

Impact of Dividend Policy on Stock Price Volatility: A Case Study of Pakistani Capital Market

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Abstract

This research is carried out with an objective to find out impact of dividend policy on share price volatility focusing on one of the financial industry of Pakistani capital market i.e. the commercial banks. Dividends are part of the firm's earnings which is distributed among the stockholders. Numerous studies and literature is available from the various financial and non-financial sectors that how stock price and stock market reacts in response to decision taken by the management with relation to dividend payments. Lot of studies has been conducted from the perspective of developed countries but very little work has been done from the south Asian's countries perspective like Pakistan. Current study analysis uses LSDVM, PRM, FEM and REM techniques to determine the significant impact of dividend and related variables like earning per share on the stock market valuation of various commercial banking firms. In this study a sample of 17 banks has been selected which are listed in Karachi stock exchange (KSE). Various variables which can possibility impact the stock market evaluation are taken covering a time span from the year 2007 to 2012. Contemporary analysis explains that stock price volatility of the banks has been determined by dividend and other related factors. Panel data model analysis suggests that there is a significant positive relationship between the stock price variation and set of variables explained specifically in the chapter titled as "Results and Findings". A variety of factors were observed that could be regarded as elements while making a plan in stock price instability and increasing financial outcomes. The impact of current study analysis can be viewed from its role in order to fill the gap in the theoretical framework. Current results can be incorporated to the unoccupied literature field and can help to make available as a foundational tip on which studies in future would be carrying out.

Keywords: Dividend Policy, Stock Price Volatility, Financial Sector, KSE.

Introduction

From the corporate finance point of view, dividend decision of the company is to be considered as the key issue with which the management has to deal with analytically. Various earlier researchers have done very extensive work on this topic and it is under immense intention for the last two decades. Dividend is referring to as that part of net earnings after tax (NEAT) which is distributed among the shareholders or to its members. Almost every business organization round the globe has to pay dividend as a fixed amount or percentage of per share value. Numerous previous literature have supported this argument but most of the available material and empirical evidence is related to the stock market of advanced and developed states like USA, UK. Some studies from these countries are evidenced by (Dhanani, 2005); Lintner (1956); (Lonie, Abeyratna, Power, & Sinclair, 1996; Pettit, 1972). Very little work has been done with regards to developing countries which are growing and have emerging stock markets like Pakistan, India and Bangladesh. For creating some sort of balance in the previous as well the present research study in developed and developing countries, this study will contribute enough in the theoretical frame work in country like Pakistan.

It is the prime obligation of the financial manager to thoroughly investigate and examine the relevant tax structure, agency related cost and issues, various business transaction cost and claim of the lenders with the main objective of how set of these issues will effect on the stock price. There is a significant gap in the dividend pattern of the firms both in the developed and emerging markets. The neighboring country like India is an emerging market where the studies have shown that there is a gap of dividend policy from the developed market point of view. There are many reason which can be explained as the core reason for the success or failure of the firm but among the several most important are the corporate management style, firms culture, diversification in the human resource, capital structure, dividend payment under the strict corporate tax rates, technological achievements and the political stability in the market where the firm is doing its activities (Kostyuk, 2006).

Because of signaling effects of dividends, reduction in share prices occurs. The theoretical mechanisms that cause dividend yield and dividend payout ratios to differ inversely with share price volatility are; duration effect, rate of return effect, arbitrage pricing effect and information effect. The significance of the underlying study will be to investigate the role of dividend policy; dividend yield and payout ratio on stock price volatility in the short and long run. Some of the determinants of dividend policy also affect dividend policy, such as payout ratio, long term debt, size, growth etc. The relationship of dividend policy with these determinants will also be investigated. This study will be diverse from prior studies in the manner that it will attempt to explore the effects of dividend

policy on share prices of Pakistani companies listed on Karachi Stock Exchange in financial & banking sector only. Karachi Stock Exchange (KSE) is an important emerging market of the region among the developing countries. KSE is termed as high-risk high return market where investors seek high-risk premium (Irfan, Nishat, & Sharif, 2002).

Research Questions

In the context of present study, the following research questions will be asked;

1. Primary Research Question

1. What is relationship between dividend policy and prices of share?

2. Secondary Research Questions

2. What is the relationship between dividend payout ratio and stock price of the shares?
3. What is the relationship between earnings per share and stock price of shares?

