Effect of Financial Leverage on Firms Performance: Case of Listed Pharmaceutical Firms in Nigeria.

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Abstract: *This paper empirically examine the effect of financial leverage on firms' performance, a study of listed Pharmaceutical firms' in Nigeria. Using annual panel data for a period of 16 years, ranges from 2003 to 2018 with the application of econometric techniques. The empirical results show that Debt Equity Ratio (DER) have positive relationship, while Debt Ratio (DR) and Interest Coverage Ratio (ICR) has negative relation with Return on Assets (ROA) and Return on Equity (ROE). This evidence that financial leverage has significant effects on profitability and efficiency of firms' performance, especially quoted Pharmaceutical Companies in Nigeria.*

Keywords: Financial Leverage, Firms' Performance, Return on Assets, Return on Equity

1.0 INTRODUCTION

Financial decision of management is a very crucial part of a firm's performance. This is largely due to its effect in determining the optimal capital structure which ultimately maximize shareholders earnings and increase the firm's value. Therefore, in order to achieve optimal capital structure, corporate financial managers are faced with the challenge of selecting the most appropriate method of debt- equity mix from different level of financial leverage. As financial leverage of a firm play's a significant role in enhancing the shareholders wealth (Gleason and Mathur, 2000; Abubakar, 2015). Financial leverage refers to the use of debt to acquire additional assets. The use of financial leverage to control a greater amount of assets will cause the returns on the owner's investment to be improved thereby enhancing efficiency and performance of a firm.

The sources of long- term funding for a business are divided into two main part; equity and debts. Banerjee (2009), and Nwanna and Ivie (2017) stressed that there should be appropriate mix between debt and equity in order to take full advantage of financial planning as well as to take advantage of lowering the average cost of capital of the firm. In Nigeria, the pharmaceutical industry is a highly regulated sector. The revised National Drug Policy (NDP, 2004) set a target for 70 percent (in volume) of the country's demand for medicines to be met by local drug manufacturers. Thus, Government policies support local production of essential medicines in accordance with the NDP. The justifications or challenges that initiated the need for local production of pharmaceuticals include; just like in any other economy, high prices for imported pharmaceuticals, lack of ready accessibility to available pharmaceuticals, fake and substandard products and poor storage infrastructure.

Prior to the commencement of drug manufacturing in 1960s, Nigeria only imports finished pharmaceutical dosage forms as suspensions, syrups, tablets, creams, ointments, suppositories, powders, capsules, all of which were imported by either multinational drug companies or government. However, the health sector has been gaining more attention especially the local production of dosage forms and some processing equipment through the participation of stakeholders in the medicine supply chain. With over 115 registered pharmaceutical manufacturers which in addition to providing dependable high-quality pharmaceutical products to medical professionals and patients in various communities in Nigeria and West Africa, have also contributed to the economic growth of the nation.

It is important to state that major obstacle faced by local manufacturers in Nigeria is access to finance for upgrading facilities and adequate working capital, thereby hindering their participation in the international market for pharmaceutical supplies. The existence of a firm is to make profit and enhance growth and expansion. For pharmaceutical firms to invest in the best pharmaceutical drugs and medicines, they are faced with how to fund their business externally. Therefore, a lot of issues have come up between the relationship of leverage and company performance. In order to make informed choices and decisions, financial managers within the pharmaceutical companies need to consider key financial ratios that are most helpful in the analysis, both debts and equity evaluation of pharmaceutical firms. Hence, this paper looks at effects of financial leverage in increasing the return of the shareholders' based on the assumption that the fixed charges from loans and debentures can be obtained at a lower

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cost to the risk of equity cost. As this important for corporate finance mangers in the sector to examine the best and optimal approach towards external financing in order to maintain profitable returns on investment.

