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Impact of Dividend Policy on Share Price Volatility

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Abstract
The aim of this investigation is to study the association of dividend policy with share price volatility by resting the focal point on all the listed corporations in Pakistan Stock Exchange (PSX). In support of mentioned objective, top 10 companies listed in Pakistan Stock Exchange (PSX) was selected as sample. The study covered a time span from 2007 to 2016. The association connecting share price volatility with dividend policy specifically determined by six (6) independent variables i.e. dividend yield, dividend payout, firm's size, firm's growth, earning volatility and leverage. These were investigated by employing regressions analysis under the method of least squares model. On the bases of findings of this study, all independent variables have significant impact on share price volatility, which shows that firms which pay regular dividend to its shareholders are more stable in their stock price.
Keywords: Dividend payout, Dividend yield, Earning per share, Firm's growth, Firm's size, Leverage, Share price volatility and Pakistan Stock Exchange.
JEL Codes: G35, G11

1. Introduction:

Organization profit composition asserts a continued extremely imperative as well an uncertain subject ever. Numerous investigators are always conscious about the result decided by company's profit strategy however a contradictory view regarding that strategies might occurs. For that reason, it comes up to additional discussions for the purpose to avoid dispute that could be arise. Dividend is the segment of revenue to facilitate shareholders to pay off their cost of capital. Dividend arrangement pertains toward "the strategy/regulations use by the corporations with the aim to know what amount of share could be pay to investors as profit and the amount to stay held in reserve within the organization as retain earning?" (Hashemiijoo et. al., 2012). Normally, dividends are appropriated in form of money and stock as well. Companies usually prefer to give cash dividend but the problem is always availability of free cash flow, to overcome this problem they declare dividend in shape of shares which ultimately increase the no. of partners in the firm. "Financial specialists and shareholders earn from their stock as capital addition and profit yield" (Jo and Pan: 2009). Dividend policy asserted that if an organization appropriated high profit now, it could decrease its profit later and in this way the aggregate impact remain nil throughout the period. A rapid increase in a profit in form of dividend and bonus share is an alarming indication of later low returns (Miller and Modigliani,1961). In order to deal with the mentioned problems, business people ought to examine the policies of dividend in addition to deal with strategy that would be ideal to drives stockholders' revenue and resources augmentation. "Profits are connected with stock costs; therefore it must be carefully measured by firms (Hashemiijoo et. al., 2012). Capital composition as well as dividend strategy both influences the decision of shareholders.

There are numerous analysts who have taken a shot at this subject with the reference of developed nations, in any case, not many of them worked with regards to developing economies like **Pakistan**. The reason behind the following study is to clarify the importance of dividend policy through considering its six parameters: These six parameters are dividend yield, dividend payout, firm's size, firm's growth, earning volatility and leverage.

1.1 Objectives Of The Study:

The aim of this study is to investigate the impact of dividend policy on firm's stock price volatility. For this purpose following are the objectives of this study:

- To know the impact of dividend payout on stock price volatility.
- To know the impact of dividend yield on stock price volatility.
- To know the impact of firm's size on stock price volatility.
- To know the impact of firm's growth on stock price volatility.
- To know the impact of earning volatility on stock price volatility.
- To know the impact of firm's leverage on stock price volatility.

1.2 Scope Of The Study:

This examination pays an attention on top 10 listed companies of Pakistan Stock Exchange (PSE). For this purpose 10 years financial data from 2007 to 2016 has been taken to investigate the said issue. Dimension of this

study focuses on six prime variables which are dividend yield, dividend payout, firm's size, firm's growth, earning volatility and leverage.

1.3 Limitations:

The limitations of the study related to this research are as follows:

- The study chiefly concerted on the dividend practice and its impact in viewpoint of Pakistan, of top 10 listed companies on Pakistan Stock Exchange (PSE).
- The selected sample does not cover the all industrial sectors of Pakistan.
- This study selects only top 10 listed companies of Pakistan Stock Exchange (PSE).
- The data gather as of secondary sources, so genuineness of the facts and figures is reliant on the accurateness of the records used.
- The outcome as well as the understandings is solely based on the concept perceived by the researcher.
- The dissimilarity in fiscal year, policies and financial strategies among the sampled firms made assessment of comparable variables hard.

1.4 Problem Statement:

Companies remain puzzled either to pay dividend or not? Share holders are always concerned about their returns on investment in form of dividend (cash or bonus shares), capital gain, and interim dividend. Investors are motivated to secure their investment in those firms which pay regularly but on the other hand this makes the company in short of future investments. Problem of this research is to investigate the impact of dividend payout policy on firm's share price volatility?

