Impact of Dividends on Equity Market Volatility with Reference to Select Stocks in India

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Abstract: *This study examined the impact of dividends index impact on the select indices volatility. For this study historical time series data has been considered of Nifty – 50 dividends Points index and various sectoral stocks from the period of 2012-13 to 2017-18, which are paying high dividends. The study adopted the Auto regressive conditional heteroskedasticity test to identify the volatility effect of the Nifty – 50 dividends Points index on the selected stock price volatility. The Garch effect has been observed on the selected stocks returns volatility. Nifty – 50 Dividends Points Index influence has been measured with the Ordinary least square has been applied and the result stated that the nifty – 50 dividends points index impact on the returns of selected stocks.*

Keywords: *ARCH, Dividends Points Index, GARCH, Nifty – 50, Stocks Returns and Volatility.*

I. Introduction

The financial managers have made critical decisions in an ever-changing economic environment such as privatization, liberalization and globalization together with rapid technological changes; have brought the intense competition in among the listed companies. The organizations are under sever-pressure to performance as per the expectations of the investors or stakeholders. In order to stay ahead in the competitive world by adding the value to the organizations, the financial managers decision on distribution of dividends not only set the good corporate image, but also instills the confidence among the investors on the future growth prospective. The dividend policy states that the firms payment to the shareholders and the reinvestments on new ventures from the firms earnings keeping in view of future financial requirements.

Dividend is one of the motivating factors to the investment fraternity for the investments on equity shares and is thus desirable from the shareholders perspective. In one side paying the dividend makes the investors happy and on the other hand payment of dividend will decrease organizational capital requirements for making the investments in future opportunities. This phenomenon may hamper the growth of the firm, which may affect the shareholders wealth. The policy on the dividends is one of the three decisions of the financial management; mainly it affects the flow of funds, organizational liquidity and financial structure. The dividend policy influence will be there on the investors' behaviour and attitude, which will have the significant association with the investment decision making. The investors risk appetite will vary based on the dividend policy. Many authors and researchers have proved that the dividend policy will have the significant impact on the share price volatility.

Dewasiri N J and Weerakoon Y K (2015): The aim of the paper is to study the relationship between the divided policy and stock price volatility. The study has been carried out on 40 sample companies of Colombo stock exchange from the period of 2003 to 2012 years. The study has considered the dividend yield and dividend payout influence has been measured on the stock return volatility and returns performance. The results indicates that the under the cross sectional random effect model, stated that the dividend payout influenced significantly negative to the stock price volatility. The study observed that the dividend yield does not granger-cause the stock price volatility.

Werner-Ria Murhadi (2008): The study result reveals that the signaling theory relevance in influencing the movement of share price. The study adopted the life cycle theory and the result stated that the dividend policy cycle is having the significant impact on the stock price growth. The study argued that the structure of the ownership to dividend policy is not associated with the agency theory. The research also enunciated based on the findings, which were supported by the agency theory observed the cash flow influence on the share price.

Rimza Sarwar and Nadia Naseemtheir (2014): The study examined the dividend per share and earnings per share influence on the equity share holders' wealth. The authors observed that the higher dividend paying companies will have the positive impact on shareholders and also found that the existing share holders will motivate the other investors to take the position due to the stable economic condition. The study observed that the global charted accountants stating to enforce the standards on the dividend policies.

Research Gap:
Few organizations consider the dividend policy will have the impact on the stock prices and few organizations have considered the dividend policy irrelevant impact on the stock prices. Many researchers have proved both the theories. Based on the review of literature many studies have focused on the impact of dividend on volatility of the equity stocks in different sectors. But no research has been emphasized to know the impact of dividends index on the various indices with reference to NSE India. Hence the present study made an attempt to fill the gap by considering the Dividend index Impact on the select indices of the NSE India.

Objectives of The Study:
1. To study the dividends bench mark impact on the select stocks volatility
2. To study the impact on the returns of the select stocks price movements.

Hypothesis Of The Study:
H0: There is no effect of Nifty – 50 dividends points on sectoral stocks volatility.
H0: There is no effect of Nifty – 50 dividends points on sectoral stocks returns.

Scope of The Study:
The present research extends to and confines to the study on impact of Dividend index (Nifty – 50 Dividends points Index) and 5 select companies which are part of the base index of Nifty - NSE India. The period of the study is from 2012-13 to 2017-18. The select stocks are Aurobindo pharmaceuticals, Godrej Consumer Goods, LIC Housing Finance, MRF and Sail.

