Impact of Accounting Measure of Performance on Dividend Payout Ratio of Listed Manufacturing Companies in Nigeria

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Abstract

This paper examined the effect of accounting measure of Performance on Dividend Payout Ratio of listed manufacturing companies in Nigeria. Accounting measures of performance proxied by Return on Asset (ROA), Return on Equity (ROE), Return on Investment (ROI) and Net Profit Margin (NPM) were used as independent variables while dividend payout ratio (DPO) of listed manufacturing firms in Nigeria represented dependent variable. The study adopted expost facto research design and analyzed a total of 63 manufacturing firms who were able to pay dividend within the study period. Simple random probability was employed for the selection of sample size from each group of the manufacturing subsector whereas multiple regressions was used in order to establish the nature and degree of the relationship between the variables under consideration. The study found a positively significant relationship between return on assets (ROA), return on equity (ROE), return on investment (ROI), and net profit margin (NPM). Therefore, it was recommended among others that management of listed manufacturing firms in Nigeria should try to improve their performance by ensuring that the companies invest in projects that would yield positive return in order to attract more investors. It was also recommended that policy makers should consider granting the manufacturing firms tax relief and other aids in order to improve their performance and consequently attract investments to the sector which benefit the economy in several ways.

Keyword*:* Accounting Performance; Return on Asset, Return on Equity, Return on Investment, Net Profit Margin and Dividend Payout Ratio.

1. Introduction

The most fundamental and acceptable objective of modern corporate organizations is to maximize the wealth of shareholders and this can be achieved through any of these three major goals: investment decisions, financial decisions and the aspect of dividend policy.

Linter (1956), who was the first to recognize the information content of dividends, established that managers, in their efforts to make dividend policy decisions generally looked at the earning of the current period to target level of dividend payout to be paid to shareholders. Dividend policy is company's guiding documents on dividend measurement and payment. However, dividend policy of a company can be

measured using two common approaches: dividend yield and dividend payout. Changes in these two financial measures provide information signals in relation to risks concerning the firms as well as future growth earnings of the firms.

Companies listed on the stock market are expected to pay dividend which is paid out of the company's earnings and this reduces the amount of retained earnings that could be used for internal financing by the firm. Companies are expected to evaluate dividend in the view of maximizing the shareholders wealth which may include market price of the shares and the current dividend. Companies may design ways either to retain or distribute all earnings depending on the assurance of having viable investment opportunities in the future. However, in a situation where investments yield negative returns, dividends are increased and the share price falls. Dividend policy is used in targeting a particular payout ratio. Dividend as a residual in line with some other school of thoughts believing that dividend payout is a function of financing decision that managers have to decide whether to pay or not. In such case, if they decide to pay dividend, they would face a further question of how much they should pay for that year (Uwuigbe, 2013).

Statistics revealed that the performance of the Nigerian manufacturing sector has consistently declined from N8.89 trillion at the end of December, 2015 to N6.50 trillion at the end of December 2021. The contribution of the sector stood at 6% against the expected 15% despite allocation of 48% foreign exchange earning to the sector (National Bureau of Statistics, 2021). Thus, managements of these companies have to look critically inward the issue of dividend payout ratio. This is because it can attract more investors to the sector and revive the performance issues the sector has faced for a long time. Dividend policy, in the context of this study relates to firms' dividend payout ratio that managers adopt in deciding the pattern and size of cash distribution to shareholders over time. Hence, it is the decision of managements about the portion of income that is given to shareholders in the form of dividend (Hussaini, 2016).

Dividend policy is one of the research areas that always attract attention of financial analysts, researchers, investors and other stakeholders. However, dividend policy controversy is one of the ten major unsolved problems of corporate finance which deserves more attention in order to increase understanding of the subject (Bulla, 2013). Therefore, this controversy necessitates research in the area as it affects the

manufacturing sector of the Nigerian economy. Dividend policy, in the context of this study, relates to firm's dividend payout ratio that managers adopt in deciding the pattern and size of cash distribution to shareholders over time.

Many studies have examined the relationship between dividend policy and firm performance (Oyinlola, Oyinlola & Adeniran, 2014; Oyinlola & Ajeigbe, 2014; Onanjiri & Korankye, 2014; Murekefu & Ouma, 2012). However, most of the studies have only considered the impact of dividend policy on firm performance despite the fact that the relationship is a two-way phenomenon since dividend policy affects firm performance, just as firm performance is consequential on dividend policy decision (Rafindadi & Bello, 2019; Kimunduu, Mwagi, Kaijage & Ochieng, 2017; Anwaar, 2016; Giang & Tuan, 2016; Koduk, 2016; Pascareno & Siringoringo, 2016). Furthermore, past studies have not used market measures of firm performance which are one of the fundamental measures of financial performance (Santos & Brito, 2013). Instead, they mostly focused on accounting measures of firm performance such as; return on asset, return on equity, return on investment, net profit margin, return on capital employed (Azeez & Latifat, 2015; Oyinlola & Ajeigbe, 2014; Murekefu & Ouma, 2012).

Firm financial performance is a subjective measure of the accountability of an entity for the results of its policies, operations and activities quantified for an identified period in financial terms (Van Horne, 2008). It can be measured through various financial measures such as financial ratios return on assets (ROA), return on equity (ROE), return on investment (ROI), earnings per share (EPS), net profit after tax (NPAT) and any market value ratio that is generally accepted.