1.5 Research Questions:

Within the perspective of current analysis, the following queries are raised;

A. Primary Research Question

1. Is there association relating the dividend policy with stock price volatility?

B. Secondary Research Questions

2. Is there any association between the dividend yield and stock price volatility?
3. Is there any association between the dividend payout and stock price volatility?
4. Is there any association between the firm's size and stock price volatility?
5. Is there any association between firm's growth and stock price volatility?
6. Is there any association between earning volatility and share price volatility?
7. Is there any association between firm's leverage and share price volatility?

1.6 Significances Of The Study:

The assistance of this study would be of fascination to many people engage in diverse field. Primary, the information from this study would aid the basis of proposing dividend decisions by the executives and senior management. The study therefore would be helpful in making strategic investment decisions to maximize shareholder's wealth. Further, the study would help the shareholders to understand the firm's strategic decision on stock price. Moreover, specialists and researchers of colleges and universities would get to and utilize this study as a source of perspective for future related studies. This study would likewise help potential financial specialists to settle on educated speculation choices. The potential financial specialists would put resources into organizations that practice dividend strategies that enhance and augment the shareholder's wealth.

2. Literature Review:

In this research literature, review will talk about the writings of various researches that have been completed in the previous couple of decades to look at the hypothetical importance for uncertain dividend approach issues. The effect of dividend arrangement on stock returns was examined by numerous specialists between the 1950s and 1980s. Some researchers contended that distinctive payout every once in a while significantly affects an organization's stock price. The relationship between profit approach and stock value instability was inspected by numerous specialists the later 1980s. The reason for this part would be to investigate the impacts of dividend payments on stock cost and how these factors could remain characterize along with by what means the impacts of the stated factors lying on stock costs. For this research, I will read different articles, concerning research papers, newspapers, visit to the recommended business sites and read different books as well.

Abrar-ul-haq, Kashif, and Imdad Ullah (2015) conducted research on Stock Price Volatility and Dividend Policy in Pakistan in which they argues that firm's dividend plan is mysterious and one of the brainteaser in corporate finance. He took 600 or more companies recorded on the KSE, and recommend employing consequent direct variables in examining the importance of the correlation among dividend yield and price volatility: operating earnings, firm's size, debt financing level, payout ratio and growth level. These

variables have an obvious effect on stock proceeds however also effect on dividend yield. Each were accepted and considered as independent variables. According to them, it has been verified by the above examine that earning volatility has optimistic (positive) effect on price volatility. This indicates that if earning volatility of the company increased price volatility also increased and vice versa.

Hashemijoo, Aref Mahdavi and Nejat (2012) conducted a research to find out the Impact the effect of profit arrangement on share cost unpredictability with an emphasis on buyer item organizations recorded in Malaysian securities exchange. For this reason, a specimen of 84 organizations from 142 customer item organizations recorded in fundamental business sector of Bursa Malaysia were chosen and the impact of profit yield and profit payout on share value unpredictability were inspected by relating different regressions intended for a time of six years from 2005 to 2010. The essentially relapse model was extended by including control variables counting size, acquiring unpredictability, influence, obligation and development. The observational aftereffects of this study demonstrated critical negative relationship between share value instability with two primary estimations of profit strategy which are profit yield and payout.

Suleman, Asghar, Ali and Hamid (2011) argued that the development have vital pessimistic influence on the share value shakiness. He contemplated the relationship of dividend strategy with stock price instability in Pakistan. They separated information from Karachi Stock Exchange in regards to five imperative areas for the time of 2005 to 2009. They utilized different relapses model for their investigation. In opposition to former researcher's outcomes, their discoveries demonstrated that offer value unpredictability has critical positive association with profit yield. They likewise reported that stock price instability has important negative association with development.

Nazir, Nawaz, Anwar and Ahmed (2010) commented that size of firm, dividend payout and dividend yield have negatively association with stock value volatility. But the size has unimportant effect where as the dividend yield and payout has important effect. In his research he utilized 73 firms recorded as a part of Karachi Stock Exchange (KSE) or Karachi Securities Exchange as test and well thought-out the relationship between offer value instability and profit arrangement for the time of 2003 to 2008.. They reported that stock price instability has huge negative relationship with profit yield and profit payout. They likewise reported that size and influence have non-critical negative impact on stock price instability.