Research Methodology: The study has considered the time series data of five different sectoral stocks prices from base index Nifty from NSE India and the Nifty – 50 Dividends Points Index (Dividends Bench Mark) influence on the select stock price returns volatility. The Garch model has been applied to know the index volatility on the selected stock return volatility.
The robust least square method has been applied to measure the impact of independent variable (Nifty – 50 Dividends Points Index) on the dependent variables (equity market prices).

Tabulation Of Data Analysis

1. To study the dividends bench mark impact on the select stocks volatility
The analysis framed by using ARCH family model – GARCH, to Know GARCH effect exists between companies with dividend index. For this ARCH LM-test (i.e., Heteroskedasticity test) satisfied that Null hypothesis is reject i.e., Existence of ARCH effect between the select sectoral companies with Nifty 50 dividend points index.

Figure – 1: Aurobindo Residual Graph
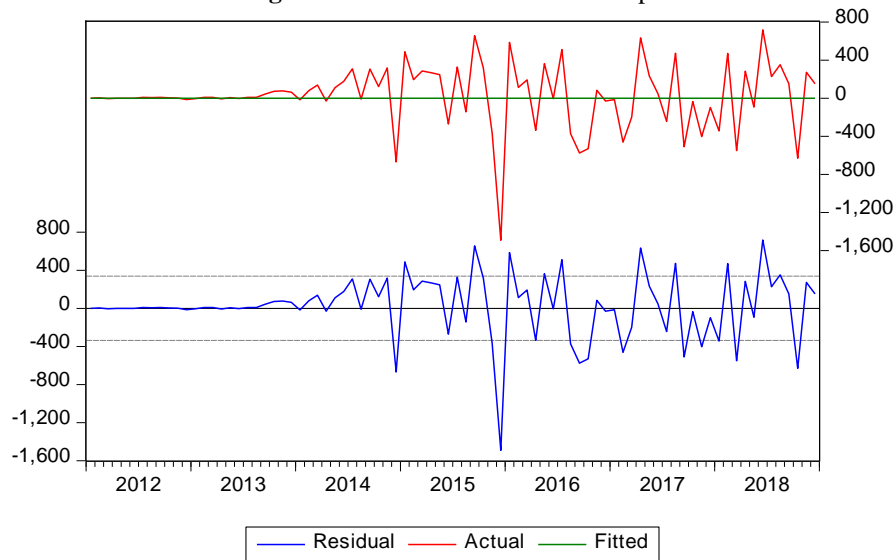
Source: Secondary Data

Residual figures estimate that, Aurobindo Pharma return trend line movement has crossed the fitted lines, which indicates the pro long clusters were formed during the study period i.e., from the 2014 mid to 2018. Therefore it concluded that Volatility effect has been observed and applied the GARCH effect.

Table – 1: Garch Effect of Aurobindo Pharma, Godrej and LIC Housing Finance

Dependent Variable: AURO				
Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)				
Sample: 2012M01 2018M12				
Coefficient covariance computed using outer product of gradients				
Presample variance: backcast (parameter = 0.7)				
GARCH = C(2) + C(3)*RESID(-1)^2 + C(4)*GARCH(-1)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
Dividend - Auro	3.400005	0.032270	0.001053	0.9992
Ddividend - Godrej	0.381059	0.000416	915.6087	0.0000
Ddividend - LIC	-0.467833	0.000275	-1698.128	0.0000
Variance Equation – Aurobindo				
C	10.43501	12.48849	0.835570	0.4034
RESID(-1)^2	0.580128	0.233713	2.482222	0.0131
GARCH(-1)	0.686292	0.140601	4.881143	0.0000
Variance Equation – Godrej				
C	-69.66892	33.05020	-2.107973	0.0350
RESID(-1)^2	-0.113204	0.043224	-2.619013	0.0088
GARCH(-1)	1.207881	0.059794	20.20065	0.0000
Variance Equation – LIC Housing				
C	163.3365	238.1419	0.685879	0.4928
RESID(-1)^2	-0.146745	0.098706	-1.486685	0.1371
GARCH(-1)	1.171208	0.120360	9.730881	0.0000
R-squared	-0.005369	Mean dependent var		24.49099
Adjusted R-squared	-0.005369	S.D. dependent var		336.2481
S.E. of regression	337.1495	Akaike info criterion		12.96559
Sum squared resid	9434594.	Schwarz criterion		13.08134
Log likelihood	-540.5547	Hannan-Quinn criter.		13.01212
Durbin-Watson stat	2.246185			

Source: Secondary Data

Table - 1 Depicts the GARCH volatility impact of the Nifty 50 Dividend Points Index on Aurobindo Pharma Return. The result shows that the dividend is negatively influenced by Aurobindo Pharma, while the p- value appears to be Greater than 0.05, which states that the volatility influence does not exist between the issuing of Dividend on Aurobindo pharma.

