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IMPACT OF DIVIDEND POLICY ON MARKET PRICES OF SHARES: EVIDENCE FROM PAKISTAN

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ABSTRACT

This research intends to observe the impact of dividend policy on market prices of firms' stocks of the non-financial sectors of Pakistan during the time period from 2006 to 2015, after controlling some other variables. Data is taken from sixty seven non-financial firms listed in KSE (PSX). The outcome of fixed effect Regression model exposed that there is the significant negative impact of dividend yield and significant positive impact of dividend payout on stocks market prices. The result of control variables showed that growth in assets, growth in earnings, growth in sales and size have a significant positive impact on stock market prices while liquidity, leverage and profit after tax have no significant impact on stock market prices during our study period. Therefore, all outcomes of this research signify that the dividend policy has a significant impact on market prices of stocks in Pakistan.

Keywords: *Dividend Policy, Stock Prices, Karachi Stock Exchange, Non-Financial Firms*

INTRODUCTION

Management science is different from the natural science in the sense that it has multiple views on particular subject or point because individual judgments, perceptions, and observations vary from one person to another. Dividend policy is one of the topics which is much debated for many decades, but some circumstances and facts have entangled the topic. Black (1976), argued that dividend policy is like a puzzle with pieces that don't fit together, the more we look into it more we get confused (Brealey & Myers, 2003). Describe that dividend policy is top ten difficult unsolved issues of financial economics. When companies earn a profit, they have two options, either to pay the dividend or to retain the amount for their future project needs. Now the puzzle is, whether to pay the dividend or

not? If yes, then how much dividend is to be paid? Companies pay a dividend for the purpose to satisfy the shareholders, but at the same time, they have to borrow money from outside to fulfill their future projects' needs. Dividend policy also has a severe impact on other decisions like investment and financing, so the optimum dividend policy will expand the abundance of shareholders who are keen to get dividend and capital gain at the same time.

The choice to pay the dividend is also affected by the accessibility of profit in the organization and the capacity of the organization to gain extra income later. Lintner (1956), and Gordon (1959), believed that shareholder prefer immediate gain (dividend) as compare to future gain or capital gain (increase in the prices of shares) to minimize the risk, because one thing which is received immediately would be better than the two things received in future. Contrary to this, dividend irrelevance theory was given by Miller & Modigliani in 1961. Theory of MM present that firms' dividend has no significant effect on its' share prices, but it depends on its riskless investment and future earning capacity. Much work has been done on this topic, but in the absence of consistent results, it opens the door for future researchers, especially in country like Pakistan, where limited research is available on corporate dividend policy arises a need for further research on the subject matter. Developing economy like Pakistan has different nature, characteristics, and efficiency as compared to other developed nations.

PROBLEM STATEMENT

Firms of non-financial sectors of Pakistan are confronted with the issue of whether to pay a significant, little or zero rate of their earning as a dividend or retain their earning for future financing ventures. This issue is persistant, because financial managers also want to fulfill the needs of shareholders to satisfy them. As we know that shareholders are the part owners of the company, so it is crucial for managers to take such steps which satisfy the shareholders. Some shareholders need money on a continuous basis, so they prefer a dividend; while others are interested in following payments and would favor capital gain. Because of the reality of dealing with contending interests of different shareholders and the sort of dividend policies, companies embrace either immediate positive or negative consequences for the share prices of the organizations. Consequently, managers are not able to conjecture with assurance at what degree the strategy will influence the share prices of the organizations.

This study would help the managers of the firms of non-financial sectors of Pakistan to formulate their policies regarding dividend issuance.

