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Capital Structure and Firms Value: A Study of Selected Listed Manufacturing Companies in Nigeria

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Abstract: *This study focused on Capital structure and Firm's value, using a study of selected Listed Manufacturing Companies in Nigeria. The corporation's value suggests that shareholder wealth is also substantial. The goal of any organization is to improve its value. As a result, this study looked into the link between capital structure and firm value. A historical research design and an ex post facto research design were used in this study. This research used panel data, which includes both cross-sectional and time series data. The population of the study was the entire manufacturing companies in Nigeria. Ten listed manufacturing businesses in Nigeria were chosen using a basic random selection approach to evaluate the link that exists between Capital Structure and Firm Value; the study used descriptive analysis, ordinary least square regression method, and correlation. The results reveal that the Debt Ratio and Firm Size (Independent variables) have a favourable impact on Firm Value (Dependent variable), but the Proprietary Ratio and Retention Ratio have no such impact. This positive relationship suggests that financial leverage, as measured by the Debt ratio, is a significant predictor of the firm's Total Value. This indicates that businesses take proactive efforts to increase sales and value by successfully employing debt finance. In addition, the value of companies is greatly affected by the consequent effect of company size increase. As a result, asset structures have a considerable beneficial impact on company value.*

Keywords: Capital structure, Firm's value, Manufacturing companies, shareholder wealth , debt ratio

1. INTRODUCTION

The majority of factors that contribute to business failure may be addressed by implementing systems and making decisions that pressure growth and achieve corporate objectives [1]. A company's capital structure is determined by its financing decisions, and poor financing decisions lead to failure. For both control and purchasers, the question of whether or not there is a most advantageous capital structure is a big one. The goal of any financial decisions is to maximize wealth, and the easiest method to do so is to look at how the decision affects the company's costs.

By virtue of its connection to a company's ability to satisfy the requirements of stakeholders, capital structure has long been seen as a critical monetary aspect [2]. Retained earnings are an internal source of funding, whereas bank loans, trade credit, loans, and equity shares are external sources of funding. The capital structure is established by developing the framework, strategies, and processes that will ensure that the company is directed and controlled in a way that promotes long-term equity value through improved organizational performance and management accountability [3]. According to capital structure theories, the composition of debt and equity used to enhance the company's value and lower the cost of capital is the most important decision a corporation cans make [4]

Nigeria's transition to a free market, as well as the growth and strengthening of various monetary markets, has laid the groundwork for companies to select their capital structure [5]. The Nigerian capital market, on the other hand, has undergone major structural changes since the banking industry's capital base restructuring in 2005. Regardless of the improvements, Nigerian businesses' flexibility in choosing the best capital structure has risen, particularly in the stock market; nevertheless, the corporate debt market, like that of many other developing countries, has not improved enough. Finance issues have been identified as a contributing factor to commercial venture failure in Nigeria [6].

A company's capital structure composition is a critical managerial decision since it affects shareholders' returns and risks, as well as the company's market value [7]. With Nigeria's weak economic system, high levels of corruption, an unstable tax system, an unstable stock market, and other limiting factors, a proper capital structure becomes critical, not only for shareholder returns and risk, but also for the company's long-term viability, and because such a critical decision has such a large impact on a company's market value,

as well as its capacity to deal with a variety of challenges. As a result, the relationship between capital structure and net worth of Nigerian listed manufacturing firms must be investigated.

1.1 Research Questions

Given the sensitivity and dynamics of the issues raised in this research, the study seeks to provide answers to the following questions

- **i.** What correlation exists between debt ratio (DR) and value of manufacturing firms listed in Nigeria?
- **ii.** What link exists between Proprietary ratio (PR) and value of manufacturing firms listed in Nigeria?
- **iii.** What connection exists between Retention ratio (RR) and value of manufacturing firms listed in Nigeria?
- **iv.** What interrelation exists between Firm's size (FS) and value of manufacturing firms listed in Nigeria?

