Dividend Policy and Stock Prices – A Case of KSE-100 Index Companies

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Abstract

Dividend policy is a widely researched topic in the field of investments and finance but still it remains a mystery that whether Dividend Policy affects the Stock Prices or not. The results of researches conducted in various stock markets are different. There are many internal and external factors, which simultaneously affect stock prices and it is almost impossible to segregate the effect of each so the variations remain. This paper is an attempt to explain the effect of Dividend Policy on the Stock Prices by taking a sample of 131 companies listed at Karachi Stock Exchange for a period of 10 years from 2001to 2010. Various theories related to dividend policy are tested in various parts of the world with different results and findings. Various other articles are reviewed, written in Pakistan and abroad to see the significance of dividend policy on the stock prices and to compare the results of this research with those conducted earlier. Sample size is large i.e. almost one fourth of the total listed companies of Karachi Stock Exchange so the results are reliable and valid. In the last decade stock market of Pakistan went through many changes and huge ups and downs were seen. The economic crisis of the world in year 2008-09 also affected the market adversely. In the last couple of years the markets have again shown steady upward trend. All these fluctuations in the stock prices due to external factors, including international factors, make it difficult to check the impact of dividend policy. Here it is also pertinent to mention that stock markets of Pakistan are mainly speculative and capital gains are mostly sought by investors, particularly individual investors. Institutions and long term investors give due consideration to dividends and dividend polices of companies, which is a large and significant portion of the total investment in the stock markets. Panel data approach is used to explain the relationship between dividends and stock prices after controlling the variables like Profit after Tax, Earnings per Share and Return on Equity. Results indicate that Stock Dividend,

Profit after Tax, Earnings per Share and Return on Equity have positive relation with Stock

Prices and significantly explain the variations in the market prices of shares, while Retention

Ratio has negative, insignificant relation with stock prices. Overall model is significant. Results

of Fixed and Random Effect Models further validate these results. Overall results of this study

indicate that Dividend Policy has significant positive effect on Stock Prices.

Keywords: Dividend Policy, Panel data, Stock Prices, Fixed and Random Effect Models

1. Introduction

Dividend policy is a topic that is very commonly used by researchers in the field of

Financial Managements and Investments, particularly in Corporate Finance since Joint Stock

Companies came into existence. In 1613 shares of the first joint stock company, British East

India Company, were issued and in 1661 the first dividend on these shares was declared (Davis,

1917). Then tradition of paying dividends began and the rules of dividend policy developed.

Booth & Cleary (2010) has defined Dividend Policy as an exclusive decision by the management

to decide what percentage of profit is distributed among the shareholders or what percentage of it

retains to fulfill its internal needs.

Dividend policy got attention in 1956 with the work of Linter. Linter (1956) raised the

question, which is still important, "what choices made by managers do affect the size, shape and

timing of dividend payments?" After the great contribution of Linter in the field of finance,

Miller & Modigliani (1961) provided another opinion about the dividend policy, they said that

dividend policy does not affect the value of firm; the only thing that could affect the value of

firm is the investment policy. Gordon (1963) gave arguments against Dividend Irrelevance

Theory by providing evidence that dividend policies do affect the firm value. The question still

remains debatable among managers, policy makers and researchers whether dividend policy

affects stock prices or not.

Dividend policy is equally important for managers and investors, as managers have to

decide about the amount and timing of dividends and the investors have to plan their return on

investment portfolio. Dividends are not only a source of income for investors but also a signal of

company performance. Dividend policy is important for corporate finance managers of the

companies to distribute profits or to make investment in the business. So selecting a suitable

dividend policy for a company becomes one of the most important decisions for the management and investors.

The objective of this paper is to empirically examine the determinants of dividend policy and find out its linkage with stock prices in Pakistan. This study is different from the previous Pakistani studies conducted by Nishat & Irfan (2003), Naeem & Nasr (2007), Nazir, Nawaz, Anwar, & Ahmed (2010), Afza & Mirza (2010) and Asghar, Shah, Hamid & Asghar (2011) because this study has used Retention Ratio as a measure of dividend policy, while in the previous studies Dividend Yield and Payout Ratio are used as a measure of dividend policy. This study also explains the effect of Stock Dividend along with Cash Dividend on the Stock Prices after controlling the variables like Return on Equity, Earnings per Share and Profit after Tax.