RESEARCH OBJECTIVES

There are numerous reasons to study dividend policy in Pakistan. Much work has been done so far around the world, but the theoretical work is done in Pakistan regarding dividend policy is unsubstantial, thus, consequently need arises of a comprehensive evaluation of the impact of dividend policy on the share prices in Pakistan. According to Federal Board of Revenue (FBR), up to 2010, there was tax immunity on capital gain in Pakistan, even though firms announced a dividend. So the question arises why they announced dividend if there was tax immunity on the capital gain. This invites us to investigate further on dividend policy in Pakistan's perspective. Most of the firms of these sectors continuously announce a dividend, so it is to investigate the factors which influence these sectors to announce dividend continuously. This research intends to observe the impact of dividend policy, dividend payout and dividend yield, on market price of shares of the non-financial firms during 2006 to 2015. The impact is examined after controlling some variables such as growth in assets, growth in earning, growth in sales, leverage, liquidity, profit after tax, and the size of the firm.

In the perspective of this study, the following research questions are formulated:

Q1: Is there any significant association between the market price of shares and dividend yield?

Q2: Is there any significant association between the market price of shares and dividend payout?

LITERATURE REVIEW

In past, many studies have been conducted in corporate finance literature to explain the positive, negative or no relation between dividend policy and stock prices. In this section, we would discuss reasonable evidence conducted by the researchers across the world.

Dividend Irrelevance Theory

In 1961 the new debate started after MM theory. A new perspective was presented regarding dividend policy which assets that the stock price of the company does not depend on its dividend announcements, but it only

depends upon its earning ability and future activities. According to the theory, under certain conditions, a shareholder can make their dividend policy by purchasing and selling shares.

Bird in Hand Theory

Gordon (1963), and Lintner (1964), proposed a theory which has an opposite perspective of Miller and Modigliani irrelevance theory. They have a view that shareholder would prefer dividend payments as compared to capital gain.

Tax Preference Theory

This theory was given by Litzenberger and Ramaswamy, (1979), in which they viewed that investors would like those firms who pay lower dividends which is due to tax evasion purpose. It is evident that when companies earn profit it has two options, whether to announce a dividend or retain this amount for future investments. When companies pay dividends, the shareholders in return have to pay taxes at two levels, first at the dividend income level and second in the shape of income tax. In this theory, the researchers assumed that investor prefer those companies which have low payouts in the shape of the dividends because in dividend share the investors have to pay taxes twicw. When investors receive the benefit of profit in the shape of capital gain they pay less tax. Additionally, taxes on capital gain are not paid until shares have been sold by the investors. In this sense, an investor can control the taxes paid on capital gain but cannot control taxes paid on dividends.

Agency Theory

This theory state that if the managers want to please the shareholders, they should pay high dividend payouts to minimize the agency problem, otherwise shareholders may think that their money may be wasted on unnecessary project and compensation for the management.

Clientele Effect Theory

According to this theory a company should make such dividend policies which may attract maximum investor (clientele). The theory postulates that the company stock prices change according to the demand and goals of the investors, in a reaction to company's dividend policies, tax policies or any other related policies. This theory thus assumes that shareholders are attracted towards the company policy and make the investments accordingly. When a company changes their policy, shareholder also

changes its stock, and hold stock which would satisfy their needs. As a result of these changes, the stock price fluctuates in the market.

Dividend Signaling Theory

Management of organization has more information about company policy and future performance of the company as compared to the investors and other market players. This creates the problem of information asymmetry. Through dividend payouts, the organization may send positive signals to the shareholders, and market assumes that the firm is performing well, because it's obvious that dividends are paid out from profits earned. Therefore, more payouts mean more positive signals and less or no signals generate negative signals towards the firm performance.

Catering Theory of Dividend

This theory was given by Baker & Wurgler in 2004, which emphasis to meet the requirement of investor dividends. This theory states that Companies' stock prices would increase with the dividend requirement of the investor. According to this theory, the manager would announce dividend if they see investor is paying the high price of shares to dividend-paying companies and if not, then they may not pay the dividends.

Transaction Cost Theory

When companies pay a low dividend or no dividend, then shareholders have two options, whether to sell their stock to satisfy their money requirements or hold it for next periodic dividend. When shareholders go to sell their stocks in the market, they must pay a transaction cost, which makes the selling of stock more expensive, thus the income from capital gain cannot fully replaced by the dividend income. Therefore, the shareholders want a higher payout of the dividend to reduce transactional cost which arises from capital gains (Alli, Khan, & Ramirez, 1993).