1.2 Objective of the Study

The aim of this study is to establish the relationship between the capital structure and firm's value of listed manufacturing companies in Nigeria. The specific aims are to:

- **i.** Ascertain the relationship that exists between Debt ratio (DR) and firm's value of listed manufacturing companies in Nigeria.
- **ii.** Determine the relationship between Proprietary ratio (PR) and firm's value of listed manufacturing companies in Nigeria.
- **iii.** Ascertain the relationship that exists between Retention ratio (RR) and firm's value of listed manufacturing companies in Nigeria.
- **iv.** Explore the relationship that exists between Firm size (FS) and firm's value of listed manufacturing companies in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Review

The capital structure of corporations, in particular, is dependent on the amount and composition of debt or equity, which is referred to as hybrid finance, and is then utilized by businesses to function [8]. Corporations that are unlevered have no debt in their capital structure, whereas companies that are levered have debt in their capital structure. According to capital structure theories, the most important decision a corporation can make is what proportions of debt and equity to use to maximize the firm's value and lower the cost of capital [9].

According to Modigliani and Miller, the MM principle asserts that there is no most effective capital structure because every structure is based exclusively on extraordinary assumptions such as a perfect market and no taxes. The irrelevance theory, or MM-I proposition, states that a corporation's value is unaffected by whether it is funded with stock or liabilities under certain conditions like as no taxes, no bankruptcy costs, an efficient market, and asymmetric information [10]. To put it another way, the value of a company is defined by its assets, not its financial structure. The capital structure chosen is critical since it has an immediate impact on a company's profitability. One of the most important aspects of a company's strategy is the correct selection and deployment of capital [11]. The decision between debt and equity for a corporation has strategic implications for corporate leaders as well as implications for the firm's worth [12].

2.1.1 Capital Structure

Among finance scholars, capital structure is often considered as the most popular topic. The financial structures of organizations are inextricably linked to their ability to meet the needs of their stakeholders. As a result, it's vital to know this derivation. A corporation's capital structure refers to how it finances its assets through a combination of shares, debt, and hybrid securities [13]. Long-term and short-term loans, ordinary stock, and preferred equity make up a company's capital structure in a nutshell. A corporation's capital structure defines how it funds its operations and growth from a variety of financial sources. There is no universal reason for the debt-equity decision [14]. However, there are important conditional theories that may be used to better explain how businesses choose their debt-to-equity structure.

The capital structure of a company is made up of securities and funding sources that are utilized to support real-estate development [15]. The capital structure is the company's chosen combination of debt, preferred stock, and common equity for the goal of generating cash. The corporation must make the required investments to at least stay in business and demonstrate some growth. The capital structure of a firm is significant because it impacts its ability to meet the needs of its stakeholders.

2.1.2 Optimal Capital Structure

The income statement depicts the impact of a company's financial structure and business risk. This is because operational leverage increases the impact of variable sales, the change in operating income (EBIT) is greater than the change in sales [16].

In practice, businesses raise money using a combination of capital structure, preferred stock, and common equity. The ideal capital structure strategy is one that pursues a rational and informed risk-return balance, since capital structure policy is a strategic trade-off between risk and projected return. Business risks, tax implications, financial flexibility, and managerial conservatism or aggressiveness must all be taken into account. Despite the relevance of these factors in defining the optimum capital structure, operational circumstances may cause a departure from it.

2.13 Financial Management and Capital Structure

Money is handled according to a set of rules, as the phrase "financial management" suggests. It refers to the duty for obtaining and effectively using the funds necessary for a company's smooth functioning [17]. The process of selecting, obtaining, assigning, and employing financial resources with the purpose of accomplishing those objectives is referred to as financial management. Examining financial circumstances, making financial choices, defining financial objectives, devising financial plans to reach those objectives, and putting in place efficient financial control systems to verify that plans are on track to meet the established goals are all part of financial management.

Financial decision-making includes strategic investment decisions, such as investing in new manufacturing facilities or purchasing another firm, as well as strategic financing decisions, such as borrowing extra long-term loans. As a result, the major focus of a financial management is on two sorts of interconnected decisions: investment and finance [18].

