Dividend Policy and Return on Investment of Quoted Manufacturing Firms in Nigeria

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ABSTRACT
This study examines the relationship between dividend policy and return on investment of selected Nigerian quoted manufacturing firms from 1985 – 2014. Multi-dimensional data were sourced from Stock Exchange Fact book and financial statement of the quoted manufacturing firms within the period covered in the study. Multiple regression models were formulated having Return on Investment (ROI) as dependent variables while Dividend Payout Ratio (DPR), Retention Ratio (RR) and Dividend Yield (DY) were used as independent variables. Eighteen (18) manufacturing firms were selected from the population based on availability of required data. Ordinary least squares regression analyses with the E-view software package were conducted. Co-integration test, Granger Causality Test and Augmented Dickey Fuller Unit Root Test were used to examine the stationarity and the long run relationship between the dependent and the independent variable. Model I found that Dividend Payout Ratio, retention ratio and dividend yield have positive but insignificant relationship with Return on Investment. The Augmented Dickey Fuller test shows stationarity of the variables at first difference. The co-integration test reveals long run relationship between the variables while the Granger Causality Test reveals bi-directional relationship running through the variables. The study concludes that dividend policy has no significant relationship with the return on investment (ROI) of the quoted manufacturing firms in Nigeria. It therefore recommends an effective management of dividend policies to enhance the return on investment (ROI) of the quoted manufacturing firms in Nigeria.

Keyword: Dividend Policy, Return on Investment, Shareholders, Manufacturing Firm

1. INTRODUCTION
Dividend policy remains one of the most controversial issues in corporate finance. The relationship between dividend policy and corporate performance has remained very sharp point of departure among scholars in corporate finance. The intensity of the debate has remained largely unresolved in both the global and local arena. The age-long debate on the relationship between dividend policy and corporate performance of the firm rages on and dates back to Walter and the “Bird in Hand” theory in 1928, Gordon (1960) and the dividend relevance hypotheses and Miller and Modigliani (1962) and the dividend irrelevance hypotheses which have presented a serious challenge to academia and practitioners alike. Prior academic literatures have attempted to provide answers to questions on dividend policy and harmonize the theories but mystery still shrouds the dividend policy decisions of corporate organizations in general and Nigerian quoted firms (Inanga, 2011). The complexity of dividend issues has left many questions unanswered regarding the relationship between dividend policy and corporate profitability.
To consider the relationship between dividend policy and corporate profitability of Nigerian firms is therefore, important due to the various macroeconomic and financial sector reforms. Answering hitherto unanswered questions such as “does dividend policy impact on profitability of quoted firms in the Nigerian stock exchange?” and if it does, to what extent? Can corporate managers utilize this relationship
in taking dividend decisions that will enhance shareholders’ wealth maximization? Again it is important to ascertain the application of the theories underlying the relationship between dividend policy and profitability of quoted firms and empirical studies as such theories and empirical studies are based on the financial system.

Furthermore, there is the problem associated with the fact that empirical studies on the effect of dividend policy on corporate profitability of quoted firms have not reached a definite conclusion. For example, the information content of dividend as it relates to corporate profitability is very trivial (Kalay, 1982, Chen, 2009 and Hashemiyoo, 2012). Also, announcements on dividend convey information beyond that already reflected in contemporary earnings number and that may affect stock price. Thus, the problem of lack of a clear-cut empirical analysis and findings on the impact of dividend on the profitability of quoted firms stimulated this study. Although various studies have been conducted by various scholars in Nigeria on the subject in question, none to my knowledge has addressed comprehensively the non financial institutions such as manufacturing firms. From the above, this study intends to examine the existing relationship between dividend policy and corporate productivity of quoted manufacturing firms in Nigeria.

2. LITERATURE REVIEW
The review of literature is done in two sub-sections via: theoretical foundation and empirical review.