Life Cycle Theory of Dividend

This theory was established by DeAngelo, DeAngelo, and Stulz in 2006. The theory stated that the firm's decision to pay or not to pay a dividend depends on different life cycles of the firm. According to the theory young and, growing firms pay no dividend whereas old and stable firms pay a significant portion of the retained earnings as a dividend. It means that older the and stable the firm is, more it pays the dividend.

Impact of Dividend Policy on Stock Returns

To analyze the data of 198 banks were taken by Mukherjee & Austin (1980). Their results reveal that dividend policy was not affected by bank size during their research tenure. Their result also revealed that except dividend payout all other factors affect share prices. In another study, data of 160 Pakistani companies were taken by Nishat and Irfan (2004). A significant positive relation was identified between dividend policy and share prices (Nishat & Irfan, 2004). They also found that some control variables like size of the firm and leverage have a strong and positive effect on overall stock prices.

Data of 500 Indians' firms were taken by Pani (2008). Their results presented that stock prices were significantly affected by the dividend retention ratio; size and debt to equity ratio. In another study, data of 73 firms were taken by Nazir, Abdullah and Nawaz (2012). A strong relation was proved between dividend policy and prices of stock in Pakistan by the researchers. Data of United kingdom firms were taken by Hussainey, Oscar Mgbame, and Chijoke-Mgbame in 2011. A positive result was identified between dividend payout and dividend yield whereas, a negative result was identified between dividend payout and stock prices in their study. Their results also proved that stock prices were also affected by firm size, earning and debt ratio. Asghar, Shah, Hamid, and Suleman (2011), studied on five sectors. Their findings disclosed that stock price and firm size are significantly and positively affected by dividend payout and yield. Data of 29 firms were taken by Khan (2012), from 2001 to 2010. Results of the study revealed that the dividend, EPS, and PAT had a positive impact on share prices, whereas RR and ROE had negative insignificance impact on stock prices. Data of Zimbabwe's firms were taken by Jakata and Nyamugure (2012), their results revealed that there is no significant change in share price due to dividend announcement and the earnings per share also had no impact on stock prices. Thus , their findings support dividend irrelevance theory. Data of Kenyan firms were taken by Kenyoru, Kundu, and Kibiwott (2013). Their results showed that there was a substantial relation of stock price volatility and dividend policy in Kenya. Furthermore, data of 17 banks were taken by Nazir, Ali, and Sabir (2014). Their research outcomes confirmed that there was a definite relationship between stock prices and dividend policy in Pakistan. Their findings also revealed that there was a negative relationship between dividend payout and share prices. Moreover, there was a positive relation

between asset growth, and stock prices and no significant effect was identified between earning, leverage, and size with share price volatility. Data of 11 firms was taken by Abrar-ul-haq, Akram, and Imdad Ullah in 2015. According to their research no significant impact of dividend announcement on share prices in Pakistan was found. Further, Data of 45 non-financial firms were taken by Adnan, Jan, and Sharif in 2015. Their research findings showed that share price was positively affected by dividend payout ratio which supports bird in hand theory and rejects the dividend irrelevance theory in case of Pakistan. They further revealed that the share price is insignificantly affected by profit after tax, retention ratio, and dividend per share, whereas, positively affected by Earning per share and negatively affected by return on equity. In another study, data of 50 firms were taken by Shah and Noreen in 2016. Their findings reveal that there was significant negative association of stock price volatility and dividend policy, whereas stock price volatility was positively affected by asset growth and Earnings per share.