Black and Scholes (1974) argued that the expected return and dividend yield had no significant relationship between them. They conducted a research in which they taking into account a specimen, which was made of 25 arrangement of basic stock in New York Stock Trade to consider effect that profit strategy have at stock cost commencing 1936 to 1966. They inferred that a change in profit strategy may considerably affect a company's stock cost and they have upheld the profit importance hypothesis.

3. Research Methodology:

This chapter covers the methodology used to interpret the result. In this research secondary sources that are used for data collection are the annual reports, business recorder, articles, journals, previous research and compilation from computerized database information system and other statistical models. As it is mentioned earlier that the population targeted in this investigation are wholly the firms listed at Pakistan Stock Exchange so, only secondary data is collected through annual reports, business recorder, and other secondary sources.

3.1 Research Design:

As it is mentioned earlier that the population targeted in this investigation are the firms listed at Pakistan Stock Exchange (PSX) which comprises of 558 firms, as on (December 22, 2016) of 35 different sectors. As the population size is too large and very much scattered, that's why the convenient sampling is used for the selection of appropriate sample size. For these reason top 10 listed companies of PSX has been taken as sample and their 10 years data from (2007-2016) has been taken to evaluate the result.

3.2 Variables Of The Study:

3.2.1 Dependent Variable

i- Share Price Volatility (PV):

It refers to the change in the prices of stocks. The high stock price represents the wider range of the values that can dramatically be change on either direction especially in the festival time period. According to Baskin, (1989) annually price volatility can be calculated by the help of following formula:

Formula: $PV_{(it)} = [(HP_{it} - LP_{it}) / (HP_{it} + LP_{it} / 2)]^2$

Where;

PV (it) = price volatility for (th, i) traverse firm during the (th, t) period,
HP (it) = highest stock price for (th, i) traverse firm during the (th, t) period,
LP (it) = lowest stock price for (th, i) traverse firm during the (th, t) period.

3.2.2 Independent Variables

i- Dividend Yield Ratio (DY):

It represents the ratio of the return that the shareholders get in dividend form by investing in the company. The positive relationship is found between the dividend yield and stock price volatility by Hussainey, et al (2010). According to him the dividend yield can be calculated by using the following mentioned formula:

Formula: $DY_{(it)} = DPS_{it} / MPS_{it}$

Where;

DY (it) = Dividend yield ratio for (th, i) traverse firm during the (th, t) period,
DPS (it) =Divided per share for (th, i) traverse firm during the (th, t) period,
MPS (it) = Market price per share for (th, i) traverse firm during the (th, t) period.

ii- Dividend Payout Ratio (DP):

It is the percentage of earnings which are paid to the investors in shape of dividend by the company. The relationship between dividend payout and volatility of stock price is found positive by Nishat and Irfan (2003) and negative by Nazir, et al (2010) and Hussainey, et al (2011). According to them the dividend payout ratio can be calculated by using formula written below:

Formula: $DP_{(it)} = DPS_{it} / EPS_{it}$

Where;

DP (it) = Dividend payout ratio for (th, i) traverse firm during the (th, t) period,
DPS (it) = Divided per share for (th, i) traverse firm during the (th, t) period,
EPS (it) = Earnings per share for (th, i) traverse firm during the (th, t) period.

iii- Firm's Size (FS):

It refers to the total assets of the companies. The companies with larger no. of assets used to pay heavy dividend in order to show wider range of the values. According to M. Hashemijoo, (2012) annual firm's size can be calculated by the help of following formula:

Formula: $FS_{(it)} = L_N (T.A)$

Where;

FS (it) = firm's size for (th, i) traverse firm during the (th, t) period,
L_N (it) = natural logarithm for (th, i) traverse firm during the (th, t) period,
T.A (it) = total assets for (th, i) traverse firm during the (th, t) period.

iv- Firm's Growth (FG):

It refers to the change in assets or sales of the companies over the time. The companies with greater growth rate are considered as more stable to pay heavy dividends by N. Younesi, (2011). According to M. Hashemijoo, (2012) annual firm's growth can be calculated by the help of following formula:

Formula: $FG_{(it)} = \Delta T.A / T.A$

Where;

FG (it) = firm's growth for (th, i) traverse firm during the (th, t) period,
ΔT.A (it) = change in total assets for (th, i) traverse firm during the (th, t) period,
T.A (it) = total assets for (th, i) traverse firm during the (th, t) period.

v- Earning Volatility (EV):

It refers to the change in Earnings of the companies by the time. The high earnings represent the wider range of the values to disburse the dividends and vice verse by (Ramadan, 2013). According to M. Hashemijoo, (2012) annually earning volatility can be calculated by the help following formula:

