) **	(1.896) *	(4.463) **
NDT	-0.022	-0.008	-0.028
	(-2.779) **	(-0.867)	(-2.831) **
INF	0.027	0.029	0.027
	(3.804) **	(5.296) **	(3.874) **
GDPg	0.002	0.009	0.002
	(0.293)	(1.713) *	(0.298)
R^2	0.145	0.144	0.525
F-stat	13.982(0.000)	13.981 (0.000)	10.788 (0.000)
Wald Test x^2			52.542 (0.000)
Breusch Pagan			247.521 (0.000)
Heteros			6.865(0.009)
Hausman Test			5.0791 **(**0.166**)**

Source: Authors Compilation (2023)

t- statistics values in parentheses; P-val<0.05** P-val<0.10*

Table 3 shows the P-value of the Hausman Test of (0.166) which implied that Random effect is more appropriate than pooled OLS. This also affirmed by Breusch Pagan test which was used to decide the appropriate panel regression between Pooled OLS, random and fixed effect regression. The output of (Breusch-Pagan) test as shown in the Table 3 suggest random effect was the appropriate estimation method employed as indicated by the P-value<0.05. The probability value=0.000 <0.05 and F-stat. 10.788 shows that the model is fit and significant at 5% level and the variables were properly selected and combined. This means that there is an association between firm structural attributes and financial leverage. The R^2 of about 52.5 % of the total variation of financial leverage is explained by the predictor variables and the remainder of 47.5% is not explained which is accounted for by the stochastic error term. Wald Tests x^2 reveals p-value 0.000 <0.005 this indicates that all predictor variables were taken as a part of determinants factors of financial leverage.

Furthermore, firm size (t= -5.617; p <0.05) had negative but significant impact on financial leverage. The result suggests that larger firms are more varied in providing services and making sources of internal funding accessible. In this case, large Nigerian firms will likely issue more equity rather than debt. The findings of the studies (Ezeani, 2019; Khan et al., 2020; Uddin et al., 2019) demonstrated a significant and negative association between firm size and leverage structure. Asset tangibility had a positive and substantial effect on financial leverage with (t= 4.463; p <0.05). This suggests that the asset structures of the enterprises are important when it comes to seeking finance, because tangible assets act as collateral for debt financing. This result was in line with the trade-off theory's implications, and the finding itself was consistent with (Buvanendra et al., 2017) who found that assets tangibility had positive significant with leverage.

The impact of non-debt tax shielding on capital structure was substantial but negative (t= -2.831; p<0.05). This indicated that the company has a higher share of tangible fixed assets, which result in higher levels of depreciation and a larger tax credit. However, the negative and significant outcome this study implied that firms with highly depreciation figure may lower their debt. This finding was agreed with the outcome of Onofrei et al. (2015) who discovered negative relationship between leverage and non-debt tax shelters

On the control variables, inflation (t= 3.874; p<0.05) had a positive and significant effect on leverage and it was claimed that as inflation rises, businesses typically borrow money rather than raising equity. This finding is similar to the study of (Kaloudis & Tsolis, 2019). discovered that inflation had a positive influence on leverage. GDPg (t= 0.298; p >0.05) had a positive but insignificant effect on financial leverage and when there was decrease in GDP, companies may choose to restructure their finances by trading debt for equity, which lowers their leverage. However, the x^2 $Wald\ test$ (52.542, p-value=0.000) disclosed that firm structural attributes used in this study were considered as a part of the determinant factors for financial leverage.

Table 4: Estimated Dynamic Panel Regression

Variable	Coeff.	S. E	t-Stat	Prob.
Flev (-1)	0.115	0.029	3.931	0.000
Fsi	0.204	0.029	6.956	0.000
Ast	0.157	0.053	2.965	0.006
Ndt	-0.020	0.005	-4.478	0.000
Inf	0.031	0.003	9.089	0.000
Gdp	0.030	0.004	7.725	0.000
J-statistic	27.498			
Prob(J-statistic)	0.545			
Instrument rank	35			
AR (1) P-value	0.618			

Source: Authors Compilation (2023).