The selected listed pharmaceutical firms: GlaxoSmithKline Consumer; May and Baker Nigeria Plc.; Neimeith International Plc.; and Fidson Health care Plc. The study focused on pharmaceutical performance in the area of external finance. Data for analysis is collated from the Annual Reports of the selected pharmaceutical firms listed in the Nigerian Stock Exchange. Their financial statements were used to analyze the effects of financial leverage on their performance by establishing a relationship between the level of debt and their performance for the period 2003-2018. Using the following variables, Return on Assets (ROA); Return on Equity (ROE); Debt to Equity Ratio (DER); Debt Ratio (DR); and Interest Coverage Ratio (ICR), and with the application of Panel Auto Distributed Lag Model (PADL) for the estimation, the paper examine the effect of financial leverage on firm's financial performance with particular reference to quoted pharmaceutical firms in Nigeria. The findings provide that financial leverage has effect on pharmaceutical firms' performance in Nigeria.

While concentrating on the effect of financial leverage on firms' performance, particularly on listed pharmaceutical firms' in Nigeria, our research contributes to the existing literature on firms' capital structure. In addition, the policy makers, practitioners and investors will have deeper understanding of how financial leverage affects firms' performance, in a developing economy.

This research article is structured as follows: the second section reviews literature. Third section discusses the data and methodology. Fourth section presents the empirical results and fifth section provides the conclusion.

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

Leverage: This refers to the proportion of debt to equity in the capital structure of a company. It refers to the extent with which a company use both their equity and borrowings to increase their performance. The financing decision is purely a managerial decision in that it influences the shareholder's return, risk and market value (Nwanna and Ivie, 2017). Companies that borrowed a huge and large sum of money could be seen as highly leverage if this occurred during the business recession and this might posed a great potential risk. Financial leverage is the use of borrowed money (debts) to finance the acquisition of assets with the hope that the capital gain from the acquisition of the new assets will exceed the cost of borrowing. It can also be referred to as the measure of how much firm uses debts and equity to finance its assets in order to increase the operating profit of the firm. A levered firm comprises of debt and equity while the unlevered firm is an all- equity firm (Andy, Chuks & Alison, 2002). In finance, capital structure decision has become important and of interest to researchers. Although, the issue of financial leverage in the developing countries has been reviewed yet, substantial examination of the effect of financial leverage on firm performance in Nigeria can still be done. It is as a result of this, that this research work is geared toward examining such effect.

2.2 Theoretical Review

Quite a number of theories have been proposed to explain the influence of debt on corporate performance and profitability among which are briefly discussed.

The Irrelevancy Theory: This is the major theory that emanated from the contribution of (Modigliani and Miller, 1958), they emphasized that in a perfect capital market, and a firm's Value is independent or irrelevant to its capital structure. This implies that leverage in itself merely changes the allocation of cash flow between debts and equity without tampering with the total cash flows of the firm. However, in the real world, the capital market are not perfect and at such the assumptions around it were unrealistic. The theory is based on the assumption that the market is perfect, efficient and that investor do not need to incur transaction cost or pay taxes when transactions of securities occur. Nonetheless, lately in 1963, they reviewed their stand and proposed that firms should use the highest amount of debt capital to maximize their value.

The Agency Cost Theory: The agency theory was developed by Jensen and Meckling (1976). They suggested a theory of how the governance of a company is based on the conflicts of interest between the company's shareholder, its managers and major provider of debt finance. Emphasis is based on the conflicting interest that can arise between the shareholders and managers and also between the debt-holders and stockholders. Each of these group has different interest and objectives. Jensen and Meckling defined the agency relationship as a form of contract between a company's owners and its managers, where the owners (as principal) appoint an agent (the managers) to manage the company on their behalf. Therefore, as part of this arrangement, the shareholder

must delegate decision making authority to the management expecting that the agent act in the best interests of the shareholder. In practice, this is not always the case, which results in what is known as the agency conflict. Agency conflicts are the differences in the interest of a company's shareholder and its managers. The conflict of interest and agency cost arises due to the separation of ownership from control, different risk preferences, information asymmetry and moral hazards.