2.1 The Irrelevance of dividend policy
Miller & Modigliani (1961) proposed irrelevance theory suggesting that the wealth of the shareholders is not affected by dividend policy. It is argued in their theory that the value of the firm is subjected to the firm’s earning, which comes from company’s investment policy. The literature proposed that dividend does not affect the shareholders’ value in the world without taxes and market imperfections. They argued that dividend and capital gain two main ways that can contribute profits of firm to shareholders. When a firm chooses to distribute its profits as dividends to its shareholders, then the stock price will be reduced automatically by the amount of a dividend per share on the ex-dividend date. So, they proposed that in a perfect market, dividend policy does not affect the shareholder’s return. There are a couple of researchers supporting the irrelevance dividend hypothesis which will be reviewed as follows:

Brennan (1970) supported the irrelevancy theory of Miller and Modigliani and concluded that any rejection of this theory must be based on the denying of the principle of symmetric market rationality and the assumption of independence of irrelevant information. He suggested that for rejection of latter assumption, one of these following conditions must exist: firstly, Investors do not behaved rationally. Secondly, stock price must be subordinate of past events and expected future prospect. (Hakansson, 2006) supported the irrelevance theory of Miller and Modigliani and claimed that dividends, whether informative or not, is irrelevant to firm’s value when investors have homogeneous belief and time additive utility and market is fully efficient.

2.2 Relevance of dividend policy
Relevance of dividend policy based on uncertainty of future dividends Gordon, (1962) suggested a valuation models relating the market value of the stock with dividend policy. Gordon studied dividend policy and market price of the shares and proposed that the dividend policy of firms affects the market value of stocks even in the perfect capital market. He stated that investors may prefer present dividend instead of future capital gains because the future situation is uncertain even if in perfect capital market. Indeed, he explained that many investors may prefer dividend in hand in order to avoid risk related to future capital gain. He also proposed that there is a direct relationship between dividend policy and market value of share even if the internal rate of return and the required rate of return will be the same. In Gordon 1(962) constant growth model, the share price of firm is subordinate of discounted flow of future dividends. (Diamond, 2005) selected 255 US based firms as a sample and studied the association of firm’s value with dividends and retained earnings reported that there is only weak evidence that investors prefer dividends to future capital gain. His findings also showed a negative association between growth of company and preference of dividend.
2.3 Empirical Review
Brockington (1987) observed that ‘Dividend policy has the effect of destabilizing dividend as only a prolonged increase or decrease in profits will affect the average sufficiency to have any appreciable effect on the size of the distribution’. Since it is a conservative dividend policy-in the long run, only one half of profits will be distributed and there will be substantial buildup of retained earnings. This will certainly reinforce further, the consistency of dividends which could for a while be maintained even in the face of actual losses.

Zeckhauser & Pound (1990) in a related study found out that there is no significant difference among dividend payouts with or without large block shareholders. Carroll (1995) using quarterly data of 854 firms over the 1975-1984 periods found a significant positive relationship between earnings forecast revisions and dividend changes. More specifically, his results suggested that dividend increases were followed by an increase in future earnings and dividend. Lintner (1996) developed a model to study the determinants of the dividend behavior of American corporations by assuming that the dividend payout is a function of net current earnings after tax (PAT) and dividend paid during the previous year his findings revealed that payout a fixed proportion of their net profits as dividend to common stockholders especially when they are well-known for stable dividends policy and may try to achieve the target level of dividend or targeted payout ratio even whenever profit changes.

Nissim & Ziv (2001) found a positive association between current dividend changes and future earnings changes considering a particular model of earnings expectations. They measured profitability in terms of either future earnings or future abnormal earnings. Where, “Abnormal earnings” are defined as the difference between total earnings and normal earnings, and “normal earnings” are defined as the required return to owners based on the cost and level of invested equity capital. They argued that previous studies which were unsuccessful to show association between dividends and earnings are because of the use of wrong model by the researchers to control for the expected changes in earnings. Specifically, they reported that when using a regression analysis that controls for a particular (linear) form of mean reversion in earnings, dividend changes are positively correlated with future earnings changes. The evidence and the results contradicted with the dividend signaling models.