Profit after tax has been widely used as measures of firm's performance and it's the most widely used. Financial performance of firms is usually expressed as a function of internal and external determinants. The internal determinants originate from books of accounts (balance sheets and/or profit and loss accounts) and therefore, could be termed as industry-specific determinants of performance. However, external determinants are variables that are not related to firm's management but reflect the economic and legal environment that affect the operation and performance of firms.

Firm performance determines the dividend paid out to its shareholders. The greater the amount of earnings generated by a firm as a result of good performance, the higher the amount of dividend payout$_s$ which in turn boost the stock price of the company in the

stock market (Wasike & Jagongo, 2015; Bunyasi 2012; Jensen, 2010). Financial performance of firms also serves as one of the means by which they are rated, it is also used to measure the success or otherwise of the operations of the firm. There are several ways to evaluate firm performance but the most commonly used method is ratio which covers a number of concepts and can also be grouped into profitability, liquidity, leverage, activity and investment ratios (Kurfi, 2021).

It is against this background that this study examines the extent to which accounting measure of performance determines dividend payout ratio of listed manufacturing companies in Nigeria so as to ascertain the effects of these measures on dividend payout ratio of the companies under review. Accounting performance is measured by Return on Asset (ROA), Return on Equity (ROE), Return on Investment (ROI) and Net Profit Margin (NPM), while dependent variable was represented by Dividend payout ratio (DPO). The study would be significant to the management of Nigeria listed manufacturing companies, investors, regulators as well as the general public. At the same time, the study would fill the existing gap of literature in the area. As such, the paper is structured as follows: 1 Introduction; 2 Empirical Review; 3 Theoretical Framework; 4 Methodology; 5 Results and Discussions; and 6 Conclusions and Recommendations.

2. Literature Review

Kimunduu, Mwagi, Kaijage and Ochieng (2017) examined the relationship between financial performance and dividend policy of firms listed at the Nairobi Securities Exchange under insignificant hypothetical view that was tested against a sample size of 31firms selected using purposive sampling technique. The study found that there was a statistically significant direct association between return on equity and dividend policy. This implied that as firm profitability improves; a corresponding proportionate change in dividend payout ratio is initiated by management. In addition, it was established that there was a statistically significant positive linkage between operating cash flows and dividend policy which denotes that as cash flow levels from operating activities changes, dividend payout ratio changes in the same direction leading to increased distribution of cash dividend to investors. Again, a statistically significant direct connection between price earnings and dividend policy was established. This relationship showed that an increase in share market value positively prompts an increased in dividend payout ratio whereby managements follow a more acceptable dividend policy by the

shareholders. However, market to book value depicted a weak insignificant inverse relationship with dividend policy and was dropped. In general, the study concluded that the link between financial performance and dividend policy of firms listed at the Nairobi Securities Exchange was significant. The gap in this study was that the conclusions were based solely on the hypothetical relationships of the various variables as revealed by the study outcome. In the Nigerian context however, other factors such as legal provisions and liquidity also affect dividend decision and this makes the research outcome spurious.

Rafindadi and Bello (2019) investigated the effect of firm performance and dividend policy of 21 listed financial companies in Nigeria for a period of 20 years (1997-2016). Secondary data was obtained and used for analysis. The independent variables were ROA, ROE, MVA and Tobin's Q. while the dependent variable was dividend payout. Hausman tests were conducted to choose between fixed effect and random effect, and fixed and pooled OLS respectively as well as Wald test was employed for testing normality of data. The outcome from the regression result revealed that all the independent variables significantly affect dividend payout ratio of the sampled companies. The study concluded that that performance affects dividend decisions in both short and long runs. As such, managers of these companies should sustain effective utilization of their assets and should also strive to increase the value of their equity by investing larger portion of their earnings into profitable ventures.

There are several shortcomings from Rafindadi and Bello (2019). First, study was under sampled because it selected only 21 out of the total population of 57 companies. This is far below the suggested sample as portrayed by Krejcie and Morgan's (1970) table. Second, several contradictory statements were found in the study. For instance, the study stated that performance affects dividend payout both in the short and long run while in another part it revealed that performance does not affect dividend payout in the long run. Also, the study quoted 1997 to 2016 as its 20 years instead of 19 years study period. In another part, the study was presented as a 5 year research. Additionally, the study revealed that due to existing policy of dividend payment in the industry, firms pay dividend even when they make loss. This was supported by the skewed mean value revealed by the descriptive statistics. It also disproved the power of performance to influence dividend payment. All these contradictions cast doubt in the mind of readers as to whether the study can be adequately relied upon when it

comes to judging the relationship between performance and dividend policy of firms.

Pascareno and Siringoringo (2016) analyzed the effect of financial performance on company's value moderated by dividend policy. The variables of the study consisted financial performance, dividend policy and company's value. Financial performance was measured by liquidity, leverage, and profitability, while dividend policy was represented by dividend payout ratio and company's value was proxied by Tobin's Q. Data were filtered from annual financial report of 18 insurances and banking companies. These 18 companies were listed in Indonesia Stock Exchange during the period 2010-2013. Data were analyzed using multiple regression analysis. There was evidence that financial performance did not affect the dividend payout and company's value. It was also shown that dividend policy did not moderate the effect of financial performance on company's value. The study revealed that there was no long-run relationship between variables of the study. Based on the findings of the study both banking and insurance industries, which were listed on Indonesia Stock Exchange, were able to pay dividend continuously during the period of the study, neither financial performance did influence company's value nor did dividend policy moderate the relationship between financial performance and company's value. In addition, the study combined both banking sector as well as insurance companies as its population. This could lead to the outcome of the result to be mixed as seen earlier in the study. Also, the research ought to have concentrated on at least one of the sectors as its domain for it to be more focused in one particular aspect.