The Trade-Off Theory: According to Frank and Goyal, (2003) this theory emphasized that a company chooses how much debt finance and how much equity finance to use by balancing the benefits and the costs of using debts. This implies that optimal capital structure is derived only by matching the benefit of tax against the cost associated with debts. The theory explains that corporation are usually financed partly with debt and partly with equity. The Trade-off Theory of leverage is that in which firms' trade-off the benefits of debt financing against the cost of debt. A firm's optimal debt ratio is usually viewed as determined by a tradeoff of the costs and benefits of borrowing, holding the firm's assets and investment plans constant. The firm is portrayed as balancing the value of interest tax shields against various costs of bankruptcy or financial embarrassment (Myers, 1984) Therefore, leverage and performance are positively related. The trade-off theory suggests that those firms' with higher level of retained earnings, i.e. profitable firms tend to have higher debt levels because they can effectively take advantage of tax shields on interest. In addition, since these companies have higher operating profits, the probability and costs of financial distress are also lower. Consequently, the trade-off theory predicts positive relationship between firms' leverage ratios and their performance. The trade- off theory could be static or dynamic.

The Pecking Order Theory: This theory was postulated by Donaldson in 1961 and was later modified by Myers in 1984, and it states that companies follow a hierarchy when considering their sources of financing. The theory state that finance can be obtained from three different sources; through the internal sources (Company's retained earnings), debt and lastly through equity. The theory states that firms prefer to finance new investment first internally because it is seen to be the least expensive while, second with debts, which is more expensive and by issuing new equity as last resort which is the most expensive of all. Abubakar (2017) argued that company would rather have their source of funds raised internally first then raise debts externally and finally raise fund through external equity. The theory explained why debt is considered the best option during adverse selection about a company's value. Debt finance has been argued to be cheap, attractive and more profitable due to its flexibility. Hence, the pecking theory expects an inverse relationship between leverage and performance.

The Free Cash Flow Theory: The theory which was originally proposed by Jensen focused on the cash flow that is left after the firms has invested in all available positive NPV projects. Jensen argues that since the free cash flow is a financial resources at the management's discretion to allocate, he emphasized that too much free cash flow (also known as idle cash flow) will result in waste of corporate resources and eventually leads to agency cost which will affect the shareholder's wealth. According to Jensen, when a company has generated an excessive surplus cash flow and no available investment opportunities, due to the self-interest motive of the management, this idle cash flow is mismanaged and resulting in an increase in agency cost. The management believe that to increase the value of the company they need to maintain a high level of debt.

The Market Timing Theory: Is a theory of how firms decides to finance their investments either with equity or debt instruments considering the financial market. In other words, company generally chose the form of financing which at a point in time seems to be more valued by the financial markets. Abor (2007) emphasized that firms will prefer to issue equity when the cost of equity is relatively low and prefers to issue debt when they perceive the relative cost of equity as high. The market timing theory states that low levered companies are those that raise funds when their market valuations are high while high levered company are those that raise funds when their market valuation are low.

2.3 Empirical Review

Various empirical studies have been carried out to determine whether any relationship exists between corporate performance and financial leverage and whether this financial leverage has effect corporate performance of listed companies in Nigeria.

Abdul and Badmus (2017), examined the relationship between leverage and firm performance of some selected chemical and paint firms quoted on the Nigeria Stock Exchange using ordinary least square method, during the period 2000-2009, considered Debt ratio as proxies for capital structure. The result revealed that firms that are financed with more equity performs better than that of levered firms. Mwangi, Makau and Kosimbei (2014) found that financial leverage is statistically negatively related to financial performance measured by return on assets and return on equity. Maroko (2014) found that positive relationship exist between financial leverage, cost of equity, debt interest and organization financial performance.
Innocent et al. (2014) showed that debt ratio and debt-equity ratio have negative relationship with ROA, while interest coverage ratio has a positive relationship with ROA in Nigerian Pharmaceutical Industry.