2. Literature Review

2.1 Dividend Policy in Pakistan

Dividend Policy is widely researched topic in the field of finance and it always remains a debatable topic for the researchers to study the different determinants of dividend policy and find out its relation with stock prices that is the reason Pakistani researchers also consider it an important topic for research. Nishat & Irfan (2003) studied the effect of dividend policy on stock price risk and found Dividend Yield and Payout Ratio are positively related to the share price volatility. This relation remains the same even after controlling the Firm Size. Earning indicates that current Volatility, Leverage and Asset Growth. Another study conducted by Naeem & Nasr (2007) observed the determinants and trends of dividend policies. Results of their study show that Pakistani companies are either reluctant to pay dividends or pay very low amount as dividends and their current dividend decisions depend on previous year dividends and Profitability Ratio.

The study conducted by Ahmed & Javid (2009) in which they analyzed the factors that determine dividend policy in the economy of Pakistan, showed that most of the Pakistani companies decide their cash dividend payment on the basis of their current and previous year profits. The firms having high net profit pay larger dividends to their shareholders. Furthermore, their results showed that Market Liquidity is positively related to the Dividend Payout Ratio and negative relationship was found between the Firm Size and Payouts, while there is no relationship between Growth Opportunities and Dividend Payout. Study conducted by Afza & Mirza (2010) showed that Ownership of Firm, Cash Flow Sensitivity, Size and Leverage are negatively related, whereas Operating Cash Flow and Profitability are positively related to cash dividend.

Nazir, Nawaz, Anwar, & Ahmed (2010) explained the role of dividend policy in Pakistan by taking sample of 73 companies listed at Karachi Stock Exchange from the period of 2003 to 2008. Result of their study showed that Dividend Payout and Dividend Yeild have significant affect on stock prices while Size and Leverage have negative insignificant affect. Earning and Growth have positive significant affect on Stock Prices. Akbar & Baig (2010) studied the effect of dividend announcement on stock prices. Results of their study showed that announcement of dividends either Cash Dividend or Stock Dividend or both have positive effect on Stock Prices. Asghar, Shah, Hamid & Suleman (2011) showed the positive significant association between Price Volatility and Dividend Yield, while Growth on Assets has negative relation with Price Volatility. After including the control variables Dividend Payout and Dividend Yield have insignificant positive association with Price Volatility and insignificant negative association with Earnings Volatility.

2.2. Relationship between dividend Policy and Stock Prices

Previous studies conducted on dividend policy provide strong evidence for the presence

of relationship between dividend policy and stock prices. Empirical researches conducted to see

the effect of dividend policy on stock prices first includes the historical work of Lintner (1956)

who studied different determinants of corporate dividend policy and its effect on firm's market

value by conducting the interviews of top managements of 28 firms. Result of his study showed

that Firm's Market Value depends on the Dividend Payout. An important contribution in the

field of finance is by Miller & Modigliani (1961) who gave the concept of Dividend Irrelevance.

Their results indicated that dividend policy does not affect firm's value; the only thing that can

affect a firm's value is the investment policy or firm's earnings and not the dividend policy of

firm. Gordon (1963) gives arguments against Dividend Irrelevance Theory and provided

evidence regarding the relevance of dividend policy. Results of his study showed that dividend

policy has significant positive effect on stock prices. He further concluded that the firms that pay

larger amounts of dividend to their shareholders face less risk in terms of stock price volatility.

Black & Scholes (1974) studied the effect of dividend policy on stock prices and

explained that dividend policy does not affect the stock prices. It depends on the investors'

decision to keep either high or low yielding securities; return earned by them in both cases

remains the same. Baskin (1989) found an inverse relation between Stock Prices and Dividend

Policy. Allen & Rachim (1996) studied the relation between dividend policy and stock prices.

Results of their study failed to find out any relation between the Dividend Yield and Stock Prices

but it showed positive relation between Stock Prices and Size, Earnings and Leverage. It showed

a negative relation Stock Prices and Payout Ratio.

Travlos, Trigeorgis & Vafeas (2001) studied the behavior of Cyprus Stock Market

towards the announcement of dividends. Results of their study showed that the announcement of

Cash or Stock Dividends has positive effect on Stock Prices. A study conducted by Ho (2002)

relevant to the dividend policy showed the positive relation between Dividend policy and Size of

Australian firms and Liquidity of Japanese firms. He further found negative relation between

Dividend Policy and Risk in case of only Japanese firms.

Pradhan (2003) explained the effect of Dividend Payment and Retained Earnings on

Stock Market Prices of Nepalese companies. His results showed that Dividend Payment has

strong relation with Stock Prices while Retained Earnings have very weak relation with Stock

Price. Nepalese stockholders give more importance to dividend income than capital gains.