The study reported the adjustment speed (SOA)estimated using system GMM. Table 4. reported the coefficients of the lagged leverage of 0.115, it was noteworthy and favourable for all manufacturing business sectors at the 5% level. The outcomes align with the research findings published by Aderajew et al. (2017). That there was a positive and significant effect of firm size on capital structure adjustment in Nigerian manufacturing firms (t=6.956; P<0.05). This is supported by the claim that large companies can alter their capital structures more quickly and at a lower cost than smaller ones, the cost of doing so is essentially fixed. The finding was similar to the outcome of (Ezeani, 2019, Uddin et al., 2019). Asset tangibility (t = 2.965; p<0.05) had positive and significant effect on speed of adjustment speeds. It implies that creditors place a higher value on material possessions. The outcome bolsters the significance of using physical assets as security for loans. This outcome was in consonance with the result of (Buvanendra et al., 2017). Non-debt tax shields (NDTS) had a negative and significant effect on capital structure adjustment with (t= -4.478; p<0.05), this indicated that firms with highly depreciation may quickly adjust their capital. This was in line with outcome of (M'ng, et al. 2017). Inflation had a positive and significant effect on capital structure adjustments (t = 9.089; p <0.05), and it was inferred that rising inflation generally causes businesses to borrow money rather than raise equity and reduce their debt. GDPg contributes positively and strongly to changes in capital structure (t= 7.725; p<0.05). This indicated that as the economy grows, so does the demand for goods and/or services, which forces companies to produce more and raises their need for money to fund operations.

This study employed a coefficient diagnostic test to identify errors in GMM estimation resulting from the validity of the data via (J-stat), which displays a Sargan J-stat of (27.498; P-v=0.545) while the Arellano and Bond AR (1) tests yielded a P-value 0.618, indicating that the model is not affected by autocorrelation. This validates the efficiency and reliability of the estimates as it showed no indication of first order serial correlation in the outcome.

Table 5: Speed of Adjustments (GMM System)

Flev (-1)	0.115	**Percentage SOA**
Speed of Adjustments $\boldsymbol{\lambda_{it}}$	0.885	89%
Half –life years	0.3	

Source: Authors Computation, (2023).

At the 0.05 level of significance, Table 5 indicates that lagged leverage (Flev-1) is significant. Manufacturing firms adjust leverage towards the target capital structure at a speed of 89% (1−λ) per year, as inferred from the estimated lagged leverage coefficient value of 0.115. This implies that it takes firms approximately 0.3 years to reach half of the target leverage from their current leverage. The current findings of the study indicate that Nigerian industrial enterprises relied on bank credit. This finding linked to the underdeveloped Swiss bond market, causing firms to acquire debt finance through bank lending. The study further revealed SOA across manufacturing firms in the study was 89%, which suggests extremely high adjustments speed. This indicates that the faster adjustments occurred thereby, easing the means of acquiring financing through debt and lower adjustment costs. This finding was similar to the work of Ezeani (2019) who reported that SOA of 83%, 72%, 63% for Nigerian oil and gas, industrial goods as well as non- financial firms. Reported SOA of 80% for Swiss firms and SOA of 79% for firms in Spain.

5.0 Conclusion and Recommendations

It is deduced that firm structural attributes such as firm size, non-debt tax shield and assets tangibility have significant effect on capital structure adjustment, because large firms with high tangible assets will have assets to be use or pledge as a security while company source for funds. This study concluded that structural attributes serve as firm-level determinants to understanding of factors influencing the capital structure (financial leverage) and speed of adjustments of listed companies in Nigeria. It was recommended that management of firms need to expand in size and investing in tangible assets to enhance their profit level, this will enable them to enjoy large profit levels with a large reduction in debt ratio. By presenting proof of the presence of capital structure adjustments, this study added to the body of knowledge already available on capital structure. This study differentiated from pattern in methodology and modelling by combining both static and dynamic panel estimation techniques which were employed separately by the previous researchers.

References

Abate, G. (2012). Factors affecting profitability of insurance company in Ethiopia: Panel evidence. *M.Sc. Thesis Submitted to the Department of Accounting and Finance, Addis Ababa University, Ethiopia*.

Aderajew, S. T., Andres, T.B., & Joost, M.E. P. (2017). Target capital structure: dynamics, determinants and speed of adjustment. *Contribution presented at the XV EAAE Congress, Towards Sustainable Agri-food Systems: Balancing Between Markets and Society* August 29th – September 1st, 1-32.

Abdullahi, K.T., & Suleiman, S. U. (2020). Firm characteristics and capital structure of cement firms in Nigeria. *Journal of Administrative and Business Studies, 6*(2), 61-68.

Aggarwah, D., & Padhan, P.C. (2017). Impact of capital structure on firm value: Evidence from Indian hospitality industry. *Theoretical Economics Letters*, (7), 982-1000.

Ahmed, Z., Naveed, A., & Usman, A. (2011). Determinants of performance: A case of life insurance sector of Pakistan. *Int. Res. J. Financ. Econ*. *61*, 123-128.

Annalien, D.V. (2010). Effect of firm characteristics and economic factors on the capital structure of south African listed industrial firms. *Thesis submitted for fulfilment of the requirements for the degree of Master of Commerce at the Stellenbosch University*.

Awan, H. M., Bhatti, M. I., Ali, R., & Qureshi, A. (2011). How growth opportunities are related to corporate leverage decisions? *Investment Management and Financial Innovations, 7*(1), 90-97.