2.1.4 Firm Value

The firm value, according to Hunt, is equivalent to the corporation's whole market capitalization, which is defined as equity plus net debt, also known as market value [19]. The overall value of a firm or the worth of a corporation as a whole, because of the company's high worth, the stock price is critical, as it will be monitored by high-prosperity shareholders. The more valuable a firm is, the greater its stock price [20].

The objective of a company going public is to maximize shareholder wealth, which is represented in the stock price. The stock market price reflects both the shareholder and the company, and it is updated regularly to reflect investment decisions, financing, and asset management. The presence of investment possibilities might be a strong sign of the company's future growth, therefore boosting its value. Tobin Q can also figure out how much a company is valued or how much money it has (the replacement cost required to obtain the same assets with the assets of the company). James Tobin, the guy who started it all in 1969, is the name of this ratio. When Tobin's Q goes below 1, the firm becomes a desirable acquisition target for mergers and acquisitions or dissolution.

2.2 Theoretical Review

2.2.1 Market Timing Theory

Market timing refers to the practice of issuing shares when equity valuations are higher relative to book and past market valuations and repurchasing equities when their market values are low. As a consequence observed capital structures are a function of the past market values of securities rather than a desire to achieve an optimum capital structure or as a consequence of following a pecking order [21].

2.2.2 Trade-off Theory

The trade-off theory suggests that there is an optimum capital structure in which the benefits of debt are offset by the cost of debt. This optimal capital structure is achieved when the marginal benefit of an additional unit of debt is exactly offset by the marginal cost of an additional unit of debt [22].

2.2.3 Pecking Order Theory

According to the pecking order theory firm's have no well -defined target debt/equity ratio and each firm’s observed debt ratio simply reflect the firm’s cumulative requirement for external finance over an extended period [23]. According to the pecking order model the firms will first use internal funds (retained earnings) before issuing debt and will finally only issue equity under duress or when the investment requirement so far exceed debt capacity that it would lead to excessive leverage [22].

2.3 Empirical Review

Nwachukwu, and Akpeghughu [24] examined relationship between capital structure and firms performance within banking industries in Nigeria. The study used regression analysis. The findings show that there exists a positive and significantly relationship on equity capital and a negative and significant relationship between debt capital and return on investment.

Iheanyi, Sotonye and Ejiodamen [25] assess Effect of capital structure on the performance on deposits money banks. The methods use Ordinary least square. This study reveals that highly geared capital structure increases performance of deposit money than lowly geared capital.

Adesina, Nwidobie and Adesina [26] investigates the impact of post consolidation capital structure on the financial performance of Nigeria quoted banks, Using ordinary least square and secondary data. Results reveal that Capital structure has a significant positive relationship on financial performance of quoted banks in Nigeria

Magara [27] examined capital structure and its determinants at the Nairobi Securities Exchange. This was conducted between 2007 to 2011using regression. The study reveals there exists a positive and significant association between firm size, tangibility and growth rate and the degree of leverage of the firm

Salim and Yadav [28] explored the association amid capital structure and organisations financial performance. This was conducted between 1995-2011 using Panel Data. There is a positive association between growth and performance for all the sectors. Tobin's Q reveals that there are significantly positive relationship between short term debt (STD) and long term debt (LTD). It also reports that total debt (TD) has significant negative relationship with the performance of the firm.

3. METHODOLOGY

3.1 Research Design

This study will adopt historical and descriptive research design. This study will utilize a panel data which simultaneously consists of cross-sectional and time series data.

3.2 Justification of the Methodology

The research methodology adopted in this study is built on the basis of the methodology that considers the descriptive statistical analysis, correlation matrix and ordinary least squares (OLS) that is to be applied through regression, using data to cross examine and enable multivariable regression analysis, to ascertain the effects of different variables that affect business decision, on the basis of capital structure and firms' value. The choice of this design was because researcher perceived it as being appropriate because of firms are responsible for preparing and presenting the financial statements in a true and fair manner i.e., it shows the true position of the company.

3.3 Sample and Sampling Technique

The study adopted a simple random sampling technique in selecting the sample size of 10 listed manufacturing companies in Nigeria over a period of 10 years.

