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Dividend Policy and Share Price Volatility: Evidence from Pakistan

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Abstract - The main purpose of this study is to examine the relationship between dividend policy and share price volatility in Pakistani stock market. The cross sectional regression is used to analyze the relationship of share price with dividend yield and payout ratio. The dividend yield and share prices are positively relate but payout ratio is negatively related. This study suggest that dividend policy is effect the share price volatility in Pakistan and this study also proposed that signaling effect is also relevant in determining the share price volatility.

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Dividend Policy and Share Price Volatility: Evidence from Pakistan

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I. INTRODUCTION

Dividend policy remains controversial issue for many years of theoretical and empirical research, considering the one aspect of dividend policy: the link between dividend policy and stock price risk (Allen and Rachim, 1996) and dividend policy is puzzle (Black, 1976). Dividends are irrelevant to a market value of firm in a perfect capital (Miller & Modigliani 1961) and dividend policy is relevant by DeAngelo et al. (1996). Payment of large dividends reduces risk and influence on stock price (Gordon, 1963) and is a roadmap for the future earnings (Baskin, 1989). The connection between dividend payout and directorship outside the organization is negative (Al-Najjar, 2009).

Rozeff (1982) and Easterbrook (1984) assumed that payment of dividends motivates the managers to invest at high cost of capital not below and save organizational efficiencies. Some authors have stressed the importance of information content of dividend (Asquith and Mullin, 1983). Guo (2002) assumed that the investors who make the investment in ordinary shares face the un-diversifiable risk.

Kinder (2002) argue that the volatility of stock prices is dealing with money and investor is interested to know about volatility or risk. To test the significance of the relationship between dividend yield and price volatility using the control variables like size, debt, earning volatility, payout ratio and growth. These variables have a clear and strong effect on stock returns but also influence on dividend yield. For measuring the relationship between dividend policy and share price

volatility, cross sectional regression analysis is used. The independent variables are dividend yield and payout ratio are regressed with cross sectional regression analysis.

The argument has been whether business results insurance plan has any connection with share price movement. In this context, this research paper is aimed to draw and establish a relationship between dividend policy and share price volatility, with focused on Pakistani stock market i.e. KSE 100 index. The theoretical framework of this research about price volatility is created by Baskin (1989) and Allen and Rachim (1996). The main purpose of this study is to find the role of dividend policy measures i.e. dividend yield and payout ratio on share price changes in the long run which are important for firms as well as investors.

II. LITERATURE REVIEW

Dividend Policy referred to a firm's policy and corporation's choice with regards to pay its shareholders a cash dividend or to retain the portion of earnings for re-investment in the firm.

a) Dividend policy and share price volatility

While the MM idea claims that the people are shy of receiving results and cost gratitude, the stock cost is not independent of the results announcement. Due to details information and signalling effect, outcomes may affect the come rear and expose prices (Lintner, 1962; Gordon, 1959; Williams 1988 ; Asquith and Mullins, 1983. The results statement provides information about the flow of resources and allows the market place to calculate the organization's present earnings (Miller and Rock, 1985). Due to reduced value of results the stock options price may even go over industry place value, which is known as the undervaluation that you can buy or overstatement of investor's assessment (Downs, 1991).

From the above discussion some questions raised:

- Should results repayments be managed at the present stage or changed?
- Would people prefer constant results affiliate payouts, or those that range with earnings?
- Should results insurance plan give preference to older or newer investors?

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The connection between the results dividend policy of organizations and the movements of their stock options values has been visited at different times by different researchers (Allen and Rachim, 1996; Baskin, 1989). Some theories like information or signaling effect, the bird hand theory, clientele effect etc are used to explain the relationship of dividend policy and share price.

b) Theories of dividend policy

Dividend policy has been a most debate-able subject in the area of finance and numerous studies on dividend policy has been conducted by many renowned researchers like, Lintner (1956); Miller and Modigliani (1961); Bhattacharya (1979) and more recently, DeAngelo et al. (1996), Fama and French (2001), Al-Malkawi (2007) and Al-Najjar and Hussainey (2009). Some dividend policy theories are given below.