Hasan and Gupta (2013) used simple regression model of selected public companies in Bangladesh for the period, 2005-2009. Using the debt ratio as independent variables and EPS as dependent variable. The results show that leverage has statistical significant effect on shareholders' return and that appropriate management of leverage can also maximize EPS. Akbarian (2013) investigated the effect of financial leverage and environmental risk on firm performance of listed companies in Tehran Stock Exchange. The results show that a negative relation exists between financial leverage and cash flow per share. It also indicates that financial leverage, market risk and economic risk with return of equity have positive significant relationship. Alocock, et al (2013) examined the role of financial leverage in the performance of private equity real Estate funds. The results show that overall funds are unable to bring significant positive out of performance on the basis of managerial skill that is unrelated to the exposure to the variation in the underlying market return. It also revealed that the impact of transaction costs, fees and other market frictions that are prevalent in the direct real estate investment industry, given the relatively low level of liquidity of the underlying assets. It further showed that excess fund return were approximately proportional to the excess market return, implying that these fund offers investors effective exposure to the performance of the underlying property markets. Maroko (2014) uncover evidence that provides support for significant positive relationship between financial leverage and firms' financial performance.

Hassan and Gupta (2013) discovered that a firm's financial leverage proxy by debt ratio has a significant and negative relationship with the financial performance proxy by ROA and ROE. Akhtar, Javed, Maryam and Sadia (2012) showed positive relationship between financial leverage and all measures of financial performance except ROA and dividend cover ratio. Aburub (2012) found that that capital structure has a positive effect on financial performance. Salim and Yadav (2012) conducted an empirical research on the relationship between capital structure and firm performance. The results show that firm performance has a negative effect on leverage be it short or long term debts.

Aburub (2012) show that financial leverage (debt ratio) has a significant and negative effect on financial performance (ROA and ROE) of sampled firms. Abubakar (2015) study of Nigerian petroleum industry found that there is positive relationship between leverage and financial performance proxy by earning per share and dividend per share.

Jelinek (2007) examined the effect of financial leverage and free cash flow and firm growth on earnings management. The results show that firm experiencing an increase in financial leverage during a five year period steadily compared to those which had high leverage degree in the same period has performed less earnings management. Abor (2007) also confirmed the negative relationship between leverage and performance. Berger and Di Patti (2006) conduct a study on capital structure and firm performance and the results show that leverage could affect agency cost thereby influencing the firm performance. Berger and Di Patti (2006) also evidence that neither high level of financial leverage nor small capital of the company, are associated with higher efficiency of company's performance.

3.0 METHODOLOGY

Data Sources: The data for this research study are sourced from the annual reports and accounts of the sample companies and the Nigerian Stock Exchange Facts Book. The focus is on the effect of financial leverage on firm's financial performance with particular reference to quoted pharmaceutical firms in Nigeria for the period, 2003 to 2018. Using the following variables, Return on Assets (ROA); Return on Equity (ROE); Debt to Equity Ratio (DER); Debt Ratio (DR); and Interest Coverage Ratio (ICR).

Model Specification

The Levin, Lin & Chu t* and Im, Pesaran and Shin w-stat are employed to explore the stationarity of the data.

The model below is used to test the null hypotheses.
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \ldots\ldots = e_j$$

Where:

Y = dependent variable of firm

X = independent variable of firm

β_0 = intercept for x variable of firm

$\beta_1 - \beta_3$ = coefficient for the independent variable x of firms, denoting the nature of the relationship with dependent variable y (or parameters)

e_j = the error term

This least squares model is converted into specific variable resulting in:

ROA Model

$[ROA] \, y_t = \beta_0 + \beta_1 [DR] y_t + \beta_2 [DER] y_t + \beta_3 [ICR] y_t + e_j$

ROE Model

$[ROE] \, y_t = \beta_0 + \beta_1 [DR] y_t + \beta_2 [DER] y_t + \beta_3 [ICR] y_t + e_j$

Where: ROA= Returns on Assets

DR= Debt Ratio
DER= Debt-Equity-Ratio
ICR= Interest Coverage Ratio
e_j = error term

4.0 EMPIRICAL RESULTS AND DISCUSSION

Unit root test is conducted (Levin, Lin & Chu t* and Im, Pesaran and Shin w-stat) in order to check for the stationary of the variables as well as to avoid spurious regression and biasedness of results. Therefore, Table 1 presents the results of the panel unit root test. The results show that Returns on Assets (ROA), Interest Coverage Ratio (ICR), Debt Ratio (DR) and Debt to Equity Ratio (DER) were stationary at levels I (0) while Returns on Equity (ROE) was stationary at first difference I (1).Since the data were found stationary at level and first difference, a co-integration test is conducted to determine whether there exists a long run relation in the model.