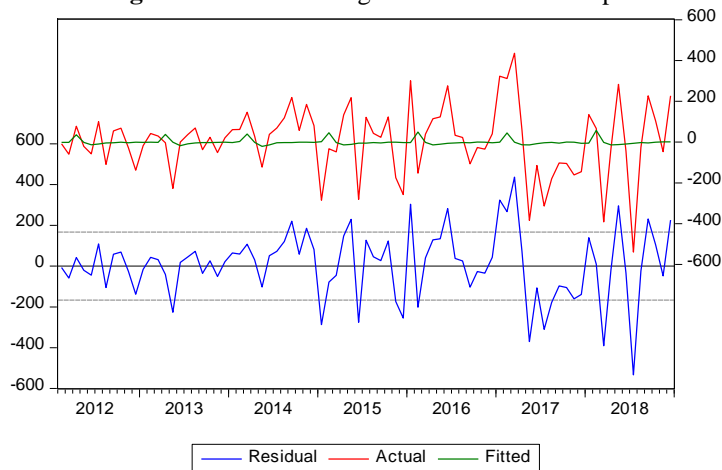**Figure – 2:** Garch Effect of Godrej consumer
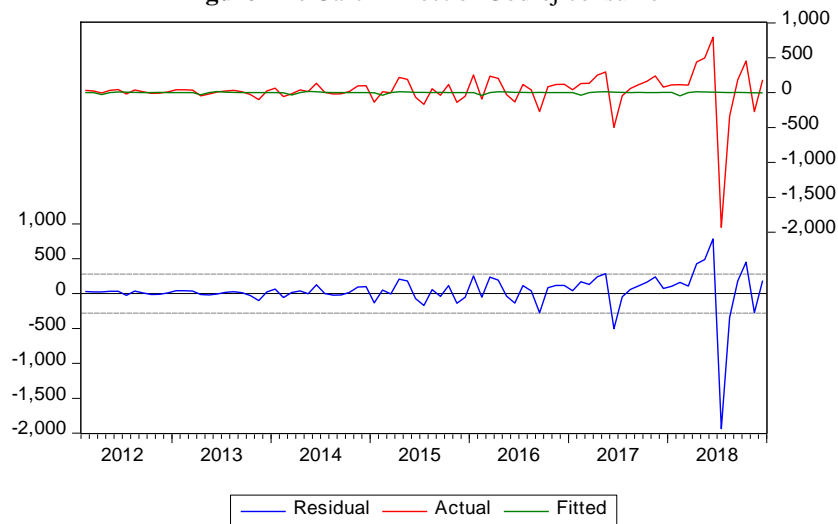
Source: Secondary Data

Residual figures estimate that, Godrej consumer return trend line movement has crossed the fitted lines, which indicates the pro long clusters were formed during the study period i.e., from the 2017 to 2018. Therefore it concluded that Volatility effect has been observed and applied the GARCH effect.

Garch Effect on Godrej

Table – 1 illustrates the GARCH volatility Impact of Nifty 50 Dividend Points Index on Godrej Consumer Returns. The result indicates that Godrej Return is influence significant positive on Dividend index that mean unit rise in Godrej return, 1.207 units variation is observes in Dividend index and p-value is less than 0.05, which states that the volatility influence exist between issue of dividend on Godrej consumer.