Dividend irrelevance theory : Miller and Modigliani (1961) argued that dividend policy has no effect on stock price and cost of capital, therefore, dividend policy is irrelevant. MM argued that business risk and basic income (from assets) are the main source of determination of value of firm. The main assumptions of this theory are:

- no taxes or transactional cost (brokerage cost)
- investors are rational
- managers act as the best agents of shareholders
- Investment policy of the firm should be certain

In conclusion from the above assumptions that dividend policy is irrelevant.

Bird-in-hand theory : Gordon (1959) and Linter (1962) proposed that investors value of expected dividends more high than expected capital gains. Al-Malkawi (2007) finds that benefits are sought after differently from managed (retained) earnings (capital gains). While this argument has been widely criticized by Miller and Modigliani (1961) and has not received strong empirical support, it has been supported by Gordon and Shapiro (1956), Linter (1962) and Walter (1963). The main assumptions are:

- investors have deficient (imperfect) information about the profitability of a firm;
- that capital gain is realized on the sale of a share; and
- Dividends as a signal of expected cash flows.

Agency cost and the free cash flow theory : Agency cost is the price of the issue of attention that prevails between investors and management (Ross et al., 2003). Miller and Modigliani (1961) assumed that no conflict between managers and shareholders and managers are the best agents of shareholders. Easterbrook (1984) also identified that agency cost does not explain yield predictions about how bond prices react to dividends.

Signalling hypothesis : Miller and Modigliani (1961) assumed that investors and managers have

perfect information about firm's expected earnings and dividends. Al-Malkawi (2007) asserts that to minimize the gap of information between managers and investors then dividend policy used as a tool.

Clientele effects of dividends theories : Clientele effect has two effects as tax effect and transaction effect (Al-Malkawi 2007). He argued that in high tax effect firm would prefer pay low or no dividend. Transaction cost effect operates in two ways, first is that small investors depend on dividend payments and in second clientele effect companies prefers cannot afford the high transaction cost of selling securities.

Tax preference theory: Tax preference theory has three tax related reasons for thinking

- ❖ Long term capital gains for tax
- ❖ In case of un- sold stock, capital gains should not be considered for taxation
- ❖ In case of held stock, capital gains should not be considered for taxation

III. METHODOLOGY

The dividend policy and share price volatility relationship has been analyzed by utilizing the cross sectional regression analysis. In regression analysis, the dependent variable share price volatility is regressed against two independent variables dividend yields and payout ratio. The following regression equation is adopted to develop a relationship between share price volatility and dividend policy.

$$\text{Price Volatility} = a_1 + a_2 \text{Div-yield} + a_3 \text{Payout} + e_k$$

The number of factors influences the relationship of share price volatility and dividend policy. Therefore, to control (limit) these problems, the control variables are included in regression equation. The equation is given below:

$$\text{Price Volatility} = a_1 + a_2 \text{Div-yield} + a_3 \text{Payout} + a_4 \text{Size} + a_5 \text{Earn-Vol} + a_6 \text{Debt} + a_7 \text{Growth} + e_k$$

From expectation results, assumed that dividend yield, payout ratio and size put negative impact on share price volatility but earnings volatility and debt put positive impact on share price volatility. Baskin (1989) assumed that industry pattern also influence on the relationship of share price and dividend policy, so therefore some dummy variables are included in regression equation.

$$\text{Price Volatility} = a_1 + a_2 \text{Div-yield} + a_3 \text{Payout} + a_4 \text{Size} + a_5 \text{Earn-Vol} + a_6 \text{Debt} + a_7 \text{Growth} + a_8 \text{Dum} + e_k$$

Here, a is equation intercept and e standard error term.

a) Definition of variables

Price volatility: Price volatility is a dependent variable. For calculation of price volatility, each year share price is taken from DataStream. The range of

share prices for each year calculated and then takes average of highest and lowest share prices. For price volatility, range is divided by average and then raised the second power.

Dividend yield: The dividend yield is calculated as dividend per share is divided by share price for each year.

Payout ratio: The payout ratio is calculated as dividend per share is divided by earning per share.

Size: Total assets are used as proxy for size

Earning volatility: For earning volatility calculation taking the standard deviation of earnings before interest and taxes or operating profit (Dichev and Tang 2009).

Long-term debt (Debt): Debt is the ratio of total debt to total assets for each year and then takes average for all available years.