Adefila, Oladipo & Adeoti (2004) studied the factors that can affect the dividend policy of

Nigerian firms and its affect on stock prices and firm's value. Results of their study showed that

Nigerian shareholders do not use their stocks for speculative purpose. They buy stocks for

prestigious reasons and for obtaining loan from banks. Their results also concluded that there is

no relation between Dividend Payments, Net Earnings and Stock Prices. Nigerian firms pay

dividends to their shareholders regardless of their level of profits for satisfaction of their

shareholders. Another study conducted by Raballe & Hedensted (2008) in Denmark for the

period 1988-2004 identified the positive relationship between Cash Dividends and Return on

Equity, Retained Earnings, Size of firm and last year Profit. They were unable to find any

relation between Debt Equity Ratio and Dividend Decision of Firm.

Pani (2008) showed that the Dividend Retention Ratio is positively correlated with stock

returns in case of individual sector but there is no statistically significant relationship between

the independent and dependent variables. The results further showed that the Debt Equity Ratio

has negative relation with Stock Returns, while Size of the Firm remained consistently positive

and in many cases it turns out to be insignificant. Rashid & Rahman (2009) studied the relation

between Dividend Policy and Stock Price Volatility. Results of their study showed the positive but insignificant relation between Stock Price Volatility and Dividend Yield after controlling the Earning Volatility, Payout Ratio, Debt Level, Firm Size and Growth in Assets.

Chen, Huang & Cheng (2009) analyzed the effect of Cash Dividend on Share Price for the period 2000-2004 in China. They found that Cash Dividend has significantly positive effect on the Stock Prices. When Cash Dividend increases Stock Prices also increase and when the Cash Dividend decreases, Share Prices decrease. Al-Kuwari (2010) studied the payout decisions of the companies listed at GCC (Gulf Cooperation Council) stock exchange, his results showed that Payout decisions have positive effect on Company Size, Profitability and Ownership but have negative impact on Growth Opportunities.

Ali & Chowdhury (2010) analyzed the price movement of private commercial banks listed at Dhaka Stock Exchange towards the dividend announcement. They took a sample of 25 banks and their results showed that stock prices of 11 banks decreased, 6 banks' stock prices increased, while 8 banks' stock prices remained unchanged when dividends were announced. Overall results of their study showed that there is insignificant relation between stock prices and dividends. Hussainey, Mgbame & Chijoke-Mgbame (2011) studied the impact of Dividend Policy on Stock Prices. Results of their study showed a positive relation between Dividend Yield and Stock Price Changes and negative relation between Dividend Payout Ratio and Stock Price Changes. Their results further indicated that the Firms' Earnings, Growth Rate, Level of Debt and Size also cause the change in Stock Prices of UK.

3. Variable Definition

In this study Price Volatility is taken as dependent variable. Stock Dividend per Share, Retention Ratio, Earnings per Share, Net Profit after Tax, and Return on Equity are used as

independent variables. It is expected that all these variables have significant affect on stock prices.

- **Price Volatility (PV)**

Price Volatility is taken as dependent variable, which is calculated by using Parkinson (1980) method of extreme values. It is calculated by dividing the annual range of prices with the average of high and low stock prices. Then variance for the year 2001-2010 is averaged and is transformed into standard deviation. This method is considered better than the traditional methods in, which researchers use either opening price or closing price or average of opening and closing prices. Parkinson (1980), Allen & Rachim (1996), Nishat & Irfan (2003), Pani (2008), Rashid & Rahman (2009), Nazir, Nawaz, Anwar, & Ahmed (2010) and Asghar, Shah, Hamid, & Suleman (2011) also used price volatility as a dependent variable in their studies.

- **Stock Dividend (SD)**

Stock Dividend per Share is calculated by dividing total stock dividends with the number of outstanding shares. Travlos, Trigeorgis & Vafeas (2001) and Akbar & Baig (2010) used stock dividends as to see its effect on stock prices and found positive relation between stock dividend and market prices of shares. Their results further indicated that Stock Dividend is an important variable that significantly explains the variations in Stock Prices.

- **Retention Ratio (RR)**

Retention Ratio is opposite to dividend payout ratio and is calculated by subtracting Total Dividend from Total Earnings and then dividing the resulting amount by Earnings. Pani (2008) used dividend to Retention Ratio to see its effect on Stock Prices and found positive relation between them. This ratio is previously ignored by the researchers and they used either Dividend Payout Ratio or Dividend Yield Ratio in their studies for explaining the variation in Stock Price.