Nissim & Ziv (2001) showed that dividend increases were directly related to future increases in earnings in each of the two years after the dividend change. Sharma (2001) contradicted the principal implication of the signaling hypothesis that increase in dividend rate is positively related to future firm prosperity. He observed that firms report improving profitability measured by return on asset, ratio of free cash flow to capital expenditures proxy for cash flow and other performance measures leading up to dividend initiation, but subsequently there is significant and sustained reversal across all these measures. His results suggested that profitability of firms decrease after dividend initiation which is contradicted to the signaling model that predicts improvements in firm profitability.

Arnott & Asness (2003) challenged the perception that a higher payout ratio results in low future growth. They based their study on America Stock Market and found that higher aggregate-dividend-payout ratios were related with higher future earnings growth. Farsio et al. (2004) argue that no significant relationship between dividends and earnings hold in the long run and studies that support this relationship are based on short periods and therefore misleading to investors. They proposed three scenarios that would render the long-term relationship of dividends and future earnings insignificant. First, they point out that an increase in dividends may lead to a decline in funds that are to be reinvested by the firm. Agrawal & Jayaraman (2004) observed that dividend payments and leverage policy are substitute mechanisms for controlling the agency cost of free cash flow hence, improves performance. If a firm’s policy is to pay dividend each year end to shareholders, the level of activity in the organization will increase to obtain more income and have excess retained earnings to meet the standard set.

Lie (2005) argued that firms that increase payouts have excess financial flexibility and exhibit positive concurrent income shocks and decreases in income volatility, but there is limited evidence of subsequent performance improvements in his article “Financial flexibility, performance, and the corporate payout choice”. He stated that firms that increase payouts have lower past volatility of operating income than
other firms. Grullan et al, (2005) in their study on the listed firms on the NYSE and AMEX during the period of 1963 and 1997 showed that dividend changes are negatively correlated with future changes in profitability measured by return on assets. They revealed that dividend changes are very poor indicators of both earnings and profitability levels hence concluded that there is no evidence supporting the idea that dividend increases signal better prospects for firm profitability. Kania and Bacon (2005) attempted to reveal what motivates a firm to issue cash dividends. They derived a sample of five hundred and forty two firms from Multex Investor Database and used Ordinary Least Square (OLS) regression method. Their findings indicated that profitability relates negatively to the dividend payout ratio at the 1% level of significance. This means that the firms with higher profit pay lower dividends.

James and Stephen (2006) evaluated the performance of distressed firms simultaneously sending the dividend and debt signal using data obtained from the COMPUSTAT annual files. Their results were consistent with dividend payments sending a relative, ambiguous signal. Their results suggested that firms that increase or maintain their dividends show superior financial performance in terms of return on assets to those reducing or eliminating dividends. They further stated that firms maintaining their dividend outperform the firms increasing their dividend.

Amidu (2007) on the influence of dividend policy on firm performance for a sample of firms listed on Ghana Stock Exchange (GSE) over the eight year period spanning from 1997 to 2004 revealed that dividend payout and corporate profitability are negatively correlated. His results indicated a statistically significant and negative relation between Impact of Dividend Payout on profitability and dividend payout. The study found a negative association between firm’s profitability measured by return on assets and return on equity with dividend payout. Amidu (2007) found that dividend policy affects firm performance especially the profitability measured by the return on assets. The results showed a positive and significant relationship between return on assets, return on equity, growth in sales and dividend policy. This showed that when a firm has a policy to pay dividends, its profitability is influenced. The results also showed a statistically significant relationship between profitability and dividend payout ratio.

Velnampy & Nimalathasan, (2009) investigated the association between organizational growth and profitability of Commercial bank ltd in Sri Lanka over the period of 10 years from 1997 to 2006. They found that, sales are positively associated with profitability ratios except operating profit, return on equity and number of depositors are negatively correlated to the profitability ratios except operating profit and return on equity. Likewise, number of advances is also negatively correlated to the return on average shareholders’ funds.