Anwaar (2016) investigated the impact of firm performance on stock returns of Listed Companies of the Financial Times Stock Exchange (FTSE) 100 Index London, over the period 2005 to 2014. The study adopted five independent variables and one dependent variable. Earnings per share, quick ratio, return on assets, return on equity and net profit margin were used as independent variables while stock returns was used as dependent variable. Panel regression analysis method was used for analysis of data. The findings indicated that net profit margin, return on assets have significant positive impact on stock returns while earnings per share has significant negative impact on stock returns. When earnings per share increases, then all those investors who want short term gain and are conscious of dividend, sell their stock in the market due to the fact that in the near future, the stock returns of the company will decrease due to excess supply of stocks, while return on equity and quick ratio show

insignificant impact on stock returns. The study failed to conduct robustness tests to determine the best model to be used in interpreting the results outcome between the pooled OLS and fixed effect model by conducting the Breusch and Pagan Langragian Multiplier test (LM) which would have improved the statistical inference of the study.

Koduk (2016) determined the relationship between financial performance and dividend payout of savings and credit cooperative societies registered by SACCO society regulatory authority in Kenya. Data were obtained from secondary source and a sample of 164 firms was collected for the period of five years from 2011 to 2015. The data were analyzed using descriptive statistics as well as inferential statistics for making conclusions from the data. Correlation and regression analysis were used in determining the relationship between the variables. The findings of the study indicated that there exists a positive relationship between financial performance and dividend payout of registered Sacco's firms and negative relationship also was shown by growth variable. The study recommended that firms should pay dividends based on their financial performance and this entails coming up with a good management strategy and effective dividend policy. The study assumed that firms always utilize all their income in paying dividend by using Net Income as a measure of Dividend payout which contradicts practical situations. Firms sometimes pay residual dividend and, in some cases, choose to reinvest entire earnings.

Uwuigbe (2013) investigated the nature of linkage between financial performance and dividend policy of listed firms at the Nigerian Stock Exchange. The objective of the study was to examine the effects of financial performance, firm size, financial leverage and board independence on dividend payout ratio of firms listed at the Nigerian Stock Exchange. Purposive sampling technique was used to select a sample size of fifty (50) firms for the study. The financial records for the period between 2006 and 2011 were used to collect the relevant data. Regression methodology was used for data analysis and the results established that the association between firm size, board independence, financial performance and dividend payout ratio was proportional and statistically significant for firms listed at the Nigerian Stock Market. However, the study ought to have conducted robustness tests such as normality test, multicollinearity test and autocorrelation test in order to improve its statistical inferences.

Kajola, Adewumi and Oworu (2015) investigated the linkage between financial performance and dividend payout ratio of nonfinancial firms registered on the Nigerian Stock Exchange. A sample size of twenty-five (25) firms was selected for the study and secondary data were collected for a period of ten years, from 2004 to 2013. Both panel data and pooled ordinary least squares regression models were employed to establish the coefficient of predictor and the control variables respectively. Profitability was used as the predictor variable and it was measured using rate of return on assets whereas dependent variable was dividend policy which was measured using the dividend payout ratio. The findings of the result concluded that there was a direct and significant relationship between profitability and dividend policy. The gap of the study was in its methodology as the selected population was very small, the study used only one dependent variable and one independent variable with three control variables. This indicates that there are more control variables than independent variable. However the more the independent variables the better the results of that study. Furthermore, the study was a panel data because OLS was used in results' interpretation. Thus, further tests such as heteroscedasticity test, fixed and random effect test and hausman specification would have been conducted in order to decide on the best model that suits the study.

Yusuf (2015) examined the impact of performance and dividend payout ratio of some selected deposit money banks in Nigeria covering the periods between 2004 and 2013. The study adopted explanatory research design of which four deposit money banks were selected and data relating to the relevant variables of leverage and profitability as independent variables and dividend payout ratio as dependent variable were collected. Multiple regressions and correlation analysis were employed to analyze the data. The findings revealed that leverage has negative and insignificant impact on dividend payout ratio. The result of profitability of the firm was negatively and significantly influencing dividend payout of some selected deposit money banks in Nigeria in the study, with an indication that profitability and dividend payout of the banks move in an inverse direction. That is, the higher the profit earned by the bank, the lesser the dividend declared by the selected banks to the shareholders.

The study employed four samples as its population as well as three variables which are dividend payout ratio, return on equity and leverage. However, the samples of the study were small and the variables can

described as inadequate. This is because the more the sample size and variables the better the result of the study. The study failed to capture on the normality of the data and multicollinearity of the variables in order to improve on the study statistical inferences.

Dita and Murtaqi (2014) studied the relationship between net profit margin, price to book value, debt-equity ratios and stock returns in the Indonesian consumer goods industry during the period 2009-2013. According to the results of multiple linear regression analysis, net profit margin, price to book value, and debt equity ratio have a significant relationship between stock returns. The result of the study revealed that, net profit margin and debt to equity ratio have a positive effect, while the price to book value has a statistically significant negative relationship with stocks returns. The study population was made of twenty and the technique for the selection of sample size or criteria employed was completely not included in the study as this will improve on the statistical result of the study, the study did not make provision for recommendations.

Allozi and Obeidat (2016) investigated the relationship between profitability and leverage measures with stock returns in Amman stock Exchange. The sample included 65 manufacturing companies over the period 2001-2011. The study employed net profit margin, gross profit margin, return on assets, and return on equity and earnings per share as profitability and debt ratio, debt to equity ratio and interest coverage ratio as leverage ratios. The results of the study revealed that gross profit margin, return on equity, return on assets and earnings per share have significant relationship with stock returns and net profit margin and leverage measures are irrelevant with stock returns. As it can be deduced, the study was conducted on the entire population because sample size and the criteria used to arrive at the size were not explicitly explained. Also, there was no theory to which the study was underpinned. And all these could significantly affect statistical inferences arrived at.