Researchers like Allen & Rachim (1996), Rashid & Rahman (2009) and Nazir, Nawaz, Anwar, & Ahmed (2010), Hussainey, Mgbame, & Chijoke-Mgbame, (2011) used dividend payout ratio in spite of retention ratio and found negative relation between stock market prices and dividend payout ratio while Nishat & Irfan (2003) and Asghar, Shah, Hamid, & Suleman (2011) found positive relation between stock market prices and dividend payout ratio. Profit after tax, Earnings per Share and Return on Equity are used as control variables in this study.

- **Profit After Tax (PAT)**

Profit after Tax is used as a control variable. Pani (2008), Adesola & Okwong (2009), Ahmed & Javid (2009) and Al-Kuwari (2010) used profit after tax as independent variable in their studies and found positive relation between Stock Prices and Profit after Tax. They considered Profit after Tax as an important variable to explain the variations in Stock Prices.

- **Earnings per Share (EPS)**

Earnings per Share are calculated by subtracting dividend on preferred stocks from the net income and by dividing it with the number of outstanding shares. It is considered as an indicator of measuring the profitability of the companies. Baskin (1989), Allen & Rachim (1996), Liu & Hu (2005), Adefila, Oladipo & Adeoti (2004), Adesola & Okwong (2009) and Chen, Huang, & Cheng (2009) used Earnings per Share as a control variable in their studies. Results of their study showed that Earnings per Share significantly explain the variation in the stock prices. They also reported positive relation between Earnings per Share and Stock Prices, while the study conducted by Adefila, Oladipo & Adeoti (2004) failed to find any relation between Stock Prices and Earnings.

- **Return on Equity (ROE)**

Return on Equity is calculated by dividing profit after tax with shareholders' equity. Liu

& Hu (2005), Raballe & Hedensted (2008) and Ling, Mutalip, Shahrin, & Othman (2008) used

Return on Equity in their studies and found positive relation between Return on Equity and Stock

Prices.

Table 4.2 explains the expected hypothesized sign of the variables used in these studies

with the empirical evidences.

Table 3.1: Variables and Hypotheses

Variable	Hypothesized Sign	Empirical Evidence
Price Volatility	Dependent Variable	Allen & Rachim (1996), Nishat & Irfan (2003), Rashid & Rahman (2009) and Nazir, Nawaz, Anwar, & Ahmed (2010), Hussainey, Mgbame, & Chijoke-Mgbame, (2011) and Asghar, Shah, Hamid, & Suleman (2011)
Stock Dividend	Positive	Travlos, Trigeorgis, & Vafeas (2001) and Akbar & Baig (2010)
Retention Ratio*	Negative/ Positive	Pani (2008)
Profit After Tax	Positive	Pani (2008), Adesola & Okwong (2009), Ahmed & Javid (2009) and Al-Kuwari (2010)
Earnings per Share	Positive	Baskin (1989), Allen & Rachim (1996), Liu & Hu (2005), Adefila, Oladipo & Adeoti (2004), Adesola & Okwong (2009) and Chen, Huang, & Cheng (2009)
Return on Equity	Positive	Liu & Hu (2005), Raballe & Hedensted (2008) and Ling, Mutalip, Shahrin, & Othman (2008)

* Hypothesized Sign of Retention Ratio depends on investors' perception. If investors believe company has profitable investment opportunities then Retention Ratio will positively affect the Stock Prices otherwise it will negatively affect the Stock Prices.

4. Research Methodology

Panel data approach is used to measure the relation between dividend policy and stock

prices. Sample of 131 dividend paying companies is taken for a period of 10 years from 2001 to

2010. Price Volatility is taken as dependent variable, which is calculated by using Parkinson (1980) method of extreme values in the place of closing prices or opening prices or average of opening and closing prices. Stock Dividend per Share, Retention Ratio, Earnings per Share, Net Profit after Tax and Return on Equity are used as independent variables to study their effect on stock prices. The results of this study are based on Ordinary Least Square (OLS) regression model as it is a suitable tool to get useful findings. Fama & French (1988) and Afza & Mirza (2010) also used the Ordinary Least Square (OLS) regression in their studies to explain the relationship between dividend policy and stock prices. 5% level of significance is used to accept or reject the null hypothesis. Following regression line is used for this purpose:

$$PV_i = \alpha_0 + \alpha_1 CD_i + \alpha_2\ RR_i + \alpha_3\ PAT_i + \alpha_4\ EPS_i + \alpha_5 ROE_i + \epsilon_i \qquad (1)$$

Pearson Correlation and Descriptive Statistics of all the variables are also calculated to explain the correlation among the variables. Table 5.1 shows the results of Descriptive Statistics, Pearson Correlation are shown in Table 5.2 that explains the correlation between dependent and independent variables. Table 5.3 shows the result of overall significance of the model, while significance of individual coefficients is explained in Table 5.4. To validate these results Fixed and Random Effect Models are also applied on panel data. Results are explained in Table 5.5 and Table 5.6.