Growth in assets (Growth): The figures of Growth in assets are obtained by taking the ratio of changes in total assets from the beginning of year to end of year.

IV. RESULTS AND DISCUSSION

From table (1), the descriptive statistical analysis provides the values of mean, median, minimum and maximum, and standard deviation of non-financial firms listed in Karachi Stock Exchange 100 index. For meeting the normality of data, it is assumed that stock market prices are following the normal distribution patterns. For measuring the mean volatility, multiplying the normal distribution estimation with a constant which is provided by Parkinson (1980).

Table 1 : Descriptive Statistical Analysis

Variables	Mean	Median	Minimum	Maximum	Standard Deviation
Price Volatility	0.813	0.415	0.000	8.013	1.155
Dividend Yield	0.236	0.044	0.000	6.254	0.705
Earning Volatility	0.046	0.035	0.011	0.495	0.055
Debt	0.225	0.111	0.000	3.047	0.346
Growth	0.066	0.051	-0.285	0.866	0.123
Payout ratio	0.452	0.453	0.000	1.000	0.321
Size	4.666	4.236	0.561	9.441	2.032

From Table II, regression analysis results showed relationship between share price volatility with dividend yield and payout ratio which are regressed. The regression results showed that relationship of share volatility with dividend yield is positive but relationship of share price volatility with payout ratio is negative. The relationship of share price volatility with other control

variables like size, earning volatility is negative but long term debt and growth relate with share price positively. From the regression results, the relationship between dividend and share price volatility is non-significantly positive. This study results is matched with earlier study conducted by Allen and Rachim (1996) and contradicts with Baskin (1989) study.

Table 2 : Regression Results

Variables	Coefficients	Beta	t-statistic value	t-probability
Constant	1.713**	0.000	3.889	0.000
Dividend Yield	0.063	0.039	0.283	0.693
Earning Volatility	-0.296	-0.013	-0.0129	0.899
Debt	0.225	0.071	0.810	0.440
Growth	1.366	0.651	1.585	0.136
Payout ratio	-0.452*	-0.175	-1.889	0.079
Size	-0.152*	-0.239	-1.850	0.063

** 1% significance level

* 5% significance level

From table III, there is a positive relationship between dividend policy and stock price volatility but this relationship is not significant. These results are more matches with Allen and Rachim (1989) study results. The Pearson's correlation suggests that payout and

share price volatility correlate negatively with each other. The correlation between debt and payout is significantly negative due to less payment of debt. The payout ratio and growth correlate significantly negatively because firms have larger payout ratio.

Table 3 : Correlation Analysis

	Price Vol.	Div.Yield	Pay out	Debt	Size	Growth
Div. Yield	-0.093					
Earn. Vol	0.087	0.055				
Payout	-0.320*	0.133	0.232**			
Debt	0.053	-0.076	-0.251**	-0.026*		
Size	-0.238	-0.257**	-0.125*	0.273*	-0.330**	
Growth	0.047	-0.128*	-0.115*	-0.178*	-0.323*	0.374**

** 1% significance level

* 5% significance level

From table III, there is a negative relationship between share price volatility and dividend yield because correlation between them is negative (-0.093). The correlation between share price volatility and payout ratio is significantly negative because lower payout ratio influences the share price negatively. The correlation between earning volatility and payout ratio is significant negative due to the less payment by firms. The correlation between long term debt and payout ratio is significant negative due to the less repayment of debt. The relationship between dividend yield and size is significantly positive because larger firms pay larger amount in shape of dividends. The table III shows the positive correlation between payout ratio and growth because which firms have higher growth in assets make the higher payout ratio.

V. CONCLUSION

The main objective of this study is to examine the relationship between dividend policy and share price volatility in Pakistan. For this purpose some controlling variables like dividend policy, payout ratio, size, debt and growth are used. The cross sectional regression analysis is used to measure the share price with these controlling variables. The findings of this study are that payout ratio and price volatility is significantly positively related. The size and debt are negatively related with share price volatility. If the findings of this study relates with other earlier studies somehow different that studies because corporate structure of firms in Pakistan is different with other developed countries. This study proposed that dividend yield is better and more important determinant factor in determining share price volatility in KSE 100 index rather than payout ratio.

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