Several dividend theories supported the prepositions on dividend payment. These theories are often used to explain the relationship between dividend payment, performance and value of firms as previously used in the works of (Kimunduu, Mwagi, Kaijage & Ochieng, 2017). Notwithstanding, the existence of theories like M&M hypothesis (1961) that proposed dividend irrelevance, a lot of more recent theories have proved the existence of positive relationship between firm performance and dividend payout.

Bird-in-Hand Theory

Bird in hand theory proposes that a relationship exists between firm value and dividend payout. It states that dividends are less risky than capital gains since dividends are more certain. Therefore, investors would prefer dividends to capital gains (Amidu, 2007). Because dividends are supposedly less risky than capital gains, firms should set a high dividend payout ratio and offer a high dividend yield to maximize stock price. The essence of the bird-in-the-hand theory of dividend policy (Fumey and Doku, 2013) argued that outside shareholders prefer a higher dividend policy. Consequently, investors would be more attracted to firms with high payout ratio.

Signaling Theory

According to the signaling hypothesis, investors can infer information about a firm's performance and future earnings through the signal coming from dividend announcements, both in terms of the stability of dividend and changes in dividend. However, for this hypothesis to hold, managers should first have possessed private information about a firm's prospects, and have incentives to convey this information to the market (Modugu, 2017). A firm with poor performance should not send false signals to the market by increasing dividend payments. Thus, the market must be able to rely on the signals to differentiate among firms. If these conditions are fulfilled, the market would react favorably to the announcements of dividend increase and unfavorably otherwise (Hosain, 2016).

It has been empirically established that when dividends are increased or initiated, prices of the associated common stocks tend to go up, and when dividends are cut or omitted, prices fall (Kimunduu et al, 2017; Yusuf, 2016; Nwidobie, 2013). Uwuigbe (2013) argued that firms tend to increased dividend when managers believed that profitability has permanently increased. This suggested that dividend increase imply long-run sustainable earnings. Many theorists contended that the rise in the stock price following a dividend increase conveys positive information, that is, managers use dividends to signal their views of future earnings prospects which signify how well firms have been performing. The idea that changes in dividends have information content about the future performance of firm remains the perceived wisdom in corporate finance (Odawo & Ntoiti, 2015). Furthermore, this provides the evidence of relationship that exists between firm performance and dividend policy of listed manufacturing companies.

This study is underpinned by signaling theory of dividend payment. The

justification of the choice of the theory is based on the fact that it addresses some of the issues of dividend payout to investors of the company and also addresses the issue of cash and stable payout of firms as a result of good profit earned from performance. As well, signaling theory deals with company performance as managers communicate information about the performance of company to outside investors on how well the company is performing.

Hypotheses statements

In line with the specific objectives and the reviewed literature, the study has developed the following null hypotheses:

HO1: return on asset has no significant impact on dividend payout among listed manufacturing companies,

Ho2: return on equity has no significant impact on dividend payout among listed manufacturing companies,

Ho3: return on investment has no significant impact on dividend payout among the listed manufacturing companies, and

Ho4: net profit margin has no significant effect on dividend payout among the listed manufacturing companies.

Conceptual Framework

In line with the signaling theory, this paper comes up with the framework on the relationship about the effect of accounting measure of performance on dividend payout ratio of listed manufacturing companies. The conceptual framework is a pictorial representation of the relationship between the variables as presented below.

Figure 1: Conceptual Framework

Source: (Researcher, 2022)

4. Methodology

Population and Sample Size of the Study

The population of the study comprised all the seventy-four (74) manufacturing companies listed on the Nigeria Stock Exchange as at 31st December, 2020. The listed firms are classified under different segments namely: consumer goods sector (27), industrial goods sector (20), health care sector (11), conglomerate sector (6), agricultural sector (5) and natural resources sector (5).

The study adopted cluster sampling as sampling technique because the population of the study involves grouping the firms into manufacturing subsectors. These firms constitute the following: twenty-seven (27) consumer goods sector, twenty (20) industrial goods sector, eleven (11) health care sector, six (6) conglomerate sector, five (5) agricultural sector and five (5) natural resources sector. Simple random probability was employed for the selection of sample size from each group of manufacturing subsector proportionately. Hence, a total of 63 firms forms the adjusted population of the study based on the criteria that firms that were able to pay dividend consistently within the period of the study. The composition of the sample sizes are consumer goods sector (27 – 2 = 25); industrial goods sector (20 – 3= 17); health care (11- 2= 9); conglomerates sector (6 – 2 = 4); agricultural sector (5 – 1 = 4) and natural resources (5-1=4). Therefore, 11 companies were dropped out of the total 74 companies, while the remaining 63 firms served as adjusted samples of the study. This implied that a total of two firms were dropped out of the twenty seven in the consumer goods sector, while three firms were dropped out of twenty in the industrial goods sector, two firms were dropped in the health care sector out of a total of eleven firms, while in the conglomerate sector two firms were equally dropped out of six, in the agricultural sector one firm was dropped out of five firms and in the natural resources sector one firm was dropped out of five firms as explain above. The selection is presented in Table 3.1 as follows:

Table 3.1: Proportionate Distribution of Sample Size

SN	SECTOR	NO	Sample	Proportion%
1	Consumer goods	27	25	36
2	Industrial goods	20	17	27
3	Health care	11	9	15
4	Conglomerate	6	4	8
5	Agriculture	5	4	7
6	Natural resource	5	4	7
7	Total	74	63	100

Source: (Researcher, 2022)

Result and Discussion

This section of the study discusses the result obtain from the regression model. This includes presentation and discussion of descriptive statistics, correlation matrix and finally the summary of the regression result.