5. Results and Discussion

Table 5.1 shows the details of descriptive statistics of variables that affect the Stock Prices of KSE-100 Indexed companies during the period of 2001 to 2010. Price Volatility, which is the dependent variable in the model ranges from 1.22 to 48.8 with Mean value 8.54 and Standard Deviation 6.38. The explanatory variables for this model are Stock Dividend per Share, Retention Ratio, Profit after Tax, Earnings per Shares and Return on Equity. Stock Dividend,

which is the first explanatory variable ranges from 0 to 900 having Mean value 9.16 and

Standard Deviation for Stock Dividend is 41.87. Retention Ratio ranges from -276.78 to 39.46

with Mean value -3.996 and Standard Deviation 17.03. Profit after Tax, which is the third

explanatory variable has minimum value of Rs. -36138.64 million and maximum value Rs.

78377.46 million with Mean 1063.07 and Standard Deviation 5232.68. Earnings per Shares,

which is the forth explanatory variable shows the minimum value -130.62 and maximum value

367.92 with Mean value 10.41 and Standard Deviation 26.4. The fifth explanatory variable

Finally Return on Equity shows the minimum value -19.20 and maximum value 16.16 with

Mean value .1711 and Standard Deviation .8798.

Table 5.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PV	1310	1.22	48.80	8.5399	6.38119
SD	1310	.00	900.00	9.1577	41.86496
RR	1310	-276.78	39.46	-3.9956	17.03335
PAT	1310	-36138.64	78377.46	1063.0720	5232.68207
EPS	1310	-130.62	367.92	10.4100	26.39575
ROE	1310	-19.20	16.16	.1711	.87983

5.2 Correlation Analysis

Table 5.2 explains the correlation among explanatory variables that can affect Price

Volatility. Price volatility is positively correlated with all the explanatory variables but this

correlation is significant only in case of Retention Ratio which is significant at 5% level of

significance. This positive correlation indicates that any increase or decrease in the explanatory

variable causes the increase or decrease in stock prices. Results further show that correlation

between Price volatility and Stock Dividend is .094, correlation between Price volatility and

Retention Ratio is .008, correlation between Price volatility and Profit after Tax is 154,

correlation between Price volatility and Earnings per Share is .643 and correlation between Price

volatility and Return on Equity is .098.

Stock Dividend has positive significant relation with other explanatory variables.

Correlation between Stock Dividend and Retention Ratio is .015, correlation between Stock

Dividend and Profit after Tax is .022, correlation between Stock Dividend and Earnings per

Share is .40 and correlation between Stock Dividend and Return on Equity is .022. There is

negative significant correlation among Retention Ratio and Profit after Tax and Return on

Equity. Results also indicate positive significant relation between Retention Ratio and Earnings

per Share. Correlation between Retention Ratio and Profit after Tax is -.011, correlation between

Retention Ratio and Earnings per Share are .026 and correlation between Retention Ratio and

Return on Equity is -.017. There exists positive correlation among Profit after Tax and Earnings

per Share and Return on Equity but this correlation is significant i.e. .041 in case of Return on

Equity and insignificant i.e. .137 in case of Earnings per Share. Finally Earnings per Share and

Return on Equity show positive insignificant correlation i.e. .103 between them.

Table 5.2: Correlation Analysis

		PV	SD	RR	PAT	EPS	ROE
Pearson Correlation	**PV**	1.000	.094	.008	.154	.643	.098
	SD	.094	1.000	.015	.022	.040	.022
	RR	.008*	.015*	1.000	-.011	.026	-.017
	PAT	.154	.022*,	-.011*	1.000	.137	.041
	EPS	.643	.040*	.026*	.137	1.000	.103
	ROE	.098	.022*	-.017*	.041*	.103	1.000

*. Correlation is significant at the 0.05 level (2-tailed)

5.3 ANOVA Test

ANOVA Table shows the overall significance of regression model. The outcomes show

that linear relationship between the Price Volatility and Dividend Policy is significant as P-

Value is less than 0.05 and overall regression model is significant. This result indicates that null

hypothesis is rejected at 5% level of significance and research hypothesis i.e. dividend policy

positively affects the stock prices is accepted. It also provided the strong evidence to infer that

Stock Prices are affected by the Dividend Policies of the companies and explanatory variables

included in this model are significantly explaining the variation in stock prices.