Formula: $EV_{(it)} = EBIT / T.A$

Where;

EV (it) = Earnings Volatility for (th, i) traverse firm during the (th, t) period,
EBIT (it) = Earnings before interest and taxes for (th, i) traverse firm during the (th, t) period,
T.A (it) = Total assets for (th, i) traverse firm during the (th, t) period.

vi- Leverage (L):

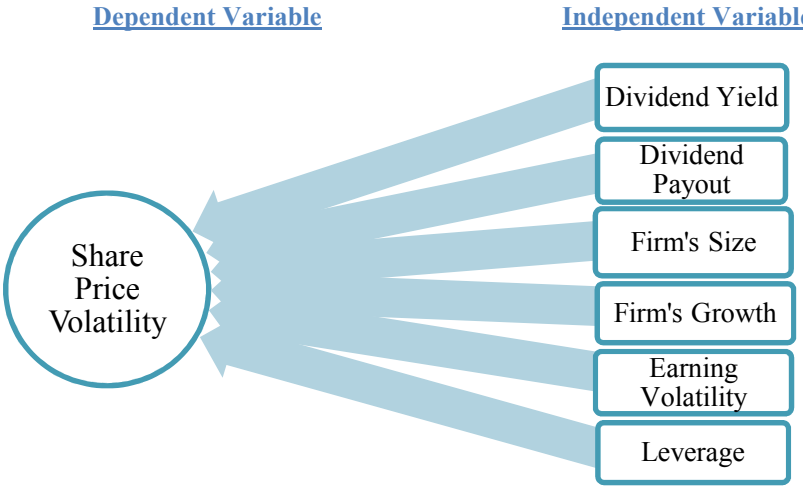
It refers to the influence of debts with maturity more than 1 year over the assets of the companies. According to M. Hashemijoo, (2012) annual leverage can be calculated by the help of following formula:

Formula: $L_{(it)} = LTD / T.A$

Where;

L (it) = leverage for (th, i) traverse firm during the (th, t) period,
LTD (it) = long term debts for (th, i) traverse firm during the (th, t) period,
T.A (it) = total assets for (th, i) traverse firm during the (th, t) period.

3.3 SCHEMATIC DIAGRAM:



3.4. Research Hypothesis:

On the basis of related research studies, following are the hypothesis of this study:
H_{O1}: There is no significant relationship between dividend yield and share price volatility.
H_{O2}: There is no significant relationship between dividend payout and share price volatility.
H_{O3}: There is no significant relationship between firm's size and share price volatility.
H_{O4}: There is no significant relationship between firm's growth and share price volatility.
H_{O5}: There is no significant relationship between earning volatility and share price volatility.
H_{O6}: There is no significant relationship between leverage and share price volatility.

4. Data Analysis and Interpretation:

The Panel data has been evaluated and analyzed through EViews 7.0 version software.

4.1.Correlation Analysis

The correlation analysis shows that there is a negative relationship between dependent variable (share price volatility) and independent variables (dividend yield, dividend payout, firm size and firm growth) which means that if independent variables are moved upward then price volatility will decrease. Whereas earning volatility and leveraged shows positive correlation with price volatility.

Table 1 (Correlation Analysis)

Covariance Analysis: Ordinary
Date: 02/10/17 Time: 21:53
Sample: 2007 2016
Included observations: 10

Covariance Correlation	PV	DY	DP	FS	FG	EV
PV	0.025087 1.000000					
DY	-0.000178 0.010352	0.000103 1.000000				
DP	-0.003587 0.009911	-0.000179 -0.459397	0.001474 1.000000			
FS	-0.037697 0.027613	0.001399 0.305426	0.004831 0.278994	0.203486 1.000000		
FG	-1.05E-05 0.049735	4.79E-07 0.415368	-2.46E-06 -0.563232	-3.02E-05 -0.589787	1.29E-08 1.000000	
EV	0.009665 0.038381	-0.000230 -0.253968	-0.001570 -0.458285	-0.035698 -0.886833	5.00E-06 0.493519	0.007963 1.000000
L	0.010359 0.047767	-0.000411 -0.524092	-0.000802 -0.270832	-0.026909 -0.773241	3.86E-06 0.439979	0.005709 0.829321

4.2. Regression Analysis

As it is shown in Table 2, the significance value of all the independent variables is less than 0.05 which means that all the null hypothesis are rejected. The said independent variables have statistically significant relationship with dependent variables.