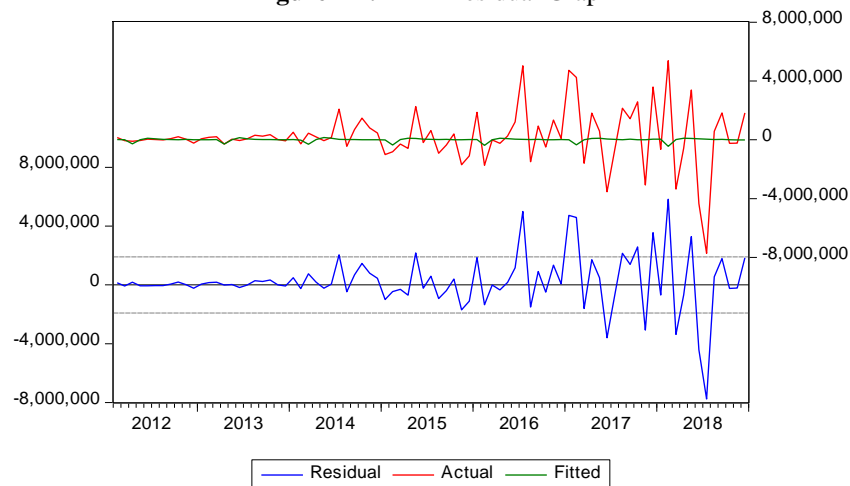**Figure – 3:** LIC housing finance Residual Graph

Source: Secondary Data

Residual figures estimate that, LIC housing finance return trend line movement has crossed the fitted lines, which indicates the pro long clusters were formed during the study period i.e., from the 2013 to 2018. Therefore it concluded that Volatility effect has been observed and applied the GARCH effect.

Garch effect of LIC housing Finance

Table – 1 illustrates the GARCH volatility impact of Nifty 50 Dividend points Index on LIC Housing Finance. The result indicates that LIC housing Finance is positive influences on Dividend Index that states one unit rise LIC housing finance, 1.17 units variation is occurs in dividend index and p-value is less than 0.05, that means volatility impact exist between issue of dividend on LIC housing finance.

Figure – 4: MRF Residual Graph

Source: Secondary Data

Residual figures estimate that, MRF tyres return trend line movement has crossed the fitted lines, which indicates the pro long clusters were formed during the study period i.e., from the 2016 semi to 2018. Therefore it concluded that Volatility effect has been observed and applied the GARCH effect.

Table – 2: Garch effect on MRF and SAIL

Dependent Variable: MRF				
Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)				
Sample (adjusted): 2012M02 2018M12				
Presample variance: backcast (parameter = 0.7)				
GARCH = C(2) + C(3)*RESID(-1)^2 + C(4)*GARCH(-1)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
Ddividend - MRF	3597.762	924.8343	3.890169	0.0001
Ddividend - SAIL	-0.013354	0.018580	-0.718693	0.4723
Variance Equation – MRF				
C	5.52E+09	7.19E+09	0.768070	0.4424
RESID(-1)^2	0.548792	0.238332	2.302637	0.0213
GARCH(-1)	0.664629	0.104184	6.379354	0.0000
Variance Equation - SAIL				
C	3.884077	2.861070	1.357561	0.1746
RESID(-1)^2	0.288564	0.218302	1.321857	0.1862
GARCH(-1)	0.596105	0.257816	2.312137	0.0208
R-squared	-0.035309	Mean dependent var		222957.4
Adjusted R-squared	-0.035309	S.D. dependent var		1879694.
S.E. of regression	1912591.	Akaike info criterion		30.84647
Sum squared resid	3.00E+14	Schwarz criterion		30.96304
Log likelihood	-1276.129	Hannan-Quinn criter.		30.89330
Durbin-Watson stat	2.112717			

Source: Secondary Data

Table – 2 depicts the GARCH volatility Impact of Nifty 50 Dividend point Index on MRF tyres Returns. The result indicates that MRF Tyre return has a significant positive influence by the Dividend Index which states that one units increase in MRF tyres, 0.664 units' variation occurs in Dividend index. There by confirming that volatility influence exists between issues of dividend on MRF tyre

Figure – 5: SAIL Residual Graph
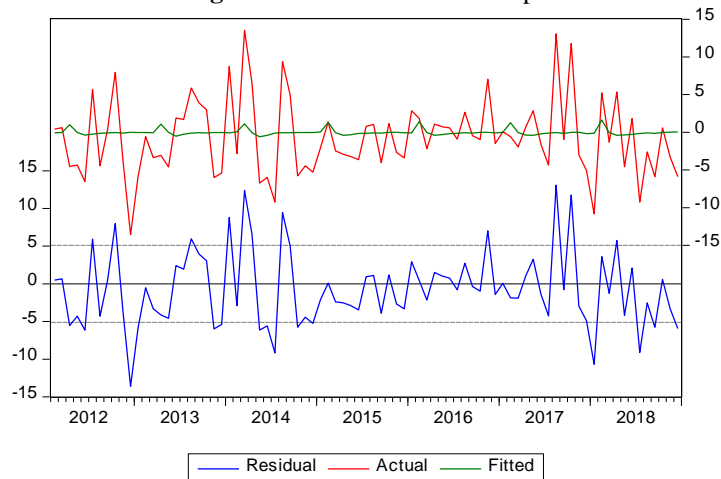
Source: Secondary Data