3.4 Model Specification

The regression model is stated thus:

Firms' value = F (Debt ratio, Proprietary ratio, Retention ratio, Firm size)

SP_{it} = F (DR, PR, RR, FS)

The mathematical representation is specified as follows;

$SPit = \beta 0 + \beta 1 DRit + \beta 2 PRit + \beta 3 RRit + \beta 4 FSit + etit$

Where;

SPit = Share Price

DRit = Debt Ratio

PRit = Proprietary Ratio

RRit = Retention Ratio

FSit = Firm Size

Etit = Error term

β0 = Constant term

β1,β2,β3= Parameter to be estimated

3.5 Data Source and Collection Instrument

The study made used of secondary data. The term "secondary data" refers to information gathered in a setting other than the current

research. It offers important background information, establishes the research report's credibility, and aids in the clarification of the problem during the exploratory research phase. The study will make use of secondary data which will be obtained from the firm's audited annual reports over a period of 10 years (2011-2020).

3.6 Data Analysis Method

For the purpose of this study, correlation and ordinary least square (OLS) regression were used to show the relationship between identified dependent and independent variables.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 1: Descriptive Statistics

VARIABLES	FIRM_VALUE	DEBT_RATIO	PROP_RATIO	RET_RATIO	FIRM_SIZE
Mean	50.03260	0.493750	0.503501	0.518492	7.534400
Median	32.29000	0.536821	0.463179	0.419010	7.395399
Maximum	411.0000	0.784835	0.818332	3.388060	8.808122
Minimum	0.830000	0.181668	0.215165	0.000000	6.517332
Std. Dev.	59.64994	0.147423	0.147318	0.483292	0.573777
Skewness	2.960536	-0.586329	0.601326	2.871263	0.583245
Kurtosis	15.67341	2.465293	2.493550	15.95932	2.443196
Jarque-Bera	815.3099	6.920999	7.095259	837.1688	6.961364
Probability	0.000000	0.031414	0.028793	0.000000	0.030786
Observations	100	100	100	100	100

Source: Author's compilation (2021)

Table 1 reports Firm value maintained an average value of 50.03 naira per kobo for all 10 manufacturing companies that were used in this analysis while the Debt ratio was 0.493750. The Proprietary ratio and Retention ratio were 0.503501 and 0.518492 respectively on the Average. This shows an image for all the 10 manufacturing companies. The median for the variables includes 32.29, 0.536821, 0.463179, 0.419010, and 7.395399 for firm value, debt ratio, Prop ratio, retention ratio and firm size respectively. The Maximum Value for Firm value from 2011 to 2020 was 411 naira/kobo. This represents the highest amount obtainable among the 10 manufacturing companies. The lowest obtainable value was 0.83 naira/kobo. The standard deviation to mean ratios of those variables expressed in ratios have low co-efficient of variation except firm value and firm size, as indicated by the values of its standard deviation to mean ratio being less than 0.5. The skewness statistic shows that all the variables are positively skewed except for Debt ratio which is negatively skewed with values 2.9605536 (Firm value), -0.586329 (Debt ratio), 0.601326 (Prop. ratio), 2.871263 (Retention ratio) and 0.583245 (Firm size).

The kurtosis statistic shows that Debt ratio, Prop. ratio and firm size are platykurtic (lowly peaked) since its value is below 3 while firm value and retention ratio are leptokurtic, that is, highly peaked, implying that there is tendency of the presence of outliers in the series.

From the table highlights on the Jarque-Bera statistic, the values of the probabilities of Jarque-Bera indicated that Firm value and Retention ratio are not normally distributed at 1% significance level, while Debt ratio, Proprietary ratio and firm size are normally distributed. The non- normally distribution variables will be handled when estimating the model.

4.2 Unit Root Test

The test for unit root is carried out to determine the stationarity of the series. This is done to ensure that the regression results are not spurious, unstable and misleading, and that they can be used for meaningful forecast. It must be noted that non-stationary series change unpredictably as time progresses, hence, non-stationary series are inconsistent and unreliable to use in estimation. In view of this, a unit root tests are carried out for the companies under consideration. The Panel unit root tests results are reported in the table below (Table 4.3).