Descriptive statistics

This sub-section presents and describes the nature of the variables data using descriptive statistics.

Table 1: Descriptive Statistics

Variables	Mean	Std. Dev	Min	Max
DPO	0.5092	0.2098	0.0848	0.9976
ROA	0.3889	0.2049	0.0108	0.9743
ROE	0.4083	0.2045	0.0313	0.9377
ROI	0.3686	0.1914	0.0811	0.8270
NPM	0.5032	0.1814	0.1136	0.9484

Source: STATA 11

Table 1 showed that the measure of dividend payout (DPO) of manufacturing firms listed in Nigeria has a mean value of 0.5092 with standard deviation of 0.2098, and minimum and maximum values of 0.0848 and 0.9976 respectively. The table indicated an average return on asset (ROA) of 0.3889 with standard deviation of 0.2049; the minimum and maximum values were 0.0108 and 0.9743 respectively. The table also indicated an average return on equity (ROE) of 0.4083 with standard deviation of 0.2045; the minimum and maximum values were represented by 0.0.0313 and 0.9377 respectively. Moreover, Table 1 also showed an average return on investment (ROI) of 0.0.3686 with standard deviation of 0.0.1914, the minimum and maximum values were 0.0.0811 and 0.8270 respectively. Lastly, the results in Table 1 above indicated that the net profit margin (NPM) has a mean value of 0.5032 with standard deviation of 0.0.1814, with minimum and maximum values of 0.0.1136 and 0.9484 respectively.

Correlation matrix

This section presents and discusses the extent of variables relationship within and between them. Table 2 below presents the correlation matrix result.

Variables	DPO	ROA	ROE	ROI	NPM	VIF	T-Value
DPO	1.0000						
ROA	0.4572	1.0000				1.5400	0.6507
ROE	0.3320	0.3252	1.0000			1.2100	0.8298
ROI	0.4312	0.5715	0.3809	1.0000		1.6400	0.6092
NPM	0.3277	0.2944	0.2274	0.3360	1.0000	1.1600	0.8633

Source: STATA 11

The results in Table 2 showed the degree of association between dividend payout (DPO) and all pairs of independent variables individually as well as between independent variables themselves and cumulatively with the dependent variable (DPO) of the study in the listed manufacturing firms in Nigeria. The table presented a positive relation between dividend payout (DPO) and all other independent variables (return on asset, return on equity, return on investment and net profit margin), which was to the tune of 0.4572, 0.3320, 0.4312 and 0.3277 respectively. This relationship implied that as the proportion of these independent variables increases; the dependent variable (DPO) also increases positively.

The analysis of the relationships within the independent variables and themselves indicated positive relationship all through. Table 2 above also presented the result of the Multicollinearity Test where it revealed that all the VIF's were consistently less than 10 and tolerance value also less 1 which implied that multicollinearity is not a problem (Cassey & Anderson, 1999).

However, to conclude on the relationship and the impact of the dependent variable (DPO) and all the pairs of independent variables (return on asset, return on equity, return on investment and net profit margin) of listed manufacturing firms in Nigeria, the estimators from the regression of the model of the study is analyzed in the following section.

Summary of regression result

This section presents the summary of the regression result which is presented in Table 3 below:

Table 3: Summary of the Regression Result

Variables	Coefficients	t-values	p-values
ROA	0.4099	4.6800	0.0000
ROE	0.1947	2.2700	0.0240
ROI	0.2771	2.8600	0.0050
NPM	0.3004	3.2600	0.0010
Constant	0.0330	0.6200	0.5370
R-Square			**0.5955**
F-Statistics			**32.9700**
F-Significance			0.0000
Hettest	638.3500		0.0000
Hausman	19.1900		0.0007
Serial Correlation	1.6880		0.2636

Source: STATA 11

However, the result obtained from the heteroscedasticity test is significant from the probability value of 0.0000 (see Table 3) above which indicated that the panel elements were not homoscedastic for that they were heterogeneous which necessitated the test for fixed and random effect.

In addition, the result obtained from the Hausman specification test conducted indicated that the probability value was significant (see Table 3) above which suggested the use and subsequent interpretation of the fixed effect model in favor of the random effect.

Furthermore, the result obtained from the Woodridge serial correlation test revealed a probability value of 0.2636 which was insignificant and suggested the subsequent reporting and interpretation of the fixed effect model. For that reason, the fixed effect result model was presented and interpreted in Table 3 above.

The cumulative R^2 (0.5955) which is the multiple coefficients of determination gives the proportion or percentage of the total variation in the dependent variable as explained by the independent variables jointly. Hence, it signified that 60 percent of total variation in dividend payout (DPO) of listed manufacturing firms in Nigerian was caused by the collective effort (interaction) of return on asset, return on equity, return on investment and net profit margin. This result further indicated that the model is fit.

The F which represents the Fisher's statistics (F-statistics) of 32.9700 which is significant at 1 percent indicated that dividend payout model is fit. In addition, it also implied that for any change in performance measures used in this study, the dividend payout

ability of these manufacturing firms would be directly affected.