Objectives of Study

The objectives of this study will be;

1. To explore the possible link between dividend policy (dividend per share & dividend payout ratio) and the behavior of ordinary share price of companies listed in Karachi Stock Exchange in commercial banking sector.
2. To explore relation between prices of shares and the investor behavior due to dividend rates at KSE.
3. To determine the relationship between risk and prices of shares in KSE.

Significance of Study

In view of practitioners, this study will be helpful in more understanding of dividend policy and share price volatility within the context of Pakistan. Deep study on banking sector using Karachi Stock Exchange (KSE), will be fruitful for practitioners in order to have knowledge about the dividend policy of banking sectors.

On the other side of the picture, academia will also find it supportive in having awareness about the relation of dividend policy and volatility in share prices. They will also get to know about the determinants and various theories of dividend policy; named dividend irrelevance theory, signaling theory, bird-in-hand theory, Clientele effects of Dividends theories. In real terms, this study will be more useful for academia, as they are still not in the practical field and have only basic knowledge about the present subject. Thus, they will find it more informative to get awareness in the depth about the current topic.

Dividend Theories

People think that pay-out policy can affect the firm stock price over a longer period of time. This problem is not yet cleared from the previous research and literature frame work that whether any negativity exist between the share market price and dividend pay-out policy. A lot of data of various firms has been tested by the researchers (Beim & Calomiris, 2001) shared the idea that problem solution ratio in finance is 1/10.

The Transaction Cost Theory

Business organization has to deal with its long term financing needs from both external and internal sources in order to operate and compete within the competitive market environment. But here the basic challenge for the firm is to raise funds through external sources for financing its capital budgeting needs. Bhattacharya (1979) has stated that it is basically the transaction cost which is incurred in order to return outside financing for long term financing needs and this cost is so called the financing cost.

Tax Theories

The second but the significant factor of cost which is related to dividend policy is the tax. The major assumption underlying the tax theory is that organization has to consider the distribution of dividend and the return in the hands of ultimate owners is the key element regarding the tax imposition on both of conditions. Here the management of the firm has to deal more precisely with the corporate earnings, reserve and capital gains on which it has to pay the certain taxes.

The Bird in the Hand Argument

Traditional approach regarding the dividend is like the idea that dividends payments by the business organization can eliminate the element or risk or uncertainty in the flow of the cash because dividend payments can bring shareholders inflow of cash forward as narrated by (Manos, 2001). The main theme of this bird in the hand argument is that by selling out their part of dividend holdings, stockholders of the business organization can create their own part of dividend. The whole process require some of trading cost which can be saved by taking the decision for making payment itself by the firm. A firm by paying dividend to its shareholders can reduce the risk linked with the flow of cash in near coming future. This notion has been further explained by (Gordon, 1959).

The Signaling Theory

In good turn of the dividend relevancy theories another argument in favor of its premise is the signaling theory which is based on the irregularities of the data and various participants in the market and especially between the managers and various groups of key investors. This hypothesis is supported by (Miller & Rock, 1985). Under

this argument managers of the firms utilize the costly payments of dividend as a tool against the market and the available forces to indicate about the financial and monetary outcomes for its investors to the external market and the available key investors in it. The other underlying assumption is signaling theory of dividend is that it can elucidate the predilection for payment of dividend above the stock repurchase in spite of receiving tax rewards in some future date. Managers are typically in most of the business organization hesitate to decline the payment of dividend with its current level of compensation as narrated by (Lintner, 1956).

The Agency Theory of Dividend

The fundamental hypothesis is that directors may not unavoidably always act as to maximize shareholders' wealth which is the ultimate objective of the managers in every organization either working in the domestic or in global level. M. C. Jensen and Meckling (1976) has defined that the problematic issue is the leave-taking of possession and control which stretches rise to agency conflicts and problem. M. Jensen (1986) has stated that substantial payment of dividend strategy boosts the organization value over a longer period of time due to reason that it can be used to reduce the free cash flows in the pleasure of management and thus controls the over investment problem.

Alternative agency theory which is founded on the clarification of how dividends payments can contribute in increased value for the organization. Comparatively while the transaction cost theory of dividend proposes that dividend payments reduce value because they lead to the raising of costly outside finance, researchers have argued that it is basically the core procedure which diminishes agency problems for the firm in coming timer period and enhance its efficiency.