RESEARCH METHODOLOGY

A sample of 67 non-financial firms of 6 sectors is taken from Karachi Stock Exchange for the period of ten years from 2006 to 2015. Only those firms were selected which at least paid three dividend payments during the research period. State bank of Pakistan divide the non-financial firms into 14 sectors out of which six sectors were selected for this study. As per our observation, these six sectors cover almost 87.5 percent of average dividend amount paid during the study period. Selected sectors of this study are: 1) fuel and energy sector, 2) oil and refined petroleum products, 3) chemicals, chemical products, and Pharmaceuticals, 4) Other food products, 5) Information, Comm. and Transport Services, 6) Motor Vehicles, Trailers & Auto parts. Data is secondary in nature, which has been collected from the FSA of (non-financial) firms listed in KSE by the State Bank of Pakistan from 2006 to 2015. Market prices of shares have been collected from KSE website. As a result, our sample consists of 67 cross sections balanced panel for ten years with 670 observations. To observe the association between dependent and independent variables, multiple regression analysis was used. Cross-section Fixed effect model or cross-sectional random effect model was employed after Hausman test result. Unit root test, F statistics, descriptive statistics, Pearson correlation and Granger Causality Test, is also used to analyze the data.

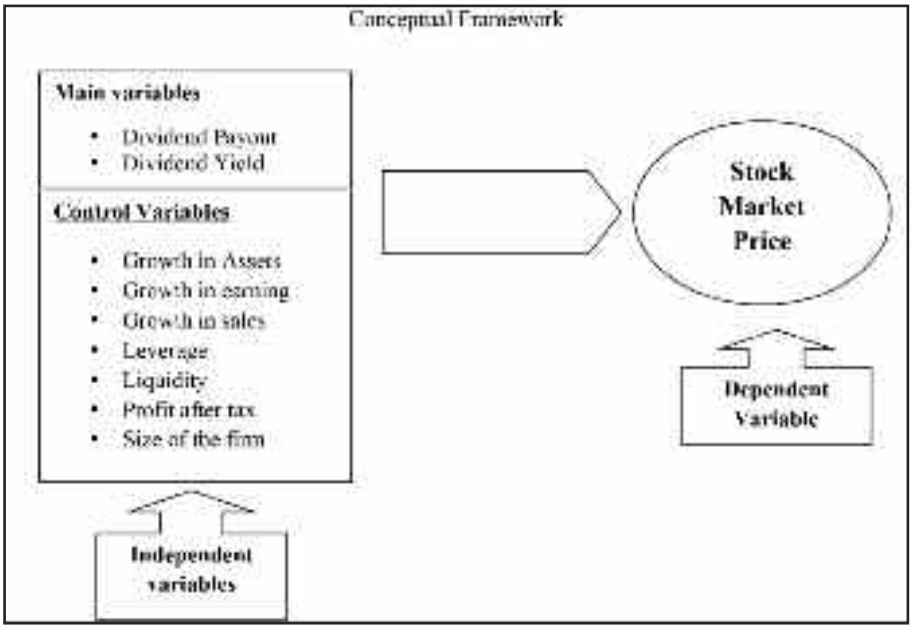
Econometric Model

To answer our primary research questions, regression model is developed as follows.

SMP = a1 + b 1D_Yj + b 2D_Pj +ej (1)

But as here are some other control variables which may impact both stock market price as well as dividend policy, so the regression model modified as:

SMP = a1 + b1D_Yj + b2D_Pj + b3G_Aj + b4G_Ej + b5G_Sj + b6Lj + b7LIQj + b8PATj + b9SZj + ej (2)



Measurement of Variables

Stock Market Price. Previous studies have taken stock price volatility as the dependent variable, but this study has taken stock market price as the dependent variable. Masum (2014), also took stock market price as the dependent variable. This is calculated by taking an average of annual opening price and the closing price of the stock, and after taking its log 10.

Dividend Yield. Dividend yield is the primary independent variable of study. This variable is calculated by the total paid amount of cash dividend divided by the average market price of the shares.

Dividend Payout. Dividend payout is one of the two primary variables of

this study. This could be obtained by dividing dividends per share to earnings per share.

Growth in Assets. Growth in sales is also a control variable of this study, which is the ratio of total assets ending to total assets beginning.

Growth in Earnings. Growth in Earnings: Growth in earning as a control variable, is the ratio of net profit after tax of current year to shareholders equity.