Residual figures estimate that, SAIL return trend line movement has crossed the fitted lines, which indicates the pro long clusters were formed during the study period i.e., from the 2012 to 2014 and 2017 to 2018 semi. Therefore it concluded that Volatility effect has been observed and applied the GARCH effect.

Garch Effect on SAIL

Table depicts the GARCH volatility Impact of Nifty 50 Dividend point Index on SAIL Returns. The result indicates that SAIL return has a significant positive influence on Dividend Index which states that one units increase in SAIL, 0.596 units' variation occurs in Dividend index. Hence, the study concluded that volatility influence exists between issues of dividend on SAIL industries.

2. To study the Impact of dividend index on the select sectoral stocks returns
In the study Nifty – 50 dividend points index has been considered and along with five index stocks were considered. The following hypothesis has been framed.
H0: No significant impact of Nifty 50 dividend points index on Sectoral companies.

Table – 3: Impact of Nifty -50 dividend Point Index

Independent Variable: Nifty – 50 Dividend Point Index				
Method: Least Squares				
Sample: 2012M01 2018M12				
Included observations: 84				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AURO	0.008535	0.025161	0.339225	0.7353
GODREJ	0.013674	0.034351	0.398057	0.6917
LIC	-0.024118	0.059355	-0.406340	0.6856
MRF	0.000642	5.31E-06	1.137817	0.2586
SAIL	-3.395544	1.618695	-2.097705	0.0391
R-squared	-3.460129	Mean dependent var		67.29933
Adjusted R-squared	-3.685958	S.D. dependent var		34.80247
S.E. of regression	75.33716	Akaike info criterion		11.53950
Sum squared resid	448379.3	Schwarz criterion		11.68419
Log likelihood	-479.6591	Hannan-Quinn criter.		11.59767
Durbin-Watson stat	0.264707			

Source: Secondary Data

The above table – 3 Least Square Method illustrates the impact of Nifty 50 Dividend Point on select sectoral companies. The result shows that SAIL has a significant influence of -3.39 (i.e. negative), which means units increase in SAIL and a dividend index decrease by -3.395 units. While the remaining companies, such as Aurobindo Pharma, Godrej consumer, LIC housing finance and MRF tyres, are influenced by their respective coefficient values of 0.0085, 0.0136,-0.024 and -0.000642, but the p-value of these companies is greater than 0.05, which means that the dividend index is insignificant.Therefore concluded that null hypothesis accepts, while rejects null hypothesis with the company (SAIL), i.e. Significant influence of Nifty 50 dividend points index on SAIL.

II. Findings of the Study

1. The residual study examined the select sectoral companies consisting of a cluster during the study period, i.e. 2012-2018.
2. The study found with the Garch effect on Godrej consumers is high volatility (1.207), followed by LIC housing finance (1.17). Whereas the SAIL industry (0.596) shows the lowest volatility influence.
3. It has examined by the least square method that selected sectoral companies, with the exception of SAIL, have insignificant influence on dividend index.
4. It stated that the dividend index has a negative influence on SAIL, which means that the increase in SAIL will have a down trend in the dividend issue.

III. Conclusion of the Study

The present study examined the Impact of dividends bench mark (nifty – 50 Dividends points index) on the volatility of the select stocks. The study has considered five equity stocks from different sectors which were paying higher dividends from the period of 2012-13 to 2017-18. The Nifty – 50 Dividends points Index Impact on the stocks volatility have been measured with the Garch effect and observed that the majority of the selected stocks returns volatility got influenced. The ordinary least square has been observed that the Nifty – 50 dividends Points index influence has been found on the stocks returns. Hence, this study reflects the periodical dividends payout will have the significance influence on the volatility of the stock returns volatility. Therefore further research is needed to know the dividend payout impact companies future project investments.

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