The first column shows the variables, the second column shows the method used while the third column and fourth column reports for the level and first difference respectively. The integration order (I(d)) indicates the number of times a series is differenced to be stationary.

We there consider the following test for Unit root

Levin, Lin & Chu t* Test for Unit root

H0: Panel Data has Unit root/ Panel Data is Non-stationary (Assuming Common unit root process)
H1: Panel Data does not have Unit root/ Panel Data is Stationary

Im, Pesaran and Shin W-stat

H0: Panel Data has Unit root/ Panel Data is Non-stationary (Assuming Individual unit root process)
H1: Panel Data does not have Unit root/ Panel Data is Stationary

Fisher Type Test using ADF (Augmented Dickey-Fuller) and PP (Phillip Perron) Tests

H0: Panel Data has Unit root/ Panel Data is Non-stationary (Assuming Individual unit root process)
H1: Panel Data does not have Unit root/ Panel Data is Stationary.

4.3 Panel Unit Root Test

Table 2: Panel Unit Root Test

Variable	Method	Level		1st Difference		Remarks
		Statistics	Prob.	Statistics	Prob.	
FIRM_VALUE	Levin, Lin & Chu	-3.64368	0.0001***	-	-	I(0)
	Im, Pesaran & Shin	0.00051	0.5002	-4.14204	0.0000***	I(1)
	ADF-Fisher	20.5806	0.4222	58.7698	0.0000***	I(1)
	PP-Fisher	15.4533	0.7499	95.5014	0.0000***	I(1)
DEBT_RATIO	Levin, Lin & Chu	-4.35250	0.0000***	-	-	I(0)
	Im, Pesaran & Shin	-2.36871	0.0089***	-	-	I(0)
	ADF-Fisher	40.0633	0.0049***	-	-	I(0)
	PP-Fisher	34.7848	0.0213**	-	-	I(0)
PROP_RATIO	Levin, Lin & Chu	-4.53675	0.0000***	-	-	I(0)
	Im, Pesaran & Shin	-2.67299	0.0038***	-	-	I(0)
	ADF-Fisher	42.7868	0.0022***	-	-	I(0)

	PP-Fisher	37.2780	0.0108**	-	-	I(0)
RET_RATIO	Levin, Lin & Chu	-3.42185	0.0003***	-	-	I(0)
	Im, Pesaran & Shin	-2.22430	0.0131**	-	-	I(0)
	ADF-Fisher	38.8299	0.0070***	-	-	I(0)
	PP-Fisher	29.1978	0.0839*	-	-	I(0)
FIRM_SIZE	Levin, Lin & Chu	-3.64368	0.0001***	-	-	I(0)
	Im, Pesaran & Shin	0.00051	0.5002	-3.82519	0.0001***	I(1)
	ADF-Fisher	20.5806	0.4222	54.4842	0.0000***	I(1)
	PP-Fisher	15.4533	0.7499	71.9973	0.0000***	I(1)

******, **, * represent significance levels at 1%, 5%, and 10% respectively***

Table 2 presents the Panel unit root test results for the 10 companies. From the Panel Unit root test results, Debt ratio, Proprietary ratio and Retention ratio for all 10 manufacturing companies from 2011 to 2020 are stationary at level considering the 4 methods. Firm value and Firm size appears to be stationary at level using the Levin, Lin & Chu method. However, the other 3 methods which are Im, Pesaran & Shin, Augmented Dickey-Fuller and the Phillip-Perron Fisher test do not agree with the first method. In other words, Firm value and Firm size were differenced once before expelling unit root in its properties. The last column which is the remarks concludes on the order of integration of the variable.

Conclusively, all variables are integrated of order zero I(0) except for firm size and firm value which are integrated of order one I(1).