The regression result revealed that return on asset (ROA) has a t-value of 4.6800 with regression coefficient of 0.4099 which was statistically significant at 1 percent level. This implied that return on asset has significant effect on the dividend payout of listed manufacturing firms in Nigeria. However, the result is not surprising because the prior expectation was that return on asset as a performance measure of a firm would definitely translate in the dividend payout ratio of firms. Similarly, in reality, return on asset mostly affects firms share price in the capital market positively and in turn affect dividend payout. However, this finding gives evidence to reject the first null hypothesis of the study which says; there is no significant effect between return on asset and dividend payout of listed manufacturing firms in Nigeria. Thus, hypothesis one (1) is rejected.

The regression result in Table 3 above revealed that return on equity has a t-value of 2.2700 and a coefficient beta value of 0.1947 with a significant p-value of 0.020. This signified that return on equity (ROE) has a positive, significant and statistical impact on the dividend payout of listed manufacturing firms in Nigeria. This indicated that for every 1 percent increase in the profit earned as a result of the equity invested listed manufacturing firms; the dividend payout increase by 0.1947. Furthermore, the profit earned measured using ROE by manufacturing firms listed in Nigeria indicated the likely chances of paying high dividend by these firms. This result is not surprising as it did not contradict researchers' expectation that majority of the shareholders invested in a firm with a hope of achieving return on their investment which is mostly the dividend. However, the findings from this result serve as sufficient evidence for rejecting hypothesis two of this study. Thus, hypothesis two (2) is hereby rejected.

The regression result in Table 3 revealed that return on investment (ROI) has a t-value of 2.8600, coefficient value of 0.2771 which is statistically significant at 1 percent level as proved by the probability value of 0.000. This signifies that return on investment (ROI) is positively, strongly and statistically influencing dividend payout in manufacturing firms listed in Nigeria. This implies that for every 1 percent increase in the return on investment (ROI) of manufacturing firms listed in Nigeria, the dividend payout also increase significantly by 0.2771. However, this finding serves as evidence for rejecting hypothesis three (3) of the study, thus; hypothesis three is rejected.

In addition, the result of net profit margin (NPM) revealed a t-value of 3.2600 and a beta value of 0.0330 with a p-value of 0.0000. This signifies that net profit margin also is a factor that increases dividend payout in listed manufacturing firms in Nigeria. This result is consistent with the study priory expectations that net profit margin as a performance indicator also influence dividend payment positively in manufacturing firms listed in Nigeria. Hence, this finding provides sufficient reasons of rejecting the fourth null hypothesis of the study. Hence, the fourth null hypothesis which states that net profit margin has no significant effect on dividend payout of listed manufacturing firms in Nigeria is hereby rejected. Thus; hypothesis four (4) is rejected.

5. Conclusions and Recommendations

Based on the discovered findings, the study concludes as follows:

Firstly, the study has provided empirical evidence on the utility of four independent variables of performance in explaining and predicting dividend pay-out of manufacturing firms listed in Nigeria. It was provided by the findings of this study that all the independent variables utilized in this study proved to have an encouraging role in the way and manner dividend is been paid in listed manufacturing firms in Nigeria.

However, based on the above findings and conclusions, it is recommended that managers of manufacturing firms listed in Nigeria should consider a way of improving all the accounting performance measures used in this study, since they were found to have reasonably improved the ability of the firms in paying dividend out to their shareholders.

References

Adeniran, P. A. (2018). Centre for the Study of Economies of Africa (CSEA). http//: www.dailytrust newspaper, retrieved on 26th April, 2018 at about 14:30 hrs.

Al- Khalayleh, M. (2011). The Relationship between Accounting Performance Indexes and Market Performance Indexes: An Applied Study on Listed Corporations at Amman Security Exchange, *Administrative Sciences Studies Magazine,* Jordan University, Amman.]

Allozi, N. M., & Obeidat, G. S. (2016). The Relationship between the Stock Return and Financial Indicators (Profitability, Leverage): An Empirical Study on Manufacturing Companies Listed in Amman Stock Exchange. *Journal of Social Sciences*,5(3),408- 424.

Amidu, M. (2007). How Does Dividend Policy Affect Performance of the Firm on Ghana Stock Exchange? *Journal of Investment Management and Financial Innovations*, *4*(2), 104 – 112.

Anwaar, M, (2016). Impact of Firms' Performance on Stock Returns Evidence from Listed Companies of

FTSE-100 Index London, *Global Journal of Management and Business Research: Accounting and Auditing,* 5(16), 1.

Azeez, A., & Latifat, M. (2015). Relationship between Dividend Payout and Firms Performance: Evaluation of Dividend Policy of OANDO Plc. *International Journal of Contemporary Applied Sciences, 6*(2), 56-71.

Bulla, D. M. (2013). An empirical analysis of selected factors affecting dividend policy of listed firms at the Nairobi securities exchange. *African Journal of Accounting, Economics, Finance and Banking Research,* 9(9), 14-23.

Bunyasi, W. (2012). The Effect of Dividend Policy on the Market Value of Shares of Public Companies Quoted at the Nairobi Stock Exchange. Unpublished MBA thesis, Kenyatta University.

Casey, K. M., & Anderson, D. C. (1999). Examining the Impact of the 1986 Tax Reform Act on Corporate Dividend Policy: A New Methodology, Fin. Rev. 34(3), 5-15.

Central Bank of Nigeria (2018) Various Issues.

Dada, F. B., Malomo, E., & Ojediran, S. (2015). Critical evaluation of the determinants of dividend policy of banking sector in Nigeria. *International Journal of Economics Commerce and Management, 3*(2), 1-11.