Gill & Tibrewala (2010) found the different results of dividend payout relations in each industry in the U.S. The results showed that the dividend payout ratio is negatively related to profitability in entire sample and particularly in manufacturing industry. Kapoor, Anil & Mistra (2010) too found no association between profitability and dividend payout. Agyei & Marfo-Yiadom (2011) study the relationship between dividend policy and performance of 16 commercial banks in Ghana for a period of 5 years (1993-2003). Result shows a positive relationship between dividend policy and performance. It further reveals that leverage, size of a bank and growth, enhance the performance of banks. Luke (2011) states that a significant part of returns investors can realize from putting money into stocks comes from dividends paid by companies. The amount of money a company pays in form of dividends varies significantly from one business to the other. Companies use dividend policy to determine how much they will distribute. There is a connection between dividend policy and retention policy.

Kangarlouei, Motavasss, Azizi & Farahani, (2012) declared that an increase in dividend in a particular period may be as a result of the management policy to keep investors satisfied and prevent them from selling their stocks at times when future earnings are expected to decline or current losses are expected to continue. This argument supports the position and dividend policy of Oando Plc when it paid dividend of 200 kobo per share even though the profit before taxation and extraordinary item was N386,711,000 in the year 2004 and the diluted earnings was 243kobo per share. Uwuigbe, Jafaru & Ajayi (2012) investigate the relationship between the financial performance and dividend payout among 50 listed firms in Nigeria for 2006 to 2010. Result shows a significant and positive association between the performance
of firms and the dividend pay-out. The study also reveals that ownership structure and firm’s size has a significant impact on dividend pay-out of firms. Raei, Moradi & Eskandar (2012) examine dividend policies of Iranian listed firms. Results indicate a non-significant relationship between dividend policy and performance proxy, ROA. The study also shows that earning is positively associated with dividend policy. Gul, Sajid, Razzq, Iqba, & Khan (2012) examine the influence of dividend policy on shareholders wealth (represented by market price per share) of 75 companies listed in Karachi Stock Exchange for duration of six years from 2005 to 2010. Using multiple regression and stepwise regression, result indicates a significant influence of dividend policy on wealth of shareholders for dividend paying companies. Timothy & Peter (2012) sought to establish the relationship between dividend payout and firm performance among listed firms on the Nairobi Securities Exchange during the period of 2002-2010. They employed regression analysis to establish the relationship between dividend payout and firm performance. Their findings indicated that dividend payout was a major factor affecting firm profitability measured by net profit after tax. Their relationship was also strong and positive. This therefore showed that dividend policy was relevant. In this regard this research tries to unfold the relationship between dividend policy and corporate performance for the listed manufacturing firms.

Murekefu & Ouma (2013) used regression analysis to examine the relationship between dividend payout and firm’s performance among selected companies in Kenya. They found out that dividend payout has a strong and significant impact on firms’ profitability and concluded that dividend payout was a major factor affecting firm’s performance. Ajanthan (2013) on the relationship between dividend payout and firm profitability among listed hotels and restaurants in the Colombia Stock Exchange (CSE) using regression and correlation analysis indicated that dividend payout was a crucial factor affecting firm’s performance. Velnamypsy (2013) in his study of corporate governance and firm performance” with the samples of 28 manufacturing companies using the data representing the periods of 2007 –2011 found that determinants of corporate governance are not correlated to the performance measures of the organization. Regression model showed that corporate governance doesn’t affect companies’ ROE and ROA revealed that corporate governance measures are not correlated with performance measures. Priya & Nimalathasan (2013) also investigated relationship between dividend payout ratios and firm’s performance among selected hotels and restaurants in Sri Lanka during 2008 to 2012. The results revealed that dividend policy ratios have a great impact on all firm’s performance ratios. Komrattanapanya & Suntrauk (2013) examined the factors that influence the dividend payout of all firms listed in the Stock Exchange of Thailand (SET) during year 2006 to 2010 using the Tobit regression analysis. They found that profitability, liquidity, and business risk are insignificantly related to dividend payout.

