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IMPACT OF DIVIDEND POLICY ON SHARE PRICE VOLATILITY FOR COMPANIES LISTED ON PAKISTAN STOCK EXCHANGE

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ABSTRACT

This research investigated the impacts of dividend policy on the share price volatility of companies listed on Pakistan Stock Exchange (PSX). Therefore, the researcher gathered data of 10 companies of 10 years ranging from 2008-2017 of three variables asserting quantitative research design and secondary method of data collection. The variables of the study were share price volatility as the dependent variable while (dividend payout ratio) DPR and DY (dividend yield) were taken as independent variables. The approaches that had been utilized were correlation analysis and regression analysis on E-Views. In accordance with the results, the aggregate impact of dividend policy was significant on share price volatility. Individually, both variables were significant with DPR affecting price volatility negatively and DY positively. The results were also supported by various studies conducted previously in Pakistan and other regions.

1. INTRODUCTION

The term dividend policy in corporate finance refers to the guidelines of the company which it utilizes for deciding as to how a company pays its earnings to the shareholders. It supports the company in addressing the frequency of the payments to the shareholders such as annually, semi-annually or quarterly. Therefore, dividend policy is considered an important part of the firm's financial strategy for the long-term (Hussainey et al., 2011). Moreover, it also indicates the financial health of the company where a sound policy related to dividend sends positive messages to the corporate world regarding the image of the company that grabs investor's attention. However, for bigger corporate companies, it is considered as a controversial decision where decision-related to short-term immediate profits entangles with long-term profits through retention (Bhat, 2008). Several corporate matters have arisen due to the dividend policy such as it had impacted the share price volatility (Okafor and Chijoke-Mgbame, 2011). The share price volatility refers to the increase or decreases in the value of the stocks that affect the shareholders. Furthermore, in accordance with the study conducted by Alrjoub & Alrabba (2018), share price volatility is actually the uncertainty associated with shareholders who own ordinary shares of the company. Therefore, share price volatility is a matter of concern for the investors due to the certain nature of investment that is risk-averse that further compels them to know the rate of exposure.

According to the study of Ilaboya and Aggreh (2013), the pay-out of large dividends to the shareholders results in reducing the risks on the stock prices. It has been argued by several types of research that determinants of the dividend policies have a strong influence on the share price volatility whereas some researches have suggested dividend policies do not have any influence on the share price volatility. Similarly, the study of Hashemijoo et al. (2012) had indicated that there was no relationship between the dividend policy and volatility on the share price. On the contrary, the study of Ramadan (2013) has highlighted that there is a strong influence between dividend policy and share price volatility. Therefore, this becomes a problem that whether the dividend policy has a strong influence on the share price volatility and therefore, this study is conducted.

The primary aim of the study is associated with the investigation of the impact of dividend policy on the volatility of share prices of Pakistani companies listed in PSX (Pakistan Stock Exchange). Therefore, the following are the objectives formulated by the researcher for the attainment of mentioned aim;

1. To comprehend the concept of share price volatility and dividend policy
2. To study the determinants of dividend policy that affect share price volatility
3. To investigate the impact of dividend policy on share price volatility of Pakistani companies listed in PSX

2. LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the review of previous works in which the existing studies had been critically analyzed for clarifying the concepts of dividend policy and share price volatility. Moreover, the literature review also highlights the important determinants of the dividend policy that affect the share price volatility. It has overall helped the researcher in achieving the aims and objectives of research such as understanding the concepts of dividend policy and share price volatility. This has also helped the researcher in generating the literature regarding the dividend policy and its impact on the share price volatility.

2.2 CONCEPT OF DIVIDEND POLICY

According to the study of Kandpal and Kavidayal (2014), dividend policy is a financial strategy in which it is used by the organization in identifying the amount and time for the payments of dividends. It is a crucial aspect of corporate finance that has a significant impact on the value of the firm as well as the shareholder's wealth. The dividend policy consists of two types which are residual dividend policy and managed dividend policy. The term residual dividend policy is the dividends that are paid on the profits and after making attractive investments through using the net present value. The managed dividend policy supports the managers in fixing the dividend payments on a certain level of earnings and investment (Ozuomba et al., 2016). Moreover, the study of Anvarkhatibi, Safashur, and Jamal (2012) has indicated that the dividend policy should be established that is acceptable with the stakeholders of the company.