Growth in Sales. Growth in sales is a control variable, and is calculated by current sales minus previous sales then divided by previous sales.

Leverage. This control variable is obtained by dividing debt (long-term plus short-term liabilities) to owners' equity.

Liquidity. Liquidity is calculated by taking the ratio of current assets to current liabilities.

Profit after Tax. The profit after tax as a control variable is calculated by taking net profit of current year minus taxes for the year.

Size of the Firm. Size of the firm is calculated by total ordinary shares multiplied by the average market price of the stock and then taking its log10.

RESULTS AND DISCUSSION

The data analysis signifies that the SMP, G_A, PAT and S have mean value of (2.11), (1.14), (5.45), (6.82) with standard deviation of (0.57), (0.35), (1.62), (0.84) respectively. Which means that SMP, G_A, PAT, S remained low volatile during the period while D_P, D_Y, G_E, G_S, L, and LIQ remained highly volatile during the research period. Liquidity is recorded as a highest volatile variable of the study.

Table 1. Descriptive Statistics

	D_P	D_Y	G_A	G_E	G_S	L	LIQ	PAT	S	SMP
Mean	0.49	0.05	1.14	0.20	0.22	1.83	2.40	5.45	6.82	2.11
Median	0.34	0.04	1.11	0.18	0.12	1.04	1.51	5.73	6.88	2.10
Max:	10.17	0.94	5.94	3.75	36.11	58.26	138.52	8.08	9.45	4.01
Min:	-6.55	-0.14	-0.23	-2.60	-0.98	0.01	0.22	0.00	4.84	0.55
Std. Dev:	0.91	0.06	0.35	0.32	1.53	3.94	7.16	1.62	0.84	0.57
Sum	325.60	34.16	759.34	135.53	147.48	1219.98	1602.03	3641.28	4555.06	1409.58
Sum Sq. Dev.	548.30	2.37	80.96	68.18	1551.77	10366.19	34186.42	1750.39	472.29	213.84

Before conducting the regression analysis, the stationary of the variables is scrutinized. To evaluate the stationary of the variables, unit root test is conducted. For this reason, two methods of unit root test are used, i.e., Levin, Lin, and Chu test (for the standard unit root) and Philips – Prawn Fisher test (for cross-section unit root).

The results of table 2 & 3 of unit root tests show that the probability of all variables is 0.00 which is less than 0.05. It means that all variables are stationary and could be used for further analysis.

Table 2. Unit Root Test Summary

Variables	Method	Statistics	Probability
Stock Market Price	Levin, Lin, and Chu test	-11.52	0.00
Dividend Yield		-40.28	0.00
Dividend Payout		-70.63	0.00
Growth in Assets		-24.31	0.00
Growth in Earnings		-44.84	0.00
Growth in Sales		-25.28	0.00
Leverage		-9.63	0.00
Liquidity		-6.58	0.00
Net Profit after Tax		-19.08	0.00
Size of the firm		-16.20	0.00

Table 3. Unit Root Test Summary

Variables	Method	Statistics	Probability
Stock Market Price	PP - Fisher	208.87	0.00
Dividend Yield		236.59	0.00
Dividend Payout		307.16	0.00
Growth in Assets		525.23	0.00
Growth in Earnings		231.31	0.00
Growth in Sales		459.35	0.00
Leverage		195.92	0.00
Liquidity		198.05	0.00
Net Profit after Tax		476.86	0.00
Size of the firm		295.69	0.00

In addition, F statistics test are conducted to see if the independent variables jointly affect the dependent variable. The result of the table no 5 showed that the probability of F-statistics is 0.00 which is less than 0.05 % which indicates that the independent and control variables have joint impact on the dependent variable.