Dita A. H., & Murtaqi, I. (2014). The Effect of Next Profit Margin, Price to Book Value and Debt to Equity Ratio to Stock Return in the Indonesian Consumer Goods Sector. *Journal of Business and Management,* 3(3), 305 - 315.

Fumey, A., & Doku, I. (2013). Dividend Payout Ratio in Ghana: Does the Pecking Order Theory Hold Good? *Journal of Emerging Issues in Economics, Finance and Banking, 2*(5),99-133.

Giang, N. T., & Tuan, D. A. (2016). Financial Performance, Dividend Payment and Firm Value: An Exploratory Research on Vietnam Listed Firms in the Food and Drink Industry. *VNU Journal of Science, Economics and Business,* 32(2), 47-57.

Hashim, Z., Shahid, R., Sajid, I., & Umair, A. (2013). Determinants of Dividend Policy: A Case of Banking Sector in Pakistan, *Middle East Journal of Scientific Research, 18*(3), 410-424.

Hosain, M. Z. (2016). Determinants of the Dividend Payout Policy: A Study on Listed Private Commercial Banks of Dhaka Stock Exchange Limited in Bangladesh. *Journal of Economics and Finance*, 7(5), 01-10.

Jensen, G. (2010). Agency Costs of Free Cash Flow, Corporate Finance, and the Market for Takeovers, *American Economics Review, 3*(5), 323-329.

Kajola, S. O., Adewumi, A. A., & Oworu, O. O. (2015). Firm Financial Performance and Dividend Payout Policy: Evidence from Nigeria Listed Non-Financial Firms. *International Journal of Economics, Commerce and Management, 3*(4), 1-12.

Kimunduu, G. M., Mwangi, M., Kaijage, E., & Ochieng, D.E. (2017). Financial Performance and Dividend Policy.

European Scientific Journal, *13*(28), 138–154.

Koduk, L. A. (2016). The Relationship between Financial Performance and Dividend Payout of Savings and Credit Cooperative Societies Registered by Sacco Society Regulatory Authority in Kenya.

Kurfi, A. K. (2021). *Financial Management*. Kano: Benchmark Publishers Limited.

Mirza, S.A., & Javed, A. (2013). Determinants of Financial Performance of a Firm: Case of Pakistani Stock Market. *Journal of Economics and International Finance,5*(2), 43-52.

Modugu, K. P. (2017). Firm Performance and Corporate Disclosure Level of Listed Companies in Nigeria. *Asian Journal of Finance & Accounting,* 9(2).

Muhammad, H., Shah, B., & Islam, Z. (2014). The Impact of Capital Structure on Firm Performance: Evidence from Pakistan, *Journal of Industrial Distribution and Business,* 5.

Murekefu, T., & Ouma, O. (2012). The Relationship between Dividend Payout and Firm Performance. A Study of Listed Companies in Kenya. *European Scientific Journal*, *8*(9), 1857-1878.

National Bureau of Statistic (2022) Various Issues.

Nigerian Stock Exchange: Nigeria Stock Exchange fact book, various issues.

Nwidobie, B. M. (2013). Agency Conflict and Corporate Dividend Policy Decisions in Nigeria. *Asian Economic and Financial Review*, *3*(8), 1110-1121.

Odawo, C. & Ntoiti, J. (2015). Determinants of dividend payout policy in public Ltd banks in Kenya: A case study of CFC Stanbic bank. *Strategic Journal of Business & Change Management*, 2(2), 16-28.

Onanjiri, R. N., & Korankye, T. (2014). Dividend Payout and Performance of Quoted Manufacturing Firms in Ghana. *Research Journal of Finance and Accounting*, 5(15), 35-51.

Oyinlola, O.M., & Ajeigbe, K.B. (2014). The Impact of Dividend Policy on Stock Prices of Quoted Firms in Nigeria. *International Journal of Economics, Commerce and Management, 11*(9), 1-17.

Oyinlola, O.M., Oyinlola, F.O., & Adeniran, J.O. (2014). The Influence of Dividend Payout in the Performance of Nigerian Listed Brewery Companies. *International Journal of Economics and Management Sciences, 3*(1), 13-21.

Pascareno. B. E., & Siringoringo, H. (2016). The Effect of Financial Performance on Company's value moderated by dividend policy. *Journal of Electronics. 21(*1).

Rafindadi, A. A., & Bello, A. (2019). Is Dividend Payment of any Influence to Corporate Performance in Nigeria? Empirical Evidence from Panel Cointegration, *International Journal of Economics and Financial Issues,* 9(2), 48 -58.

Salehnezhad, H. S. (2013). A Study Relationship between Firm Performance and Dividend Policy by Fuzzy Regression: Iranian scenario. *International Journal of Accounting*

and Financial Economics, 23(11), 23-38.

Shao, J. (2003). *Mathematical Statistics*. New York: Springer, Verlag.

Uwuigbe, O. R. (2013). Corporate Governance and Share Price: Evidence from Listed Firms in Nigeria. *African Research Review, 7*(2), 129-143.

Van Horne, J.C. (2008). *Financial Management and Policy*. Singapore: Person Education Publishers.

Wasike, T.W., & Jagongo, A. (2015). Determinants of Dividend Policy in Kenya. *International Journal of Art and Entrepreneurship,* 4(11), 71-80.

Yusuf, B. R. (2015). Firm Performance and Dividend Payout ratio of Deposit Money Banks in Nigeria. *International Journal of Advance Management and Economics,*4(6),98 105.