Beli, S. R., Bujang, I., Yee Vun, J., & Rimin, L. (2019). Psychological effect on capital structure: The impact of overconfidence on firm's leverage decision in Malaysia. *The Business and Management Review*,*10* (3), 301-306.

Belkhir, M., Maghyereh, A., & Awartani, B. (2016). Institutions and corporate capital structure in the MENA region. *Emerging Markets Review*, *26*, 99-129.

Buvanendra, S., Sridharan, P., & Thiyagarajan, S. (2017). Firm characteristics, corporate governance and capital structure adjustments: A comparative study of listed firms in Sri Lanka and India. *IIMB Management Review*, 29, 245-258. https://doi.org/10.1016/j.iimb.2017.10.002

Chang, C., Lee, A., & Lee, C. (2008). Determinants of capital structure choice: A structural equation modeling approach*, The Quarterly Review of Economics and Finance 49*, 197–213.

Chipeta, C., & Mbululu, D. (2013). Firm heterogeneity, macroeconomic conditions and capital structure adjustment speeds: Evidence from the JSE. *Investment Analysts Journal, 42* (77), 69–80. https://doi.org/10.1080/10293523.2013.11082557

Chowdhury, A., & Chowdhury, S. (2010). Impact of capital structure on firm's value: Evidence from Bangladesh. *Business and Economic Horizons, 3* (3), 111- 122.

Doorasamy, M. (2021). Capital structure, firm value and managerial ownership: Evidence from East African countries. *Investment Management and Financial Innovations*, 18(1), 346-356. https://doi.org/10.21511/imfi.18(1).2021.28

Efuntade, A. O., & Akinola, A.O. (2020). Firm characteristics and financial performance in quoted manufacturing companies in Nigeria. *International Journal Business. Finance Management Research, 7,* 25-32.

Eneh, O. M. R., Ehioghiren, E. E., & Okegbe, T. O. (2020). Corporate governance and dynamic capital structure adjustments in Nigeria, *IOSR Journal of Economics and Finance, 11*(6), 01-10. https://doi.org/10.9790/5933-1106060110

Ezeani, E. (2019). Determinants of capital structure and speed of adjustment in Nigerian non-financial firms: *A thesis submitted in partial fulfilment for the requirements for the degree of doctor of philosophy, at the University of Central Lancashire.*

Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics*, *79*(3), 469–506. https://doi.org/10.1016/j.jfineco.2005.03.004

Hanousek, J., & Shamshur, A. (2011). A stubborn persistence: Is the stability of leverage ratios determined by the stability of the economy? *Journal of Corporate Finance*, 17(5), 1360–1376. https://doi.org/10.1016/j.jcorpfin.2011.07.004

Haron, R. (2016). Do Indonesian firms practice target capital structure? A dynamic approach. *Journal of Asia Business Studies*, *10*(3), 318–334. https://doi.org/10. 1108/IJMF-03-2012-0025

Heshmati, A., (2001). The dynamics of capital structure: evidence from Swedish micro and small firms. *Research in Banking and Finance, 2*(1), 199-241.

Ibrahim, J., Olowookere, J. K., & Oladejo, T. M. (2023). Do firm attributes affect capital structure adjustments of listed manufacturing firms in Nigeria? *Economics Management Innovation.* 2023 (1), 52-64.

Kaloudis, A., & Tsolis, D. (2019) Capital structure and speed of adjustment in U.S. firms. α comparative study in microeconomic and macroeconomic conditions-a quantile regression approach. *Journal of Critical Reviews, 7*(13) 43-47.

Kayo, E. K., & Kimura, H. (2011). Hierarchical determinants of capital structure. *Journal of Banking & Finance*, *35*(2), 358–371.

Kieschnick, R., & Moussawi, R. (2018). Firm age, corporate governance, and capital structure choices. *Journal of Corporate Finance*, *48*(c), 597–614.

Kim, J. H. (2017). Asset specificity and firm value: Evidence from mergers. *Journal of Critical Reviews,* 7(21) 63-71.

Khan, K., Qu, J., Shah, M. H., Bah, K., & Khan, I. U. (2020) Do firm characteristics determine capital structure of Pakistan listed firms? A Quantile Regression Approach. *Journal of Asian Finance, Economics and Business*, *7* (5), 061 – 072. https://doi.org/10.13106/jafeb.2020.vol7.no5.061

Marughu. A.J., & Nwaobia, A.N. (2020). Corporate governance and investors' decision in quoted deposit money bank in Nigeria. EJBMR, *European Journal of Business and Management Research 5*(6), 1-11.

Mawitjere, P.S., Aisjah, S., & Ratnawati, M. (2016). Speed of leverage adjustment (a study on manufacture companies listed in Indonesian Stock Exchange. *International Journal of Social Relevance & Concern*,*4*(11) 22-30.