Table 5.3 ANOVA Test

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22580.311	5	4516.062	191.687	.000[a]
	Residual	30721.709	1304	23.560		
	Total	53302.020	1309			

a. Predictors: (Constant), ROE, RR, SD, PAT, EPS

b. Dependent Variable: PV

5.4 Regression Analysis

Table 5.4 shows the results of Ordinary Least Square Regression Model. This table

explains the significance or insignificance of individual variable included in the study. Results

show that Stock Dividend per Share has significant positive relation with Price Volatility. This

positive relation indicates that investors consider Stock Dividend as an indication of higher

future profit. This is because a company issues bonus shares only when its earnings are expected

to increase. Shareholders will get more dividend income in future when the company started

paying dividends. It will also positively perceive by the market and tend to create greater demand

for the share of the company and so with the announcement of stock dividend share price will

tend to increase. These results are consistent with the results of Travlos, Trigeorgis, & Vafeas

(2001) and Akbar & Baig (2010) who also found the positive relation between them.

Retention Ratio has negative insignificant relation with stock prices. This result is

opposite to the result of Pani (2008) who had found positive relation between them. This

negative relation between Price Volatility and Retention Ratio shows that shareholders have

more profitable investment opportunities outside the company that's why shareholders want their

companies to pay dividends and when companies retain that amount to fulfill their internal

needs; this will negatively affect the stock prices. The control variables Earnings per share,

Profit after Tax and Return on Equity are positively related to Stock Prices. Profit after Tax has

significant relation with Stock Prices. This shows that profit of the companies has the positive

relation with the stock market prices and this relation significantly explain the changes in stock

market prices. Shareholders are only concerned with the amount of the profit because this profit

is the indication of companies' success. Pani (2008), Adesola & Okwong (2009), Ahmed &

Javid (2009) and Al-Kuwari (2010) also used profit after tax as independent variable in their

study and found positive relation between stock prices and profit after tax. Earnings per Share

have significant relation with Stock Prices and this result is consistent with Baskin (1989), Allen

& Rachim (1996), Liu & Hu (2005), Adefila, Oladipo & Adeoti (2004), Adesola & Okwong

(2009) and Chen, Huang, & Cheng (2009) who also found positive significant relation with

Stock Prices**.** Positive relation between Stock Prices and Return on Equity shows that when

management is efficiently utilizing shareholders' funds and provides better returns on

investment, it will positively affect the stock prices otherwise it will negatively affect the stock

prices. Liu & Hu (2005), Raballe & Hedensted (2008) and Ling, Mutalip, Shahrin, & Othman (2008) also found positive relation between Return on Equity and Stock Prices.

Table 5.4 Regression Analysis

PV= 6.732+.010SD-.003RR +.00008PAT+.152EPS+.212ROE

SE   (.153)   (.003)   (.008)   (.000)   (.005)   (.153)

Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.732	.153		44.042	.000
	SD	.010	.003	.067	3.163	.002
	RR	-.003	.008	-.008	-.371	.711
	PAT	7.935E-5	.000	.065	3.064	.002
	EPS	.152	.005	.629	29.458	.000
	ROE	.212	.153	.029	1.379	.168

a. Dependent Variable: PV

5.5 Fixed and Random Effect Models

Fixed and random Effect Models are also applied on the panel data to validate the results. Table 5.5 shows the results of Fixed Effect Model and Table 5.6 shows the results of Random Effect Model. Fixed Effects method is used to control all the stable characteristics of the companies included in the study over a fixed period of time. This method provides statistically better results by removing the biasness from the data and explains only within the sample variations. Random Effect method is applied when characteristics of sample differs. As characteristics of companies are different in terms of size, amount of capital, no. of shareholders, nature of business, earnings etc. so this method is suitable to explain variations between the

companies. These methods are also adopted by Ho (2002), Pani (2008), Rashid & Rahman (2009), Nazir, Nawaz, Anwar, & Ahmed (2010) and Hussainey, Mgbame, & Chijoke-Mgbame (2011) in their studies.