Table.1. Unit Root Analysis

Variables	Levin, Lin & Chu t*	Prob. Values	Decision	Im, Pesaran and Shin w-stat	Prob. Values	Decision
ROA	-625.9050***	0.0000	I(0)	-337.2830***	0.0000	I(0)
ROE	-913.6270***	0.0000	I(1)	-387.1110***	0.0000	I(1)
DER	-4.4191***	0.0000	I(0)	-2.7231***	0.0032	I(0)
DR	-3.8814***	0.0001	I(0)	-2.6939***	0.0035	I(0)
ICR	-3.8820***	0.0001	I(0)	-3.1988***	0.0007	I(0)

Note: This table reports the unit root test of the variables. Variables Abbreviation: ROA (Return on Assets), ROE (Return on Equity), DER (Debt-Equity Ratio), DR (Debt Ratio), ICR (Interest Coverage Ratio). 1% level is denoted by *** represent the level of statistical significance.

Table 2 presents the summary of descriptive statistics. The findings indicate that all the variables fail the Jarque-Bera (JB) test except ROA, ROE and ICR. Meaning that all the variables depart from normality with the exception of ROA, ROE and ICR. The skewness for all the variables is less than 3.

Table 2. Summary of Descriptive Statistics

Variables	ROA	ROE	DR	DER	ICR
Observations	64	64	64	64	64
Mean	0.0681	0.1631	0.5675	1.0918	0.0681
Std. Dev.	0.0595	0.1507	0.7069	0.9149	2.4327
Skewness	0.7255	0.6612	2.8315	1.5169	-0.7060
Kurtosis	2.1986	1.7306	10.5424	5.3641	2.3472
Jarque-Bera	1.8320 (0.4001)	2.2402 (0.3262)	59.3106 (0.0000)***	9.8626 (0.0072)***	1.6132 (0.4463)

Notes: The table presents the summary of descriptive statistics of the variables. P-values are reported in parenthesis. 1% level is denoted by *** represent the level of statistical significance.

Table 3 presents the co-integration results. The parameter values of panel PP-Statistics, panel ADF-Statistics, Group PP-Statistics and Group ADF-Statistics are less than 5%. Therefore, the null hypotheses of no co-integration in the model is not accepted. It implies that there is co-integration in the financial leverage and firm's performance model.
Given the existence of co-integration as well as the data that were integrated at mixed order (i.e. I(0) and I(1)), a panel ARDL long run analysis is considered appropriate.

Table 3. Pedroni Co-Integration Test

	Panel Statistics	P.Value	Group Statistics	P.Value
Variance Ratio	-1.0974	0.8638	--	---

Rho Statistics	1.0820	0.8604	1.3140	0.9056
PP Statistics	-2.6612***	0.0039	-2.7581***	0.0029
ADF Statistics	-2.3849***	0.0085	-2.5544***	0.0053

Source: Author's Calculations.

*Notes: The table reports the results of Pedroni Co-integration analyses. 1% level is denoted by *** represents the level of statistical significance.*

Table 4 presents Panel Auto Distribution Lag Model of Return on Assets (ROA). The results show that Debt Equity Ratio (DER) and Returns on Equity (ROE) have positive sign, suggesting a positive relationship with ROA. This shows that 1 percent increase in average yearly Debt to Equity Ratio (DER), the Returns on Assets (ROA) of the pharmaceutical firms increased by 197%. In addition, 1 percent yearly increase in Returns on Equity (ROE), Returns on Assets (ROA) of the pharmaceutical firms increased by 0.99% on yearly basis. Meanwhile, Debt Ratio (DR) and Interest Rate Coverage (ICR) have negative sign. This shows a negative relationship with Returns on Assets (ROA). This shows that 1 percent increase in Debt Ratio (DR) will on the average leads to 0.933 decrease in Returns on Assets (ROA) of pharmaceutical firms in Nigeria. However, Interest Coverage Ratio (ICR) was not significant in explaining the changes in the financial performance of pharmaceutical firms between 2003 and 2018.