Review of literature:

Dividend policy is considered to be the decision regarding what portion of the dividend, in the form of cash, should be distributed to the shareholders respective of their shares. The notion has been narrated by various researchers. Notable among them are (Lonie et al., 1996; McCluskey, Burton, Power, & Sinclair, 2006; Pettit, 1972). According to (Gordon, 1959) the market place where the stock of the company has been traded plays vital role in determining the overall value of the firm because of considering the dividend payment not the amount of earnings which is reserved by the management in the business for some future needs. Maintaining the stable rate for the payment of dividend and to maintain this rate is key issue to address by the top level decision makers and this practice will continue only when the firm's management is quite satisfied for getting the stable earnings in return from the market over a longer period of time as narrated by (Lintner, 1956).

Many studies have been conducted in United States with developed stock markets such as the United States US, United Kingdom UK and in Ireland as recounted by (Dhanani, 2005); Lintner (1956); (Lonie et al., 1996; McCluskey et al., 2006; Pettit, 1972). On the other hand, little work had been completed in up-and-coming market countries such as Pakistan regarding underlying research work. Academics have put together various theories and experiential elucidation as to how and why a firm pays a bonus, even where dividend are taxed more a great deal than principal gains (T. Khan, 2006).

Various have explained the dividend policy and related matters with respect to unsolved puzzle and a picture with pieces that cannot be fit together while making the overall theme as narrated by (Black, 1998). Dividend payout ratio at a higher level of rate may compel business management to be more restraint in the use of the firm's possessions and related resources with and consequently augment firm value (M. Jensen, 1986).

Dividend policy may be used to help make sure that administrators take action in the best interest of corporation and key shareholders as well. Baker and Powell (1999) proposed a theory to give details that managers' conclusion to pay dividend or extra payment to shareholders is decided by shareholder and investor's demand order. Naeem and Nasr (2007) observed the key indicators and inclination of dividend policies. Their findings have revealed the fact that Pakistani companies are either unenthusiastic to pay dividends or disburse incredibly low amount as dividends and their recent dividend decisions depend on previous year dividends and Profitability and earnings Ratio also.

The study demeanor by H. Ahmed and Javid (2008) in which they analyzed the factors that settle on dividend policy in the financial system of Pakistan, showed that most of the Pakistani companionship decide their cash dividend payment on the basis of their current and preceding year earnings as well.

Volatility is considered as the variation or dispersion or deviation of an asset's returns from its mean. Considerable effort has gone towards understanding why aggregate stock prices are so volatile relative to corresponding discounted dividend streams. The instability of share price on the other hand is the systemic risk or undiversified risk faced by investors who have ordinary or common stock of the shares as a major part of their investment. The unpredictability of ordinary shares stock is to be calculating that is used to define risk or chance of uncertainty.

Signaling Hypothesis: Although (Miller & Modigliani, 1961) assume that the knowledge related to the firms current value and market worth have viable for both of the investors as well the key management of the business. But other than this has been argued against by many researchers as administration that looks after the corporation is inclined to have more accurate and timely in sequence about the firm than outside shareholder. (Pettit, 1972)

scrutinize that the amount of dividend or extra payment to the shareholders seem to carry great in sequence about the prediction of a firm. Miller and Rock (1985) recommended the idea that dividend declaration convey in sequence about the future prediction of the firms.

Based on the survey of S&P 500, Lonie et al. (1996) showed that 87 percent of dividend paying companies believed the usefulness of dividends to signal information regarding the company future earnings. The for the most part significant and vital financial and economic shock is the signaling effect of dividends take place from in sequence asymmetries in stuck between supervision and management with outer surface investors in the marketplace as well (Chandio, 2006). Survey evidence from (Brav, Graham, Harvey, & Michaely, 2005) reveals that managers view dividend signals as containing more information than share repurchases, and hence they are more concerned with dividends. To bridge the gap between management and investors, management uses dividend as a tool to convey private information to shareholders (Maykut & Morehouse, 2002).