Memona, P.A., Md-Rus, R., &. Ghazali, Z.B (2020) Adjustment speed towards target capital structure and its determinants, E*conomic Research- Ekonomska Istraživanja*, *34*(1), 1966-1984.

M'ng, J. C. P., Rahman, M., & Sannacy, S. (2017). The determinants of capital structure: Evidence from public listed companies in Malaysia, Singapore and Thailand. *Cogent Economics and Finance*, *5*(1). https://doi.org/10.1080/23322039.2017.1418609

Modigliani., F, & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review*. *53*, 433-443.

Muigai, R. G., & Muriithi, J.G. (2017). The moderating effect of firm size on the relationship between capital structure and financial distress of non-financial companies listed in Kenya. *Journal of Finance and Accounting*, *5*(4), 151-158.

Naveed, M., Ramakrishnan, S., Anuar, M., & Mirzaei, M. (2015). Factors affecting speed of adjustment under different economic conditions: Dynamic capital structure sensitivity analysis. *Journal of Chinese Economic and Foreign Trade Studies*, 8(3), 165 – 182.

Nguyen, T. H., & Nguyen, H. A. (2020). Capital structure and firm performance of non-financial listed companies: Cross-sector empirical evidences from Vietnam. *Accounting*, *6*(2), 137–150.

Nguyen, T. H., Nguyen, X. M., Nguyen, T. T. H., & Tran, Q. T. (2017). Ownership structure and performance of professional service firms in a declining industry: Evidence from Vietnamese

securities firms. *Business and Economic Horizons*, 13(2), 142-151. https://doi.org/10.13106/jafeb.2019.vol6.no3.41

Okonkwo, J. J., & Azolibe, B. C. (2020). Corporate governance and bank performance in Nigeria: An empirical investigation. *Unizik Journal of Business, 3*(2),14-26.

Onofrei, M., Tudose, M. B., Durdureanu, C., & Anton, S. G. (2015). Determinant factors of firm leverage: an empirical analysis at Iasi County level. *Procedia Economics and Finance, 20*(1), 460-466. https://doi.org/10.13106/jafeb.2020.vol7.no5.061

Pandey, R., Biswas, P. K., Ali, M. J., & Mansi, M. (2019). Female directors on the board and cost of debt: evidence from Australia. *Accounting & Finance, acfi*.12521.

Pervaiz, A. M., Rohani, M., & Zahiruddin, B. G. (2021). Adjustment speed towards target capital structure and its determinants. *Economic Research- Ekonomska Istraživanja*, *34*(1), 1966-1984. https://doi.org/10.1080/1331677X.2020.1860792

Ramy, W.H. (2020). Capital structure determinants, dynamics and speed of adjustment towards target leverage: A systematic literature review of empirical and theoretical disciplines. *International Journal of Recent Scientific Research*, *11*(02), 37517-37528. http://dx.doi.org/10.24327/ijrsr.2020.1102.5127

Razaq A. G., Alhassan, A., Ame, J. (2023). Effect of corporate attributes on sustainability reporting of listed non-financial firms in Nigeria. *FUDMA Journal of Accounting and Finance Research* (FUJAFR) (1(2), 156-170. https://doi.org/10.33003/fujafr-2023.v1i2.46.156-170

Sani, A., Alifiah, M. N., & Dikko, U. M. (2020). The dynamic relationship between board composition and capital structure of the Nigerian listed firms. *Journal of Critical Reviews*, *7*(11), 621–626.

Sathyamoorthi, C. R., Pritika, S. B., Dzimiri, M., & Wally-Dima, L. (2019). Capital structure and its effect on firm performance: an empirical study on the listed consumer services sector organizations in Botswana. *European Journal of Economic and Financial Research, 3*(5), 68-90.

Surwanti, A. (2015). Speed adjustment of leverage company in Indonesia: Examination dynamic model. *Dissertation Submitted to Faculty of Economic and Business, Gadjah Mada University, Yogyakarta.*

Uddin, M. N., Khan, M. S., & Hosen, M. (2019). Does corporate governance influence leverage structure in Bangladesh? *International Journal of Financial Studies*, *7*(3), 1–16.

Vijayakumaran, R., & Vijayakumaran, S. (2019). Corporate governance and capital structure decisions: Evidence from Chinese listed companies. *Journal of Asian Finance, Economics and Business*, 6(3), 67-79. https://doi.org/10.13106/jafeb.

Wendey. & Salim, K.C. (2019). The speed of adjustment towards optimal capital structure: a test of dynamic trade-off model. *Jurnal Ekonomi Malaysia, 53*(3), 91-102. http://doi.org/10.17576/JEM-2019-5303-7