The Error Correction (ECM) is rightly signed. This shows that the short run disequilibrium in the model is adjusted at 54% speed of adjustment annually.

Table 4. Panel Auto Distribution Lag Model of Return on Assets (ROA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
ICR	-5.01E-06	4.56E-06	-1.0969	0.2857
LOG(DR)	-0.9334	0.1563	-5.9708	0.0000
DER	1.0917	0.1666	6.5521	0.0000
LOG(ROE)	0.9964	0.0247	40.3382	0.0000
Short Run Equation				
ECM(-1)	-0.5452	0.2408	-2.2643	0.0348
D(ICR)	0.0449	0.0268	1.6768	0.1091
D(ICR(-1))	-0.0459	0.0369	-1.2435	0.2281
DLOG(DR)	0.4858	0.3815	1.2732	0.2175
DLOG(DR(-1))	0.1390	0.2389	0.5818	0.5672
D(DER)	-0.5311	0.2654	-2.0006	0.0592
D(DER(-1))	-0.1442	0.1798	-0.8020	0.4319
DLOG(ROE)	0.3759	0.2375	1.5828	0.1291
DLOG(ROE(-1))	0.0508	0.0474	1.0720	0.2965
C	-1.4929	0.6774	-2.2036	0.0394
Mean dependent var	-0.1594	S.D. dependent var	1.2027	
S.E. of regression	0.1425	Akaike info criterion	-0.9259	
Sum squared resid	0.4063	Schwarz criterion	0.5582	
Log likelihood	73.6312	Hannan-Quinn criter.	-0.3412	

Table 5 presents Panel Auto Distribution Lag Model of Return on Equity (ROE). The results show Debt Equity Ratio (DER) and Returns on Assets (ROA) have positive sign, suggesting a positive relationship with ROE. This shows that a unit increase in average yearly Debt to Equity Ratio (DER), the Returns on Equity (ROE) in the pharmaceutical firms will increase by 0.059 million. In addition, a unit increase in Returns on Assets (ROA) will on the average leads to 2.22 million increase in Returns on Equity (ROE) in the pharmaceutical firms in Nigeria. Meanwhile, Debt Ratio (DR) and Interest Rate Coverage (ICR) have negative sign, implies a negative relationship with Returns on Equity (ROE). This suggest that a unit increase in Debt Ratio will on the average leads to 0.109 decrease in Returns to Equity (ROE) of pharmaceutical firms in Nigeria. However, ICR is not significant in explaining the changes in the pharmaceutical firms Returns on Equity between 2003 and 2018.

The Error Correction (ECM) is rightly signed. This shows that the short run disequilibrium in the model is adjusted at 106% speed of adjustment annually in the long run.

Table 5. Panel Auto Distribution Lag Model of Return on Equity (ROE)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
DER	0.0591	0.0056	10.5432	0.0000
DR	-0.1093	0.0214	-5.0902	0.0001
ICR	-2.93E-07	6.00E-07	-0.4886	0.6304
ROA	2.2271	0.0543	40.9560	0.0000
Short Run Equation				
ECM(-1)	-1.0604	0.2613	-4.0571	0.0006
D(DER)	0.0155	0.0206	0.7522	0.4607
D(DER(-1))	-0.0393	0.0252	-1.5573	0.1351
D(DR)	-0.0394	0.0207	-1.8970	0.0724
D(DR(-1))	0.0592	0.0344	1.7177	0.1013
D(ICR)	0.0018	0.0055	0.3260	0.7478
D(ICR(-1))	0.0025	0.0084	0.2959	0.7703
D(ROA)	-0.0342	0.5079	-0.0673	0.9470
D(ROA(-1))	-0.2399	0.1319	-1.8181	0.0841
C	-0.0211	0.0122	-1.7288	0.0992
Mean dependent var	-2.7533	S.D. dependent var	20.4825	
S.E. of regression	0.0159	Akaike info criterion	-4.9922	
Sum squared resid	0.0051	Schwarz criterion	-3.5079	
Log likelihood	203.7513	Hannan-Quinn criter.	-4.4075	