Fixed Effect Model shows that

$PV = 6.89 + 0.009SD + .00008PAT + 0.137EPS - 0.0096RR + 0.029ROE$

S.E   (0.15)   (0.003)   (.000025)   (0.005)   (0.007)   (0.15)

Random Effect Model shows that

$PV = 6.83 + 0.009SD + .000082PAT + 0.143EPS - 0.0074RR + 0.106ROE$

S.E   (0.22)   (0.003)   (.0000247)   (0.00492)   (0.008)   (0.145)

Results of both the models show that Stock Dividend, Earnings per Share, Return on Equity and Profit after Tax have positive effect on Price Volatility while Retention Ratio has negative effect on Price Volatility but this relationship is significant in case of Stock Dividend, Earnings per Share and Profit after Tax. These results are similar to the results of regression analysis. These results further indicate that overall regression model is significant in case of Fixed and Random Effect models.

Table 5.5: Fixed Effect Model

Dependent Variable: PV

Sample: 2001 2010

Periods included: 10

Cross-sections included: 131

Total panel (balanced) observations: 1310

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	6.894306	0.140264	49.15252	0.0000

SD	0.009265	0.003073	3.015400	0.0026
PAT	8.20E-05	2.52E-05	3.254046	0.0012
EPS	0.137419	0.005026	27.34315	0.0000
RR	-0.009551	0.007782	-1.227412	0.2199
ROE	0.028788	0.148223	0.194220	0.8460

Effects Specification

R-squared	0.581091	Mean dependent var	8.539924
Adjusted R-squared	0.529311	S.D. dependent var	6.381195
S.E. of regression	4.377930	Akaike info criterion	5.895097
Sum squared resid	22328.71	Schwarz criterion	6.468210
Log likelihood	3716.289	Hannan -Quinn criter.	6.110049
F-statistic	11.22245	Durbin Watson stat	2.139116
Prob(F-statistic)	0.000000		

Table 5.6: Random Effect Model

Dependent Variable: PV

Sample: 2001 2010

Periods included: 10

Cross-sections included: 131

Total panel (balanced) observations: 1310

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	6.825888	0.218110	31.29566	0.0000
SD	0.009797	0.003021	3.242568	0.0012
PAT	8.22E-05	2.47E-05	3.332289	0.0009

EPS	0.143062	0.004916	29.10201	0.0000
RR	-0.007387	0.007553	-0.977943	0.3283
ROE	0.106256	0.145108	0.732252	0.4641

Effects Specification

R-squared	0.417159	Mean dependent var	5.032500
Adjusted R-squared	0.414925	S.D. dependent var	5.764599
S.E. of regression	4.409355	Sum squared resid	25352.90
F-statistic	186.6636	Durbin-Watson stat	1.879886
Prob(F-statistic)	0.000000		

6. Conclusions

This paper is aimed to explain the effect of Dividend Policy on the Stock Prices by taking a sample of 131 companies listed at Karachi Stock Exchange for the period of 2001- 2010. The following are the conclusions related to this study:

1. Overall model is significant.

2. Stock Dividend, Profit after Tax, Earnings per Share and Return on Equity has positive effect on Stock Prices.

3. Retention Ratio has negative effect on Stock Prices.

4. Results of Fixed and Random Effect Models also support these results.

5. Overall results of study indicate that Dividend Policy has significant positive effect on Stock Prices.

References

Adefila, J. J., Oladipo, J. A., & Adeoti, J. O. (2004). The Effect of Dividend Policy on the

    Market Price of Shares in Nigeria: Case Study of Fifteen Quoted Companies.

    International Journal of Accounting. University of Ado-Ekiti , 2 (1).

Adesola, W. A., & Okwong, A. E. (2009). An Emparical Study of Dividend Policy of Quoted

    Companies in Nigeria. *Global Journal of Social Sciences , 8* (1), 85-101.

Afza, T., & Mirza, H. H. (2010). Ownership Structure and Cash Flows As Determinants of

    Corporate. *International Business Research , 3* (3), 210-221.

Ahmed, H., & Javid, A. (2009). Dynamics and Determinants of Dividend Policy in Pakistan

    (Evidence from Karachi Stock Exchange Non Financial Firms). *International Journal of

    Finance and Economics* (25), 148-171.

Akbar, M., & Baig, H. H. (Summer 2010). Reaction of Stock Prices to Dividend Announcements

    and Market Efficiency in Pakistan. *The Lahore Journal of Economics , 15* (1), 103-125.

Ali, M. B., & Chowdhury, T. A. (2010). Effect of Dividend on Stock Price in Emerging Stock

    Market: A Study on the Listed Private Commercial Banks in DSE. *International Journal

    of Economics and Finance , 2* (4), 52-64.