The value of R^2 is 0.975938 which means that the dividend yield, dividend payout, firms' size, firms' growth, earning volatility and leverage explain 97.5% to the dependent variable i.e. share price volatality. However, the remaining almost 2.4062% are explained by some other variables.

Table 2 (Regression Analysis)

Dependent Variable: PV
Method: Least Squares
Date: 02/06/17 Time: 18:29
Sample: 2007 2016
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.373024	0.007653	3.214880	0.0165
DY	-4.077203	0.027249	-2.188846	0.0063
DP	-3.097079	0.001456	-1.748531	0.0086
FS	-0.005365	0.022273	-0.240904	0.0251
FG	-0.172481	0.058233	-1.093035	0.0042
EV	1.215877	0.013052	1.313588	0.0004
L	1.407722	0.001730	4.985093	0.0155

R-squared	0.975938	Mean dependent var	0.293368
Adjusted R-squared	0.927814	S.D. dependent var	0.166955
S.E. of regression	0.024856	Akaike info criterion	-3.174668
Sum squared resid	0.100636	Schwarz criterion	-2.962858
Log likelihood	-2.873339	Hannan-Quinn criter.	-3.407023
F-statistic	39.02796	Durbin-Watson stat	0.682267
Prob(F-statistic)	0.000010		

**At 5% Level Of Significance

5. Conclusion:

This research indicates that the share price volatility determined by dividend yield as well as dividend payout but other than these two main indicators further four independent variables also exerts impression on dividend policy. In collaboration of these two main independent variable i.e. dividend yield and dividend payout along with firm's size and firm's growth have a significantly negative association with share price voltility where as, the rest of the two independent variables i.e. earning volatility and leverage have a significantly positive association with share price volitility. According to the results volatility of the shares' prices would be lower with higher dividend yield and payout rate. All the alternate hypothesis are accepted here because significance value of all independent variables are less than 0.05.

6. Recommendation:

In the light of the above findings , following are the recommendationss:

- The organizations should have the stable dividend policy because it directly effects the firm's growth.
- The government should charge the less corporate tax, because increase in tax means decreases in net income which results decrease in dividend payout and hence increase earnings volatility.
- The companies' ought to take up stable dividend policy with the aim to catch the attention of the local as well as foreign investors.
- Future researchers can find the relationship by taking up the specific industry and focusing the other related variables.
- This research highlights the importance of dividend policy on firm's growth and profitability, so the decision makers can device the policy by considering these important variables.

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APPENDIX I

List Of The Top Ten Companies Listed At Pakistan Stock Exchange Commencing 15th July 2015:

Number	Company Name	Weight (%)	Market Capitalization (PKR Millions)
1	Oil and Gas Development Company	16.21	147,193
2	MCB Bank Limited	11.64	105,729
3	Fauji Fertilizer Company Limited	8.86	80,490
4	Pakistan Petroleum	8.76	79,521
5	Pakistan Oilfields	6.31	57,352
6	Hub Power Company	6.16	55,987
7	Engro Corporation	4.35	39,551
8	United Bank	4.35	39,473
9	Pakistan State Oil	4.14	37,644
10	Lucky Cement	3.41	30,956

APPENDIX II

Annual Ratios Of Top Ten Companies Listed At Pakistan Stock Exchange For 10 Years.

YEARS	SHARE PRICE VOLATILITY (PV)	DIVIDEND YIELD (DY)	DIVIDEND PAYOUT (DP)	FIRM'S SIZE (FS)	FIRM'S GROWTH (FG)	EARNING VOLATILITY (EV)	LEAVERAGE (L)
2007	0.234946	0.0554	0.61232	9.587181	0.000108	0.475824	0.253038
2008	0.326263	0.06277	0.57694	9.775456	0.000189	0.521408	0.254952
2009	0.652340	0.06519	0.51961	9.895274	0.000236	0.491915	0.316341
2010	0.533881	0.0754	0.54731	10.12393	0.000311	0.470293	0.287533
2011	0.189109	0.08272	0.56885	10.30102	0.000314	0.301225	0.120452
2012	0.211198	0.08591	0.56238	10.46051	0.000175	0.379568	0.106790
2013	0.243288	0.08396	0.55306	10.65167	0.000109	0.360061	0.116853
2014	0.176039	0.06922	0.54159	10.75123	0.000108	0.344752	0.127411
2015	0.155558	0.06663	0.64195	10.86821	0.000014	0.290839	0.127521
2016	0.211055	0.06016	0.63186	10.92651	0.000012	0.258096	0.158167

Source: Developed by researcher