Clientele/ customers/ clients effects of Dividends theories: under this approach the prime assumption is based on the idea that investors be inclined to have preference stocks of companies that satisfy a meticulous need. This is because shareholder countenance dissimilar tax handling for dividends and capital gains as compared to the corporation and business entity itself.

Dividend clientele effect suggested by Miller and Modigliani (1961) is a possible explanation for management reluctance to alter established payout ratios because such changes might cause current shareholders to incur unwanted transactions costs. Miller and Modigliani (1961) argue that for the purpose of minimizing the overall transaction and related cost to be minimized or to lower down, investors of the firms have a propensity towards business firms that would provide them those desired and related amount of benefits. According to Bell and Jenkinson (2002), companies with few most important investment prospect can boundary management's enticement to over invest through paying out a superior proportion of their earnings.

Besides the other factors some have argued the fact the tax structure and related compulsory payments to the Govt. both by the individuals and by the business organization have great impact on the investor's decision related to the dividend. In particular, if the rate or amount of tax on dividends earnings is more than the amount or rate of actual tax on capital gains: from the sale of shares of the company as narrated by (Bell & Jenkinson, 2002; Lasfer, 1995; Litzenberger & Ramaswamy, 1979, 1982; Poterba & Summers, 1984; S. A. Ross, Westerfield, & Jordan, 2008) the outcome will be like that the far above the ground disbursement of the dividend may be viewed unenthusiastically by those investor who will have improved as well as the better tax obligations to fulfill. (Mulyadi, Anwar, & Iqbal, 2012) has confirmed through their work that firms in their growth and expansion phase, which be inclined to pay lesser amount of the dividend and would catch the attention of customers that wish capital appreciation and positive reception, while on the other hand those business organizations in their maturity time period which pay elevated amount of earnings in the shape of dividends, magnetize patrons that necessitate instantaneous proceeds in the form of dividend payments.

Different researchers at different point in time have revealed the association between the share price volatility or instability of the various companies with relation to the dividend policy and related procedures. (Ali & Chowdhury, 2010). Pettit (1972) recognized that declaration of dividend earnings to the shareholders add to are go behind by significant value enlargement with a view that that announcements of extra payment to the stockholders in the form of dividend diminish are followed by important price go down. Black (1998) planned the significance outcomes of the dividend policy and pronouncement decision on stock assessment and explain that extra earnings to shareholders like the dividend policy does not have an effect on the stock prices of the business organization.

Michaely and Allen (2002) suggest that the connection stuck between dividend policy and share price unpredictability in terms of instability after the addition of growth of the business organization as a control variable CV would be reminiscent of whichever the arbitrage or in sequence end product. Other has deliberated the family member between payment policy and stock prices. Consequences of their study unsuccessful to discover out any association between the Dividend Yield and Stock Prices but it give you an idea about positive relation between Stock Prices and Size, Earnings and Leverage. It showed a negative relation Stock Prices and Payout Ratio.

A study conducted by Irfan et al. (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 unenthusiastic relation between Dividend Policy and Risk in case of only Japanese firms. Nishat and Irfan (2001) studied the consequence of dividend policy on stock price of the companies with risk and uncertainty and originated the fact that Dividend Yield and Payout Ratio are absolutely and positively connected to the share price instability. Meanwhile, Debt, dividend and possession of the ownership and structure significantly have an effect on firm value Al-Kuwari (2009) come across if there is bigger association between payment of dividend, expectations present will be greater unpredictability of stability and if correlation is not as much in nature, volatility will be less in actual since. Rashid & Rahman (2009) have also studied the association in between Dividend Policy and Stock Price Volatility. Outcomes of their study showed the positive but unimportant or insignificant relation

between Stock Price Volatility and Dividend Yield after controlling the Earning Volatility EV, Payout Ratio POR, Debt Level DL, Firm Size FS and Growth in Assets GIS. Ali and Chowdhury (2010) analyzed the price variation in the stock of private commercial banks scheduled at Dhaka Stock Exchange DSE towards the dividend declaration. Overall results of their study have found that there is insignificant and unimportant relation between stock prices and dividends.