Al-Kuwari, D. (2010). To Pay or Not to Pay: Using Emerging Panel Data to Identify Factors

    Influencing Corporate Dividend Payout Decisions. *International Research Journal of

    Finance and Economics* (42), 19-36.

Allen, D. E., & Rachim, V. S. (1996). Dividend Policy and Stock Price Volatility: Australian

    Evidence. *Applied Financial Economics , 6* (2), 175-188.

Asghar, M., Shah, S. Z., Hamid, K., & Suleman, M. T. (2011, March 26). *Impact of Dividend

    Policy on Stock Price Risk: Empirical Evidence from Equity Market of Pakistan.*

    Retrieved from http://ssrn.com/abstract=1795963.

Baskin, J. (1989). Dividend Policy and the Volatility of Common Stock. *Journal of Portfolio Management , 3* (15), 19-25.

Black, F., & Scholes, M. (1974). The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns. *Journal of Financial Economics , 1* (1), 1-22.

Booth, L., & Cleary, W. S. (2010). Dividend Policy. In *Introduction to Corporate Finance* (Canadian Edition ed., Vol. second Edition). John Wiley & Sons.

Chen, D.-H., Huang, H.-H. L., & Cheng, T. (2009). The Announcement Effect of Cash Dividend Changes on Share Prices: An Empirical Analysis of China. *The Chinese Economy , 42* (1), 62-85.

Davis, J. S. (1917). *Essays in the Earlier History of American Corporations* (Vols. 1-2). Cambridge: MA: Harvard University Press.

Fama, E., & French, K. (1988). Dividend Yields and Expected Stock Returns. *Journal of Financial Economics* (22), 3-25.

Gorden, M. J. (1963). Optimal Investment and Financing Policy. *The Journal of Finance , 18* (2), 264-272.

Ho, H. (2002). Dividend policies in Australia and Japan. *International Advances in Economics , 2* (9), 91-100.

Hussainey, K., Mgbame, C. O., & Chijoke-Mgbame, A. M. (2011). Dividend Policy and Share Price Volatility: UK Evidence. *Journal of Risk Finance , 12* (1), 57 - 68.

Ling, F. S., Mutalip, M. L., Shahrin, A. R., & Othman, M. S. (2008). Dividend Policy: Evidence From Public Listed Companies in Malaysia. *International Review of Business Research Papers , 4* (4), 208-222.

Lintner, J. (1956). Distribution of Incomes of Corporations Among Dividends, Retained

Earnings, and Taxes. *American Economic Review* (46), 97-113.

Liu, S., & Hu, Y. (2005). Empirical Analysis of Cash Dividend Payment in Chinese Listed

Companies. *Nature and Science , 1* (3), 65-70.

Miller, M. H., & Modigliani, F. (1961). Dividend Policy, Growth and Valuation of shares.

Journal of Business , 4 (34), 411-433.

Naeem, S., & Nasr, M. (2007). Dividend Policy Of Pakistani Firms :Trends and Determinants.

International Review of Business Research Papers , 3 (3), 242-254.

Nazir, M. S., Nawaz, M. M., Anwar, W., & Ahmed, F. (2010). Determinants of Stock Price

Volatility in Karachi Stock Exchange: The Mediating Role of Corporate Dividend Policy.

International Research Journal of Finance and Economics (55), 100-107.

Nishat, M., & Irfan, C. M. (2003). Dividend Policy and Stock Price Volatility in Pakistan. *11th

Pacific Basin Finance, Economics and Accounting Conference.*

Pani, U. (2008, August 11). *Dividend Policy and Stock Price Behaviour in Indian Corporate

Sector: A panel data approach.* Retrieved from Indian Institute of Technology:

http://ssrn.com/abstract=1216171

Parkinson, M. (1980). The Extreme Value Method for Estimating the Variance of the Rate of

Return. *Journal of Business , 1* (53), 61–65.

Pradhan, R. S. (2003). Effects of Dividends on Common Stock Prices: The Nepalese Evidence.

Research in Nepalese Finance. , 1-13.

Raballe, J., & Hedensted, J. S. (2008, April 12). *Dividend Determinants in Denmark.* Retrieved

from http://papers.ssrn.com

Rashid, A., & Rahman, A. Z. (2009). Dividend Policy and Stock Price Volatility: Evidence from

Bangladesh. *Journal of Applied Business and Economics* , 71-81.

Travlos, N., Trigeorgis, L., & Vafeas, N. (2001). Shareholder Wealth Effects of Dividend Policy

Changes in an Emerging Stock Market: The Case of Cyprus. *Multinational Finance*

Journal , 5 (2), 87-112.