Table 5. F-Statistics Test

F-Statistics	163.75
Prob (F-statistics)	0.00

Furthermore, the Hausman test is used to find best fit model for the study among the fixed effect or Random effect. The guideline for Hausman test directs that if probability value is less than 0.05 it means that cross-sectional fixed effect model is fit but if probability value is higher than 0.05 than cross-sectional random effect model is suitable for the study. According to Table 6 the probability value of Hausman test is 0.00, which means that cross-sectional fixed effect model is better for the study analysis.

Table 6. Random Effects-Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	48.44	9	0.00

Table 7 shows the result of multiple regression analysis of fixed effect model. The R Square value revealed that 95.4 % of the stock market price variation could be explained by the model. The Durbin-Watson value is 2.24, which show that the errors are not correlated. Since the p values of Dividend Payout and Dividend Yield is less than 0.05, it indicates that dividend policy has a significant effect on stock market price in Pakistan. T- Statistics show that the Dividend Payout has positive, while the dividend yield has a negative impact on stock market price. Growth in Assets, growth in earnings, growth in sales and size have a significant positive impact on stock market prices, while the Leverage, Liquidity, and profit after tax have no impact on stock market prices.

Table 7. Result of cross-sectional fixed effect model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.5839	0.1289	-20.0428	0.0000
D_P	0.0271	0.0072	3.7742	0.0002
D_Y	-0.5904	0.1194	-4.9451	0.0000
G_A	0.0720	0.0196	3.6665	0.0003
G_E	0.1045	0.0255	4.0999	0.0000
G_S	0.0164	0.0042	3.9367	0.0001
L	0.0012	0.0018	0.6341	0.5263
LIQ	0.0000	0.0008	0.0196	0.9844
PAT	0.0045	0.0053	0.8490	0.3962
S	0.6796	0.0185	36.6501	0.0000

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.9540	**Mean dependent var:**	2.1102
Adjusted R-squared	0.9482	**S.D. dependent var**	0.5662
S.E. of regression	0.1289	**Akaike info criterion**	-1.1530
Sum squared resid	9.8339	**Schwarz criterion**	-0.6406
Log-likelihood	461.1106	**Hannan-Quinn criteria.**	-0.9545
F-statistic	163.7494	**Durbin-Watson stat**	2.2428
Prob(F-statistic)	0.0000		

To analyze the short-term impact of primary independent variables of dividend policy on stock market price, a pair-wise Granger causality test was carried out. Table 8 indicates the short-term relationship between stock market price and dividend yield. Since the p-values of the first direction are greater than 0.05 but p-value of the second direction is less than 0.05 which means that dividend yield has a short-term impact on stock market price but the stock market does not have a short-term impact on dividend yield.

Table 8. Granger causality test between stock market price and dividend yield

Null Hypothesis:	F-Statistic	Prob.
SMP does not Granger Cause D_Y	12.9380	3.00E-06
D_Y does not Granger Cause SMP	8.97814	0.0001

Table 9 shows the short-term relationship between stock market price and dividend payout. According to the result of Granger causality test, the P value of both directions is less than 0.05, which means that stock market price has a short-term positive impact on dividend payout, while dividend payout also has a short-term positive impact on stock market price.

Table 9. Granger causality test between stock market price and dividend payout

Null Hypothesis:	F-Statistic	Prob.
SMP does not Granger Cause D_P	5.90485	0.0029
D_P does not Granger Cause SMP	7.78877	0.0005

CONCLUSION

This research intends to observe the impact of dividend policy on market prices of stocks. For this, nine questions including two primary and seven secondary questions were developed. Firstly, two primary questions were related to the relationship of dividend policy and stock market price, and other seven questions were related to the relationship of control variables with the stock market prices. After the empirical result findings, it is concluded that two proxies of dividend policy (dividend

yield and dividend payout) have a significant impact on stock market prices in Pakistan during the study period. Granger Causality test between stock market price and dividend policy was also conducted, which indicated that proxies of dividend policy (dividend payout, dividend yield) have also short-term impact on stock market price. The results of control variables demonstrated that growth in assets, growth in earnings, growth in sales and size of the firms have a significant positive impact on stock market price while liquidity, leverage, profit after tax have no significant impact on stock market prices.

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