Naeem and Nasr (2007), the researcher found that the share price instability is considerably authority payment policy as deliberate by dividend payout ratio and dividend gives way. Major studies have been conducted beyond the context of Pakistan, in various sectors. Many have been conducted in U.S. markets (Kyle & Frank, 2013). Some have also been conducted on Malaysian companies (Zakaria, Muhammad, & Zulkifli, 2012). On the other hand, many researches are present in the context of India regarding current topic. However, some researchers have also been conducted in Pakistan; some studies also cover Karachi Stock Exchange. The present study would tend to add the literature regarding dividend policy and stock price volatility in banking sector of Pakistan.

Material and methods

1. Price volatility:

In the present research analysis the dependent variable price volatility is to be calculated by following the Parkinson's extreme value estimates. In this case, each year the annual range of the stock price will be divided by the average of the high and low price of the stock and then will be raised to the second power. These average measures of variance for all available years can be transformed to a standard deviation by using the square root transformation. Parkinson has described how this method is far superior to the traditional method of estimation, which uses closing and opening prices only. The following formula has been used in order to calculate the price volatility of the stock

$$\text{Average price of shares} = \frac{\text{Highest price of the stock in the market} + \text{lowest price of the stock in the market}}{2}$$

Price volatility =

$$\frac{\text{Annual range of the price of the stock}}{\text{average price of the stock or shares}}$$

2. Dividend Payout ratio:

The dividend payout ratio or simply the payout ratio is the basically type of financial ratio which is used to calculate the amount of dividend which is paid by business to investor as in total or in per share. Dividend payout ratio is calculated as:

$$\text{Dividend payout ratio} = \frac{\text{Dividend per share or DPS}}{\text{Earning per share or EPS}} \text{ OR } \frac{\text{Total dividends}}{\text{Total Earnings}}$$

Null hypothesis: there is no relationship between the dividend payout ratio stock price volatility of the selected commercial banks.

Alternative hypothesis: there is a significant association between the dividend payout ratio and stock price volatility of the selected commercial banks.

3. Earnings per share (EPS)

Every business organization has to distribute its earnings among the shareholders or key stockholders at the end of particular time period. Financial accounting standard board FASB required every company to report earnings per share as a key element of financial statement while making the statement of comprehensive income. Earnings per share will leads to the higher volatility in the share price of the company. Higher the earnings per share mean higher the stock price of the shares.

The key formula for calculating the earnings per share is as under:

$$EPS = \frac{\text{Earnings available to common shareholders}}{\text{Number of common shares outstanding}}$$

Under the above stated criteria researchers have developed the following null and alternative hypothesis.

Null hypothesis: There is no association between the earnings per share EPS and stock price volatility of the selected commercial banks

Alternative hypothesis: There is significant positive association between the earnings per share and price volatility of the company and vice versa.

4. Financial Leverage:

Market price of the share has also been affected by with the outcomes of capital structure in the form of low or higher borrowing external costs etc. higher the borrowing cost means firms have financed it assets with the more amount of external debts which will leads to lower amount of distributed profit among the shareholders and hence due to low earning capacity there is significant chance of volatility in the share price of the business organization as well. The key formula for calculating the financial leverage of the business is as under

$$\text{Financial leverage} = \frac{\text{Total debts}}{\text{Total share holders equity}}$$

From the above stated phenomena researchers have developed the following hypothesis regarding the financial leverage and its impact on share price of the business over a period of time.

Null hypothesis: There is no impact of financial leverage on the stock price variation of the selected commercial banks

Alternative hypothesis: Financial leverage has positive significant association with the price volatility of the business. Higher the financial leverage means higher the volatility in the stock price and vice versa

5. Administrative Expenses Ratio:

From the perspective of Pakistan's economy number of banks are currently working with an efficient manner. The operational and administrative cost of these banks is very much controlled and has due to this control it has not a major impact on the dividend policy and stock price volatility. The key formula for calculating the administrative exp. Ratio is as under:

$$\text{AER Ratio} = \frac{\text{Total adminstraive expense}}{\text{Net income of the business}}$$

From the above stated situation researchers have developed the following null and alternative hypothesis.

Null Hypothesis: There is no association between the stock price volatility and administrative expenses.

Alternative hypothesis: Administrative expenses have low relation with the stock price volatility of the business.