Adediran & Alade (2013) explore the relationship between dividend policy and corporate performance of 25 companies quoted in Nigerian Stock Exchange. The regression result shows a positive and significant relationship between dividend pay-out policy and financial performance. Salehnezhad (2013) investigates corporate governance and dividend policy in companies listed in Tehran Stock Exchange for the period 2010 to 2012. Using fuzzy regression analysis, the result shows that a positive relationship exists between financial performance (stock returns) and dividend policy. Oyinlola & Ajeigbe (2013) examined the impact of dividend policy on the stock prices of 22 quoted companies in Nigeria during the period 2009 to 2013. Regression analysis, correlation analysis and Granger Causality Test were used to test research hypothesis on 110 observations. Findings reveal that both dividend payout and retained earnings are significantly relevant to the market per share of the companies. Ouma & Murekefu (2013) sought to establish the relationship between dividend payout policy and financial performance of companies listed on the Nairobi Stock Exchange. Results indicate that dividend payout is a major factor affecting firm performance. The relationship between the variables is positive and significant.

Osegbu et al (2014) analyses the extent of relationships between dividend payment and corporate performance in the Nigerian banking industry between 1990 and 2010. Using regression models, the result shows no significant relation between dividend policy and performance. Interestingly, insignificant relationship occurs between dividend policy and other four explanatory variables (free cash flow, financial leverage, business risk and tax paid on dividend payment ratio). Oyinlola, Oyinlola & Adeniran
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(2014) investigate the impact of performance on the dividend policy of two major brewery companies quoted on the Nigerian Stock Exchange for the period 2002-2010. Findings reveal that dividend policy is relevant and that a firm’s dividend policy is seen as a major determinant for a firm’s performance. Positive relationship exists between the dividend policy and performance.

Dada, Malomo & Ojediran (2015) critically evaluated the determinants of the dividend policy of Nigerian banking sector using panel data of selected Banks that are listed on the Nigerian Stock Exchange (NSE) during 2008 to 2013. Data were analyzed with least square regression analysis. The results showed that dividend payment is positively related with leverage, performance, corporate governance and last year dividend while it is negatively related with firm's liquidity.

3. METHODOLOGY
The study covers a population of quoted manufacturing firms in Nigerian Stock Exchange. The total number of the quoted manufacturing firms is 89. However, eighteen (18) manufacturing firms are selected among the population using random sampling techniques. This study used a multi-dimensional data for the period 1985 to 2018. All the data were obtained from the Nigeria Stock Exchange Fact book and Financial Statements of the Quoted firms. An econometric procedure of the Ordinary least square method (OLS) was employed for estimation of the relationships between the dependent variable and the explanatory variables. Unit root tests using Augmented Dickey Fuller to test for stationarity of the time series to avoid spurious regression. To determine whether there exists long run equilibrium relationship among the variables, co integration test was performed to capture long run relationships and also ECM model was estimated to capture short run relationships.

3.1 Model Specification
The functional model is specified as follows:

\[ \text{ROI} = f(\text{DPR, RER, DDY}) \]  

\[ \text{ROI} = \beta_0 + \beta_1 \text{DPR} + \beta_2 \text{RER} + \beta_3 \text{DDY} + \mu \]  

Where

ROI = Return on Investment
DPR = Dividend Payout Ratio
RER = Retention ratio
DDY = Dividend Yield
\( \beta_0 \) = Regression Intercept
\( \beta_1 - \beta_b \) = Coefficient of the independent variables to the dependent variable
\( \mu \) = Error term

Theoretically return of investment refers to percentage of profit after tax to total investment of a firm within a specify accounting period while return of capital employ captures the ratio of profit after tax to capital employ. The theoretical relationships are formulated by Gordons, Miller and Modigliani proves that variation in the dividend policy will affect negatively or positively corporate performance.
4. RESULTS AND DISCUSSIONS