4.4 Estimation Results

4.4.1 Effect Model

This subsection is to present and explicitly analyze the result gotten from the model using the Panel data estimation technique. This involves Pooled Ordinary Least Square (POLS) or Panel Least Square Method. We would also include the Random Effect Model (REM) and Fixed Effect Model (FEM). We would also be applying the Breusch Pagan (BP) test to know if the POLS are more appropriate than the REM or FEM.

4.4.2 Model Estimation Result

Dependent Variable: FIRM_VALUE

Table 3: Panel Least Square or POLS Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob*
C	-538.2921	143.9584	-3.739221	0.0003***
DEBT_RATIO	41.69096	131.4945	0.317055	0.7519
PROP_RATIO	17.40227	131.7067	0.132129	0.8952
RET_RATIO	4.066843	9.038496	0.449947	0.6538
FIRM_SIZE	73.91021	7.541690	9.800220	0.0000***

R-Squared	0.505796	Adj R-Squared	0.484987	
F-statistic	24.30705	Durbin-Watson stat	1.132658	

**** ** *** indicate significance at 10%, 5% and 1% critical level respectively.***

The POLS Model Result shows that only Firm Size and the Intercept are significant. The Estimation result shows that the Firm size has a positive significant effect on the Firm value. Explicitly, a 1% change in Firm size increases firm value by 73.9% (Table 3). Other variables (Debt ratio, Proprietary ratio and Retention ratio) do not significantly affect the Firm value. We therefore proceed to the Breusch Pagan (BP) test to know if the POLS are appropriate.

Table 4: Lagrange Multiplier Tests for Random Effects

	Cross-Section	Std. Error	Both
Breusch Pagan (BP) Test	69.66253 (0.0000)	1.066727 (0.3017)	70.72926 (0.0000)

Table 4 shows the Lagrange Multiplier test for Random Effect. The Null Hypothesis of BP test is that POLS is appropriate than REM/FEM and there is no Random effect. Since the Probability value of the BP test is less than 0.05 significance level, we therefore reject the null hypothesis and conclude that the POLS is not appropriate. We therefore go for REM.
Dependent Variable: FIRM_VALUE

Table 5: Random Effect Model (REM) Result

Variable	Coefficient	Std. Error	t-Statistic	Prob*
C	-809.6945	303.5239	-2.667647	0.0091***
DEBT_RATIO	81.50440	40.51150	2.011883	0.0474*
PROP_RATIO	73.49462	45.66937	1.609276	0.1112
RET_RATIO	-3.183520	5.051444	-0.630220	0.5302
FIRM_SIZE	104.0734	35.40839	2.939229	0.0042***
R-Squared	0.517043	Adj R-Squared	0.444038	
F-stat (Prob)	0.000000	Durbin-Watson stat	1.753781	

**** ** *** indicate significance at 10%, 5% and 1% critical level respectively.***

Table 5 shows the Random Effect Model Result. The Random effect model shows that of all the Endogenous variables (Debt ratio, Prop ratio, Retention ratio and Firm size), only Debt ratio and Firm size significantly affect the Exogenous variable (Firm value). Specifically, 1% increase in Debt ratio and firm size will lead to 81.50% and 104% increase in Firm value respectively. The Firm value is majorly affected by the firm size as it positively affects the Firm value by 104%.

The R-squared shows that 44% of variations in Firm value are explained by changes in Debt ratio and Firm size. The Probability of F-stat which is less than 0.05 confirms that the estimated model in Table 5 is significant and valid.
We proceed to confirm if the Random Effect Model is appropriate by using the Hausman Test. The Null hypothesis of the Hausman test is "REM is more appropriate than the FEM."

If P-value is greater than 0.05 then we accept the null hypothesis and go for REM. If P-value is less than 0.05 then we reject the null hypothesis and go for FEM.

Table 6: Correlated Random Effects- Hausman Test

Test Summary	Chi-Sq. Statistics	Chi-sq. d.f.	Prob.
Cross section Random	0.000000	4	1.0000

From Table 6, we can see that the probability value is greater than 0.05 significance level, we therefore accept the Null hypothesis and go for the Random Effect Model (REM).