2.3 CONCEPT OF SHARE PRICE VOLATILITY

The study of Mamtha and Srinivasan (2016) has highlighted that volatility of the share price refers to the fluctuation of the share prices which either decreases or increases. It is important for the investors in understanding the share price volatility; therefore, significant attention has been given by the researchers and analysts to this concept. The investor’s main purpose in investing in the stock market is to gain a higher return in which various risks are involved. The increase in the volatility of the share price results in improving the returns of the investors. Moreover, it had been suggested that investors be aware of the factors that result in causing volatility in the stock market. According to the study of Nazi et al. (2010), one of the most effective factors that had been found in causing share price volatility on the Karachi Stock Exchange (KSE) is the dividend policy

2.4 DETERMINANTS OF DIVIDEND POLICY THAT AFFECT SHARE PRICE VOLATILITY

2.4.1 DIVIDEND PAYOUT RATIO

The study of Oladipupo and Okafor (2013) have indicated that the dividend payout ratio is used for determining the total amount of dividend that needs to be paid to the shareholders based on the earnings of the company. The earnings that are not paid to the shareholders are referred to as retained earning which is either used for paying off the debts or investing in other operations. Based on the study of Gill, Biger, and Tiberwala (2010), there are various determinants of the dividend payout ratio that consist of corporate profitability, tax, sales growth, cash flow, debt to equity ratio and market to book value. Similarly, the study of Nazir et al. (2010) has indicated that the dividend payout ratio is part of the dividend policy that has a strong influence on the volatility of share price.

2.4.2 DIVIDEND YIELD

According to the study of Harris, Hartzmark, and Solomon (2015), the dividend yield ratio is a part of the financial ratio which determines how much dividend is paid by the company each year based on its share price or market value of the share. Moreover, according to Elton and Gruber (2011), firms with low dividend yield indicates that it had been retaining more of its earning and income rather than paying the shareholders whereas a high dividend yield would result in reducing it's retained earning but increase the payments to the shareholders that would ultimately result in attracting more investors.

2.5 IMPACT OF DIVIDEND POLICY ON SHARE PRICE VOLATILITY

Many studies and researches had been conducted in understanding the impact and relationship among the dividend policy and share price volatility. The results of the study of Habib et al (2012) have indicated that the impact of dividend policy on share price volatility is positive and strong. Variables of the dividend policy consist of the dividend payout ratio and dividend yield. Similarly, the study of Imran (2011) has indicated that there several reasons that dividend policy impacts the share price volatility as it has a critical role in the capital structure of the organization as well as signaling the investors on stability and growth.

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Furthermore, in light of the study conducted by Al-Shawawreh (2014); the influence has been assessed to be significant on the organizations listed on the Jordan Stock market. The technique that they utilized was multiple linear regression with the variables that are yield and pay-out. Moreover, the empirical analysis depicted that pay-out reflects the relation with the volatility negatively while yield impresses the volatility weakly but positively. Another study conducted by Nishat & Irfan (2004) was on Pakistani companies that found a significant effect of the policy related to dividends on the volatility of share prices. Moreover, Lashgari & Ahmadi (2014) conducted a study on the Tehranian stock exchange and found significant relation but negative of DPR. The technique employed by them was multivariable regression using panel data and used the formula of Parkinson to compute the volatility of the shares. The study further asserted that volatility is that risk that cannot be controlled therefore, it is systematic for the investors pertaining to their investments. However, the study used some control variables to assess whether the connection or influence improves or not like asset growth rate or company size and found significant association along with the influence on the volatility.

In light of the research conducted by Zakaria, Muhammad & Zulkifli (2012) on Malaysian stock exchange, the effect found to be relevant and significant but the research utilized some control variables where growth pertaining to the investment along with earnings volatility computed to be insignificant. Also, the main predictor DY also appeared to be insignificant in the case of Malaysian companies. Therefore, this study seems to be contradictory to other studies. Hussainey, Oscar Mgbame & Chijoke-Mgbame (2011) further conducted a study utilizing similar variables like DPR, DY, and volatility along with some control variables such as asset growth and size on LSE companies where the empirical analysis proved to be significant. Thus, in accordance with the studies; the influence of policy linked to dividends of companies of different companies proved to be significant showing effect o the volatility of share prices.

3. METHODOLOGY

The empirical framework employed in extracting results has been discussed in this section of the research paper. The study has been conducted on the Pakistani companies listed in PSX to assess dividend policy's influence on the volatility of share price. Firstly, the research design of the study is quantitative due to the variables undertaken and to maintain the authenticity of the numeric data. On the other hand; out of certain different research philosophies, this research is inculcating positivism due to the usage of numeric data as positivism philosophy emphasizes objectivity and factual data. Moreover, data collection methods are two that are primary and secondary (Mohajan, 2017). The secondary data has been collected from authentic websites including Morningstar and investing in Pakistani companies. The data has been collected from 10 years from 2008 to 2017 of 10 different Pakistani companies listed in PSX due to the limited availability of data on certain sources. Furthermore, the known research approaches are two; deductive and inductive (Soiferman, 2010). However, this research is following a deductive approach due to hypothesis generation based on the variables of this study that are dividend payout ratio (DPR), dividend yield (DY) and share price volatility. Therefore, due to hypothesis generation and variables explanation; the type of investigation is opted to be explanatory.