Table 6 presents the firm level results, and the PMG estimation shows that in Fidson, Neimeth, May & Baker and GSK Pharmaceuticals financial leverage has significant impact on performance. The PMG results show that Fidson Plc. short run disequilibrium from long run equilibrium was adjusted at a speed of adjustment of 19.8% annually while the short run dynamics suggest that financial leverage variables have significant impact on performance. Meanwhile, Neimeth PMG results also show disequilibrium in the short run as adjusted at a speed of adjustment of 3.6% annually. Further findings show that May &Baker Plc. has short run disequilibrium adjusted at a speed of adjustment of 59% annually. Lastly, GSK is found to adjust at short run disequilibrium on the long run at a speed of adjustment of 63% between 2003 and 2018.

Meanwhile, the individual explanatory variables also confirm the PMG long run coefficient. The explanatory variables in each firms have significant effect on the firms' performance .The PMG result of the individual pharmaceutical firm level show that financial leverage variables impact significantly on the firms' performance between 2003 and 2018 with the exception of Total Debt Ratio in Neimeth, May & Baker and GSK pharmaceutical firms. The findings of this research is in consistent with the research work of Onoja and Ovayioza (2015), Abubakar (2015) and that of Abor (2007) respectively.

Table 6. PMG Estimates: Firms Level Results

Pooled Mean Group (PMG) Estimation. Short- run Results: FIDSON				Pooled Mean Group (PMG) Estimation Short- run Results: MAY&BAKER			
Variables	**Coef.**	**t. stat.**	**Prob.**	**Variables**	**Coef.**	**t.stat**	**Prob.**
ECM(-1)	-0.1988	-7.9557	0.0041	ECM(-1)	-0.5948	-6.7887	0.0065
DLOG(ROA(-1))	-0.2260	-3.3405	0.0444	DLOG(ROA(-1))	0.4866	17.3373	0.0004
DLOG(DR)	-0.8306	-8.8463	0.0030	DLOG(DR)	1.3053	1.5409	0.2210
D(ICR)	0.2846	17.1681	0.0004	D(ICR)	-0.0506	-2.9814	0.0585
D(DER)	0.6854	7.0071	0.0060	D(DER)	-0.8410	-1.4207	0.2505

C	0.1139	0.8746	0.4461	C	0.2225	0.4056	0.7122
Short-run Results: NEIMETH				**Short-run Results:** GSK			
Variables	**Coef.**	**t-stat.**	**Prob.**	**Variables**	**Coef.**	**t.stat**	**Prob.**
ECM(-1)	-0.0365	-13.6369	0.0009	ECM(-1)	-0.6300	-97.9758	0.0000
DLOG(ROA(-1))	-0.7629	-45.3411	0.0000	DLOG(ROA(-1))	-0.1556	-30.6428	0.0001
DLOG(DR)	0.9612	1.4910	0.2327	DLOG(DR)	0.0672	1.9849	0.1414
D(ICR)	0.0648	12.0315	0.0012	D(ICR)	-9.32E-06	-90556.14	0.0000
D(DER)	-0.0711	-11.2456	0.0015	D(DER)	-0.7990	-8.54760	0.0034
C	0.1903	4.3711	0.0221	C	0.6215	1.6204	0.2036

5.0 CONCLUSION

This paper empirically examine the effect of financial leverage on firms' performance, a study of listed pharmaceutical firms' in Nigeria. Using annual panel data with the application of econometric techniques. The paper evidence that financial leverage has significant effects on profitability of pharmaceutical firms' performance in Nigeria.

With this research empirical evidence, the policy makers, practitioners and investors attention has been drawn to the importance of financial leverage on how it affects firms' performance, especially, in a developing economy. Therefore, the paper recommends that financial managers should employ into the firms' capital structure, financial leverage, optimally. By so doing, firms' value can enhanced to the benefit of all stakeholders.

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