4.5 Causality Test

Table 7: Causality Test Result

Dependent Variable: FIRM_VALUE			
Null Hypothesis:	F-Statistic	Prob.	**Decision**
DEBT_RATIO does not Granger Cause FIRM_VALUE	3.54158	0.0632 *	Reject
PROP_RATIO does not Granger Cause FIRM_VALUE	3.42842	0.0675 *	Reject
RET_RATIO does not Granger Cause FIRM_VALUE	0.00017	0.9896	Do not Reject
FIRM_SIZE does not Granger Cause FIRM_VALUE	5.77512	0.0184**	Reject
Dependent Variable: DEBT_RATIO			
Null Hypothesis:	F-Statistic	Prob.	
FIRM_VALUE does not Granger Cause DEBT_RATIO	0.07171	0.7895	Do not Reject
PROP_RATIO does not Granger Cause DEBT_RATIO	9.75616	0.0024***	Reject
RET_RATIO does not Granger Cause DEBT_RATIO	2.50144	0.1174	Do not Reject
FIRM_SIZE does not Granger Cause DEBT_RATIO	0.23308	0.6305	Do not Reject
Dependent Variable: PROP_RATIO			
Null Hypothesis:	F-Statistic	Prob.	
FIRM_VALUE does not Granger Cause PROP_RATIO	0.05402	0.8168	Do not Reject

DEBT_RATIO does not Granger Cause PROP_RATIO	0.94002	0.3350	Do not Reject
RET_RATIO does not Granger Cause PROP_RATIO	0.11547	0.7348	Do not Reject
FIRM_SIZE does not Granger Cause PROP_RATIO	0.05023	0.8232	Do not Reject
Dependent Variable: RET_RATIO			
Null Hypothesis:	F-Statistic	Prob.	
FIRM_VALUE does not Granger Cause RET_RATIO	0.71797	0.3991	Do not Reject
DEBT_RATIO does not Granger Cause RET_RATIO	0.47240	0.4937	Do not Reject
PROP_RATIO does not Granger Cause RET_RATIO	0.48062	0.4900	Do not Reject
FIRM_SIZE does not Granger Cause RET_RATIO	1.39507	0.2408	Do not Reject
Dependent Variable: FIRM_SIZE			
Null Hypothesis:	F-Statistic	Prob.	
FIRM_VALUE does not Granger Cause FIRM_SIZE	11.9435	0.0009***	Reject
DEBT_RATIO does not Granger Cause FIRM_SIZE	1.41998	0.2366	Do not Reject
PROP_RATIO does not Granger Cause FIRM_SIZE	1.22852	0.2708	Do not Reject
RET_RATIO does not Granger Cause FIRM_SIZE	0.08340	0.7734	Do not Reject

****, **, *** denotes significance at 10%, 5% and 1% level respectively.***

From the table 7 above, the null hypothesis of non-causality from Debt ratio, Proprietary ratio and Firm size to Firm value is rejected at 10%, 10% and 5% level of significance respectively. This implies that there is causality running from Debt ratio, Prop. Ratio and Firm size to Firm value. This means that Debt ratio, Prop. Ratio and Firm size causes Firm value. Furthermore, the null hypothesis of non-causality from Retention ratio to firm value cannot be rejected at all levels of significance. This means that Retention ratio does not cause Firm Value.

The null hypothesis of non-causality from Debt ratio, Firm size, Firm value and Retention ratio to Proprietary ratio cannot be rejected at all levels of significance. This means that all other variables do not cause Proprietary ratio. The null hypothesis of non-causality from Debt ratio, Firm size, Firm value and Proprietary ratio to Retention ratio cannot be rejected at all levels of significance. This means that all other variables do not cause Retention ratio.

The null hypothesis of non-causality from Firm size, Firm value and Retention ratio to Debt ratio cannot be rejected at all levels of significance. This means that other variables do not cause Debt ratio except for Proprietary ratio. The null hypothesis of non-causality from Proprietary ratio to Debt ratio is rejected at 1% significance level.