For the purpose of analysis of the accumulated data; initially, share price volatility which is also the dependent variable of the study has been calculated using following formula recommended in the study conducted by Al-Shawawreh (2014)

$$Price\ Volatility_{it} = \sqrt{\frac{(High\ Price_{it} - Low\ Price_{it})}{\left(\frac{High\ Price_{it} + Low\ Price_{it}}{2}\right)^2}} \quad (1),$$

where '*i*' is representing the company while *t* is representing the time period. Moreover, the high price is the maximum point where the price reached in a day and the lowest price is the minimum point where the share price dropped to a day. On the other hand, the DY has been calculated using the following formula which is one of the two predictors of this study

$$DY = \frac{Dividends}{Market\ Price} \quad (2)$$

However, DPR has been accumulated from websites mentioned previously in this section which is another predictor of this study. The data analysis technique has been chosen that is reflecting the research's core aim that is an assessment of the dividend policy's influence on price volatility. So, the most adequate technique is multiple linear regression which is used to assess the linear reliance of predictors on the predictand of the study (Gorard, 2012). However, to support this analysis, the correlation has been utilized. Moreover, the medium of analysis is taken to be E-Views due to panel data. So, as per the variables of the study, the general equation reflecting the aim can be written as

$$\widehat{Price\ Volatility}_{it} = \alpha + \beta_1 DPR_{it} + \beta_2 DY_{it} + \epsilon_{it} \quad (3)$$

In the equation; *DPR* is the dividend payout ratio while *DY* is the dividend yield. On the other hand, α is the intercept term and ϵ is the standard error of the regression equation. Also, β_1 and β_2 are coefficients of the regression model. Since this study is deductive, therefore; following hypotheses have been devised by the researcher for the attainment of aim at a 5% significance level;

H_0: Dividend Policy impacts Share Price Volatility insignificantly

H_1: DPR impacts Share Price Volatility significantly

H_2: DY impacts Share Price Volatility significantly

4. RESULTS AND DISCUSSION

The following section presents and analyses the results obtained after running the correlation and regression on E-Views. The discussion on the results has been demarcated meticulously here in the section of results and discussion. Moreover, the discussion regarding findings in relation to previous studies has also been covered in this section. Besides, the researcher has also discussed regarding the attainment of the research objectives of this study in this section.

4.1 CORRELATION ANALYSIS

The following section presents the results of correlation analysis in detail along with a thorough discussion regarding each value. Table 1 gives correlation of the studied variables.

Table 1: Correlation Analysis

	DPR	DY	PRICE VOLATILITY
DPR	1		-0.099
DY	0.432	1	0.388

PRICE VOLATILITY	-0.099	0.388	1

In accordance with the study conducted by Gogtay & Thatte (2017), correlation analysis is used for the assessment of links' strength and direction between the variables. The values computed from the analysis range from -1 to +1 where -1 is the extreme negative relation showing two variables navigating in the opposite direction while +1 is the extreme positive relation depicting two variables navigating in the same direction. This means that the sign shows the direction while the value itself shows the magnitude of that connection. The variables DPR and DY have a correlation value of 0.43 which means that these variables are moderately correlated in a positive manner. It means that if dividend yield increases, the dividend payout ratio would also increase.

Moreover, the correlation between DPR which is the predictor and price volatility which is predictand is computed to be -0.098 which means that an increase in DPR would impact the volatility of share price in a negative manner but with weaker magnitude. On the other side, another predictor of this study which is DY has a correlation of 0.388 with the share price volatility of Pakistani companies which depicts positive relation with moderate magnitude. In other words, an increase in the dividend yield of Pakistani companies would increase the share price volatility.

4.2 REGRESSION ANALYSIS

The following section specifically discusses the results obtained from the analysis along with the assessment of the hypotheses formulated in the methodology section of this research paper. Following are the results of E-Views produced after conducting the multiple linear regression analysis using panel least square approach with price volatility as dependent variable whilst DPR and DY as independent variables;

Table 2: Regression Key Output.

R-Squared	0.238
Adjusted R-squared	0.222
F-statistic	15.148
Prob(F-statistic)	<0.001

Table 2 is the key output of the panel least regression analysis that devises whether the model is fit or not. The R-squared is explaining that variation in both the predictors that are DPR and DY is explaining a 23.79% variation in the share price volatility of companies of Pakistan. On the other hand, adjusted R-squared has been reduced which means that taking two variables has not enhanced variance explanation therefore; the value got reduced from 23.79% to 22.22%. Another key statistics is the f-statistic which is computed to be 15.14 while the probability value is 0.0000 which means it is extremely significant as it is lower than the selected significance level of the study. As per these proofs, research's null hypothesis is rejected which was related to the insignificant influence of dividend policy (DPR & DY) on the price volatility of Pakistan's companies listed in PSX. However, for individual analysis; the following are coefficients of the regression equation along with their significance values and standard error;