APPENDIX

```
. sum dpo roa roe roi npm

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
         dpo |        315    .5346322    .3710115     .08475    4.59091
         roa |        315     .398439    .2504942      .0108    2.67416
         roe |        315    .4178088    .2278954      .0313    2.11064
         roi |        315     .374923    .2324174    .081062      2.737
         npm |        315     .509564     .209421    .113647    2.36544

. correlate dpo roa roe roi npm
(obs=315)

             |      dpo      roa      roe      roi      npm
-------------+---------------------------------------------
         dpo |   1.0000
         roa |   0.4572   1.0000
         roe |   0.3320   0.3252   1.0000
         roi |   0.4312   0.5715   0.3809   1.0000
         npm |   0.3277   0.2944   0.2274   0.3360   1.0000

. reg dpo roa roe roi npm

      Source |       SS       df       MS              Number of obs =     315
-------------+------------------------------           F(  4,   310) =   32.47
       Model |  12.761856     4    3.190464            Prob > F      =  0.0000
    Residual |  30.4601002   310  .098258388           R-squared     =  0.2953
-------------+------------------------------           Adj R-squared =  0.2862
       Total |  43.2219563   314  .137649542           Root MSE      =  .31346

------------------------------------------------------------------------------
         dpo |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         roa |   .3936772   .0875461     4.50   0.000     .2214174     .565937
         roe |   .2349609   .0852109     2.76   0.006     .0672961    .4026258
         roi |   .2726646   .0975118     2.80   0.005      .080796    .4645332
         npm |    .282059   .0909108     3.10   0.002     .1031787    .4609393
       _cons |   .0336518   .0530867     0.63   0.527    -.0708042    .1381077
------------------------------------------------------------------------------

. vif

    Variable |       VIF       1/VIF
-------------+----------------------
         roi |      1.64    0.609240
         roa |      1.54    0.650685
         roe |      1.21    0.829810
         npm |      1.16    0.863313
-------------+----------------------
    Mean VIF |      1.39

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of dpo

         chi2(1)      =   638.35
         Prob > chi2  =   0.0000


. xtreg dpo roa roe roi npm,fe

Fixed-effects (within) regression               Number of obs      =       315
Group variable: year                            Number of groups   =         7

R-sq:  within  = 0.3025                         Obs per group: min =         2
       between = 0.5955                                        avg =      45.0
       overall = 0.2947                                        max =        63

                                                F(4,304)           =     32.97
corr(u_i, Xb)  = -0.0229                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         dpo |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         roa |   .4098749    .087538     4.68   0.000     .2376179     .582132
         roe |   .1947124   .0857264     2.27   0.024     .0260201    .3634047
         roi |   .2771496   .0970234     2.86   0.005     .0862272     .468072
         npm |   .3004428   .0922541     3.26   0.001     .1189053    .4819803
       _cons |   .0329649   .0533158     0.62   0.537    -.0719499    .1378796
-------------+----------------------------------------------------------------
     sigma_u |  .21478477
     sigma_e |  .31073517
         rho |  .32330836   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(6, 304) =     1.91                 Prob > F = 0.0788
```

```
. xtreg dpo roa roe roi npm,re

Random-effects GLS regression                   Number of obs      =       315
Group variable: year                            Number of groups   =         7

R-sq:  within  = 0.3019                         Obs per group: min =         2
       between = 0.5819                                        avg =      45.0
       overall = 0.2953                                        max =        63

                                                Wald chi2(4)       =    129.88
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
         dpo |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         roa |   .3936772   .0875461     4.50   0.000     .2220899    .5652644
         roe |   .2349609   .0852109     2.76   0.006     .0679507    .4019712
         roi |   .2726646   .0975118     2.80   0.005     .0815451    .4637842
         npm |    .282059   .0909108     3.10   0.002      .103877     .460241
       _cons |   .0336518   .0530867     0.63   0.526    -.0703963    .1376999
-------------+----------------------------------------------------------------
     sigma_u |           0
     sigma_e |  .31073517
         rho |           0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. hausman fe re

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       fe           re          Difference          S.E.
-------------+----------------------------------------------------------------
         roa |    .4098749     .3936772        .0161977                .
         roe |    .1947124     .2349609       -.0402485        .0093875
         roi |    .2771496     .2726646         .004485                .
         npm |    .3004428      .282059        .0183838        .0156857
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       19.19
                Prob>chi2 =      0.0007
                (V_b-V_B is not positive definite)

. xtserial dpo roa roe roi npm

Wooldridge test for autocorrelation in panel data
HO: no first-order autocorrelation
    F(  1,       4) =      1.688
           Prob > F =      0.2636

. xtpcse dpo roa roe roi npm, hetonly

Linear regression, heteroskedastic panels corrected standard errors

Group variable:   year                          Number of obs      =       315
Time variable:    id                            Number of groups   =         7
Panels:           heteroskedastic (unbalanced)  Obs per group: min =         2
Autocorrelation:  no autocorrelation                                avg =        45
                                                                    max =        63
Estimated covariances      =         7          R-squared          =    0.2953
Estimated autocorrelations =         0          Wald chi2(4)       =     77.99
Estimated coefficients     =         5          Prob > chi2        =    0.0000

------------------------------------------------------------------------------
             |             Het-corrected
         dpo |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         roa |   .3936772    .089266     4.41   0.000      .218719    .5686353
         roe |   .2349609     .085058     2.76   0.006     .0682504    .4016715
         roi |   .2726646   .0967998     2.82   0.005     .0829405    .4623887
         npm |    .282059   .0916866     3.08   0.002     .1023565    .4617615
       _cons |   .0336518   .0638869     0.53   0.598    -.0915643    .1588678
------------------------------------------------------------------------------
```