Table 1 Ordinary Least Square Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>β Coefficient</th>
<th>T-statistics</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPR</td>
<td>0.005839</td>
<td>0.072848</td>
<td>0.9425</td>
</tr>
<tr>
<td>RER</td>
<td>0.108860</td>
<td>1.762331</td>
<td>0.0898</td>
</tr>
<tr>
<td>DDY</td>
<td>0.086562</td>
<td>1.080707</td>
<td>0.2898</td>
</tr>
<tr>
<td>β₀</td>
<td>42.00352</td>
<td>6.713920</td>
<td>0.0000</td>
</tr>
<tr>
<td>ROI</td>
<td>0.170488</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.074775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>1.781242</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat.</td>
<td>0.175466</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.W</td>
<td>0.757143</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: E-view Output

The result above, reveal the relationship between dividend policy of the selected companies profitability i.e return on investment. From table 1 above, the R Square and the adjusted R² shows that 617% and 7% variation in Return on Investment of the manufacturing firms can be explained by variation in dividend policy of the firms. The F-statistics shows the insignificant effect of the models. The Durbin Watson statistics in table 1 is less than 1.00 which signifies the presence of multi serial autocorrelation. Table 1 found that all the independent variables have positive effect on Return on Investment.

Table 2 Augmented Dickey Fuller Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Statistics</th>
<th>Critical Value 1%</th>
<th>Critical Value 5%</th>
<th>Critical Value 10%</th>
<th>Prob.</th>
<th>Order of Integration</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROI</td>
<td>-6.824318</td>
<td>-3.689194</td>
<td>-2.971853</td>
<td>-2.625121</td>
<td>0.0000</td>
<td>1(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DPR</td>
<td>-10.61500</td>
<td>-3.689194</td>
<td>-2.971853</td>
<td>-2.625121</td>
<td>0.0000</td>
<td>1(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>RER</td>
<td>-7.072043</td>
<td>-3.699871</td>
<td>-2.976263</td>
<td>-2.627420</td>
<td>0.0000</td>
<td>1(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DDY</td>
<td>-5.540452</td>
<td>-3.679322</td>
<td>-2.967767</td>
<td>-2.622989</td>
<td>0.0001</td>
<td>1(1)</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

Source: E-view Output

The ADF unit root test indicates that all the variables were stationary at first difference was take. However, following Harris (1995) and Gujarrati (2003), both I (1) and I (0) variables could be carried forward to test for co-integration which forms the basis of the next section.

Table 3 Johansen Co-integration Test

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.587098</td>
<td>52.27200</td>
<td>47.85613</td>
<td>0.0182</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.429686</td>
<td>27.50473</td>
<td>29.79707</td>
<td>0.0899</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.229648</td>
<td>11.78082</td>
<td>15.49471</td>
<td>0.1677</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.147717</td>
<td>4.475425</td>
<td>3.841466</td>
<td>0.0344</td>
</tr>
</tbody>
</table>

Source: E-view Output

The trace statistic indicates one co-integrating equation. Thus, it could be concluded that a long run relationship exists among dividend payout ratio, retention ratio, dividend yield and return on investment.
of the selected manufacturing companies. The existence of at least one co-integrating equation permits the estimation of the Error Correction Mechanism (ECM).