Table 3: Coefficients of Regression Equation

Variable	cofficient	Std.error	t-statistic	Prob
C	0.023236	0.003471	6.694043	<0.001
DPR	-0.017572	0.005272	-3.33307	0.0012
DY	0.235762	0.043742	5.389873	<0.001

In accordance with the computed values in Table 3, the coefficient of DPR is found to be -0.017 which means that a unitary increment in DPR would lead to a decline in the share price volatility of Pakistani companies by 0.017 units on an average. Moreover, the standard error of this variable in relation to price volatility is also lesser while the standard error of DY is more in comparison. DY, on the other hand, has a coefficient value of 0.23 which means that the impact is found to be positive and a unitary increase in dividend yield would increase the share price volatility by 0.23 units on an average. Additionally, the intercept value is found to be 0.02 which depicts that the graphical line of share price volatility does not start from the origin in this equation.

Moreover, Table 3 also displays t-statistics along with probability values (p-values) for the determination of significance. The t-statistics of DPR is found to be -3.33 while the p-value is 0.0012 which is lesser than 5% therefore, it is significant. So, the first hypothesis of the study is accepted. Besides, the t-statistics of DY is computed to be 5.38 with p-value equals to 0.000 which is asserting significance thus; the second hypothesis of the study is also accepted. Therefore, cumulatively, it is asserted that the dividend policy of Pakistani companies impacts share price volatility in a significant manner. Moreover, on the basis of the results; the general regression equation presented above in the previous section can be transformed as follows with the replacement of the coefficient symbols with the values;

$$Price\ \widehat{Volatility} = 0.02 - 0.017DPR + 0.23DY + \in \quad (4).$$

4.3 DISCUSSION

The current section of the study related the findings of this research paper with the findings of previous researches that are conducted in different regions of the world on similar topics to contrast and compare. Moreover, it has also been discussed how the researcher made it possible to achieve the objectives of this study. Firstly, the comprehension of the concepts of share price volatility and dividend policy has been done successfully through reviewing previous papers, researches, and publications. The study of Nazir et al. (2010) found that the frequency with which share prices fluctuate or change represents share price volatility. Secondly, dividend policy is a part of the firm's financial strategy devising how much would be paid to shareholders and how much would be retained by the company. Moreover, the second objective of the research was associated with the investigation of determinants of dividend policy that impact price volatility of shares. It has also been attained successfully through literature due to the theoretical nature of the objective. Nishat & Irfan (2004) considered DPR and dividend yield as the dividend policy's determinants. Therefore, this study has also undertaken these variables into consideration. Moreover, the study of Hashimijoo et al., (2012) on Malaysia also took the pay-out ratio as the determinant of dividend policy.

Furthermore, the last objective of the study was associated with the investigation of the influence of dividend policy on the share price volatility of Pakistani companies. The researcher conducted a regression analysis taking price volatility as the predictand and found that it is impacted significantly by both DPR and DY. The findings are supported by the study of Nishat & Irfan (2004) conducted on Pakistani companies as they found significant influence. However, the direction of impact is found to be contradictory where they found a negative impact of both variables on price volatility; this study found a positive impact of dividend yield. This shows the change in the dynamics of both undertaken variables specifically in Pakistan's context. Furthermore, the research of Al-Shawawreh (2014) conducted on Jordanian companies found similar results as of this study where DPR impacted price volatility negatively and DY impacted positively. Therefore, it is observable that the dynamics of both variables in the Pakistani context are similar to that of Jordan.

5. CONCLUSION

The research was conducted to investigate dividend policy's influence on the share price volatilities of Pakistani companies listed in PSX which has been achieved successfully. However, there were certain observable aspects that hindered to expand the scope of this study. The researcher faced time limitations with the limited availability of data of Pakistani companies. Therefore, the sample size of the research could not be enlarged to see a wider picture. So, in the future, this study can be improved with the incorporation of more companies or more years. In addition to the corporation of companies and years, the study can also be enhanced with the incorporation of some other independent variables or control variables such as the size of the firm or other possible variables. Additionally, for further enhancement, the researcher in the future can utilize a comparison analysis with Pakistan of other countries that are entitled to developing or developing to assess differences in dividend policy dynamics. This shows that this study has room for improvement in the future. Alongside this, it can also be made industry-specific to present a clearer picture for the policymakers of the companies to lessen the volatility to earn return more. The policymakers then can adequately be decisive regarding the dividend policy that whether it should be conservative or progressive. Conclusively, Pakistani companies can choose a growth strategy in accordance with the requirements of their companies to fuel the profit generation process that can ultimately increase the dividends and provide stability to the company reducing systematic risk and volatility.

6. AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding author.

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