The null hypothesis of non-causality from Debt ratio, Proprietary ratio and Retention ratio to Firm size cannot be rejected at all levels of significance. This means that other variables do not cause Firm size except for Firm value. The null hypothesis of non-causality from Firm value to Firm size is rejected at 1% significance level.

4.6 Post Estimation

The post estimation test helps to validate the result of our estimation. The Panel Ordinary Least Square method (POLS) is so efficient that it helps with post estimation results as the model is being regressed. This is one of the advantages of the Random Effect Model of POLS. The probability value of the F-statistics establishes significance of the test while the Durbin Watson test shows that there is no auto-correlation in the model.

4.7 Summary of Findings

The Unit root test conducted from the Panel Unit root test results shows that Debt ratio, Proprietary ratio and Retention ratio for all 10 manufacturing companies from 2011 to 2020 are stationary at level using the 4 methods. Firm value and Firm size appears to be stationary at level when we consider the Levin, Lin & Chu method. Also, the other 3 methods which includes; Im, Pesaran & Shin, Augmented Dickey-Fuller and the Phillip-Perron Fisher test do not agree with the LLC method. Firm value and Firm size were differenced at first level before unit root were removed from the properties. Conclusively, all variables are integrated of order zero I(0) except for firm size and firm value which are integrated of order one I(1).

The Random effect model shows that Debt ratio and Firm size significantly affects Firm value. Specifically, 1% increase in Debt ratio and firm size will lead to 81.50% and 104% increase in Firm value respectively. The Firm value is majorly affected by the firm size as it positively affects the Firm value by 104%. The R-squared shows that 44% of variations in Firm value are explained by changes in Debt ratio and Firm size. The Probability of F-stat which is less than 0.05 confirms that the estimated model in Table 7 is significant and valid.

From the table above, the null hypothesis of non-causality from Debt ratio, Proprietary ratio and Firm size to Firm value is rejected at 10%, 10% and 5% level of significance respectively. This implies that there is causality running from Debt ratio, Prop. Ratio and Firm size to Firm value. This means that Debt ratio, Prop. Ratio and Firm size causes Firm value. Furthermore, the null hypothesis of non-causality from Retention ratio to firm value cannot be rejected at all levels of significance. This means that Retention ratio does not cause Firm Value.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Conclusively, Debt ratio and Firm size (Independent variables) significantly affects the Firm Value (Dependent variable) positively while Proprietary ratio and Retention ratio do not significantly affect the Firm Value. This positive linkage indicates that the financial leverage which is represented through the Debt ratio is a major determinant of the Total value of the firm. This signifies that firms take active measures by effectively utilizing Debt financing to enhance sales and the value of their firms. Also, the resultant effect of expansion through firm size significantly affects the value of firms. This implies that Asset structures have a significant positive effect on the value of firms.
From the Causality Test result, we can conclude that there is causality running from Debt ratio, Proprietary ratio and Firm size to Firm value. This means that Debt ratio, Prop. Ratio and Firm size cause Firm value. Also, we can also conclude that Retention ratio does not cause Firm Value. This is to say that of all Independent variables; only Retention ratio does not cause Firm value.

5.2 RECOMMENDATIONS

Following the results and the conclusions drawn from the study, several recommendations can be made to Stakeholders, government, investors and analysts. This study assesses the causal relationship among the variables as a group rather than individual manufacturing companies. This makes it easier to make generalized recommendations rather than individual recommendations for each manufacturing companies. Hence, recommendation is generalized for each manufacturing companies after estimation.

Since it has been established from the study that Debt ratio and firm size significantly affect the firm value of companies positively, Manufacturing companies can focus more on how to improve their debt ratio by ensuring that the ratio is kept within limit. Also making sure than the size of the firm becomes a major focus. The firm size should be monitored and manufacturing companies

should place more emphasis on Expansion policies while noting the fact that as the size of their firm increases the value of the company also increases.

Manufacturing companies can also be advised from the causal relationship established from the study. Manufacturing companies can carry further research on their Debt ratio, Proprietary ratio and firm size as they tend to cause the firm value. These companies can invest more in their firm size and expansion and also diversification towards attaining a preferable firm Value

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