**Table 4 Error Correction Model**

<table>
<thead>
<tr>
<th>Cointegrating Eq:</th>
<th>CointEq1</th>
<th>CointEq2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROI(-1)</td>
<td>1.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>RER(-1)</td>
<td>0.000000</td>
<td>1.000000</td>
</tr>
<tr>
<td>DDY(-1)</td>
<td>-0.732361</td>
<td>-1.306573</td>
</tr>
<tr>
<td></td>
<td>(0.47902)</td>
<td>(0.91305)</td>
</tr>
<tr>
<td></td>
<td>[-1.52888]</td>
<td>[-1.43099]</td>
</tr>
<tr>
<td>DPR(-1)</td>
<td>1.317656</td>
<td>2.646362</td>
</tr>
<tr>
<td></td>
<td>(0.39358)</td>
<td>(0.75020)</td>
</tr>
<tr>
<td></td>
<td>[ 3.34789]</td>
<td>[ 3.52756]</td>
</tr>
<tr>
<td>C</td>
<td>-84.31868</td>
<td>-123.8114</td>
</tr>
</tbody>
</table>

**Error Correction:**

<table>
<thead>
<tr>
<th></th>
<th>D(ROI)</th>
<th>D(RER)</th>
<th>D(DDY)</th>
<th>D(DPR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CointEq1</td>
<td>-0.350431</td>
<td>2.582436</td>
<td>0.015772</td>
<td>-0.385593</td>
</tr>
<tr>
<td></td>
<td>(0.25972)</td>
<td>(1.06150)</td>
<td>(0.95471)</td>
<td>(0.84149)</td>
</tr>
<tr>
<td></td>
<td>[-1.34925]</td>
<td>[ 2.43281]</td>
<td>[ 0.01652]</td>
<td>[-0.45823]</td>
</tr>
</tbody>
</table>

**Source:** E-view Output

The result revealed that the model returns to short run equilibrium after an exogenous shock because the coefficient of Ut-1 is negative one (-1).

**Table 5 Variance Decomposition**

<table>
<thead>
<tr>
<th>Coefficient Variance Decomposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalues</td>
</tr>
<tr>
<td>Condition</td>
</tr>
</tbody>
</table>

**Variance Decomposition Proportions**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>RER</td>
<td>0.299088</td>
<td>0.197303</td>
<td>0.472113</td>
<td>0.031496</td>
</tr>
<tr>
<td>DDY</td>
<td>0.179930</td>
<td>0.800488</td>
<td>0.004653</td>
<td>0.014930</td>
</tr>
<tr>
<td>DPR</td>
<td>0.498928</td>
<td>0.235589</td>
<td>0.248986</td>
<td>0.016498</td>
</tr>
<tr>
<td>C</td>
<td>1.000000</td>
<td>3.15E-10</td>
<td>6.74E-10</td>
<td>1.08E-09</td>
</tr>
</tbody>
</table>

**Source:** E-view Output

The variance decomposition indicates changes in the dependent variable that is due to shocks in the independent variables. The result of the variance decomposition is shown in the table 5 above. The result showed that order than shocks to itself which is about 100 percent in the first period, shocks to dividend payout ratio explained about 19% of shocks to retention ratio explain in the 7th period which increased by 8% in the last period. Shocks to dividend explained about 13% of shocks to profitability of the selected manufacturing firms.

**5. CONCLUSION**

This study examined the relationship between dividend policy and return on investment of selected manufacturing firm in Nigeria from 1985 – 2018. The multi-dimensional data were used and sourced from Nigeria stock exchange Fact book and annual reports of the quoted firms. Ordinary least square with econometrics view statistical package were used to analyze the data. The findings of the study reveals
dividend payout ratio, retention ratio and dividend yield has positive and insignificant relationship with return on investment. The coefficient of determination R² shows that 17% and 7%, changes in Return on Investment can be explained by variation on the explanatory variables in the model the F-statistics shows that the model is statistically not significant. The study therefore concludes that dividend policy has no significant effect on return on investment of the manufacturing firms in Nigeria. This study recommends among others Firstly, that management should formulate tactical and strategic policies that will manage the environmental shocks that affects dividend yield to enhance the profitability of the manufacturing firms. Secondly, that the retention fund should be properly invested and investment policies in the manufacturing firms should be integrated with profitability objectives of the firms. Thirdly there is the need for the manufacturing firms to retain capital from the earnings so as to take advantage of any opportunity that may be available and stay afloat of the highly competitive markets both internally and globally to enhance the profitability of the firms.

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