6. Advance to Deposit Ratio (ADR)

It is an important consideration for the firm that shows ability to pay dividend. The company, having low liquidity position showing less chance to pay dividend due to unavailability of cash. It indicates that cash flow is an important factor for the dividend (Anil & Kapoor, 2008). Different researches are done on the liquidity, which shows a positive relation between dividend and liquidity (Amidu & Abor, 2006). Here to calculate the liquidity, advances to deposit ratio is used. It is an important factor that influences the dividend policy of the firm and ultimately the share price as well. The key formula to calculate the advance to deposit ratio is as under:

$$\text{ADR Ratio} = \frac{\text{Total loans}}{\text{Total deposits}}$$

From the above stated assumption, researchers have demonstrated the following alternative hypothesis.

Null hypothesis: there is no significant association between the advance to deposit ratio and stock price volatility

Alternative Hypothesis: Advance to deposit ratio will positively and significantly affect the stock price of the company over a period of time.

7. Dividend per Share (DPS)

Dividend per share DPS is calculated as by total dividend paid by the company to its key stockholders, divided by total number of shares of the stock of the company. In calculation of dividend per share DPS business firms take the weighted average of outstanding shares as a key denominator. The amount of weighted average has also been used in calculation of earnings per share ESP of the business, but still there stands a significant difference between both of these. The key formula for dividend per share is as under

$$\text{DPS Ratio} = \frac{\text{Total dividend}}{\text{Total number of shares}}$$

Null hypothesis: there is no significant association between the dividend per share and stock price volatility

Alternative hypothesis: there is no significant association between the dividend per share and stock price volatility.

Econometric model:

In Present study analysis while determining the various measures of banking industry stock price as dependent variable and both internal and external factors from the selected set of independent variable. In order to examine the significant impact of these set of variables, the simple and easy to understand regression equation for the pooled data sets of 17 commercial banks over 2007 to 2012 which is quite unrestricted and highly flexible having distinct slope coefficients and parameters for each period of the study observed our cross sectional units over time series period is as under:

$$y_{it} = \beta_{1it} + \beta_{2it}x_{2it} + \beta_{3it}x_{3it} + \dots \dots \dots \beta_{Nit}x_{Nit} + e_{it} \text{Equ.1.0}$$

Where, y_{it} denotes the dependent variable of the present study which is return on capital employed over a period of time t , and the intercept terms $\beta_{1it} \beta_{2it} \beta_{3it} \beta_{Nit}$ for the selected set of independent variables and the term $x_{2it} x_{3it} x_{Nit}$ indicates the independent variables. In order to control the differences among the cross sectional units' intercepts that are primarily firm specific and the regression equation in the above stated case 01 is now converted into as under equation 02:

$$y_{it} = \beta_{1i} + \beta_{2i}x_{2it} + \beta_{3i}x_{3it} + \dots \dots \dots \beta_{Ni}x_{Nit} + e_{it} \text{Equ. 2.0}$$

For each and every firm specific intercept we have included a dummy variable in the data set for each and every firm of present analysis. For each unit of firm i we have added dummy variable DV equal to 01 if $i=1$. On the

other hand DV is 0 for all the firm's $i=1$ up to cross units of 20 and hence in the current analysis we have controlled/ restricted the intercept to evade the DV setup and trap and the resulted description is the least squared dummy variable model LSDVM. Or fixed effect model FVM. In conclusion the above stated regression equation will be modified as under:

$$y_{it} = +\beta_1 D_{2i} + \dots + \beta_1, 17 D_{17i} + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots + \beta_N x_{Nit} + e_{it} \text{ Equ 3.0}$$

As stated earlier, the above mention regression model is quite meaningful for long and wide longitudinal pannel data set which has less number of cross sectional units i with greater amount of time measurements in order to fully define the DV for each of the stated cross sectional units. So in order to determine whether to prefer the least square dummy variable model LSDVM in which all intercept are not equal it is supposed/ hypothesized (alternative hypothesis) that they are the based on individual firm's specific characteristics. This hypothesis will be tested through the value of F-test. The null and alternative hypothesis for the whole problem statement as stated above is here under:

$$H_0: \beta_{11} = \beta_{12} = \dots = \beta_{1N}$$

H1: the intercepts are not equal

The formula for the F-statistics is as:

$$F = \frac{SSE(R) - SSE(UR)/M}{SSE(UR)/NT - K}$$

Where:

- RSS (R) = Sum of square estimates in the restricted model
- RSS (UR) = Sum of square estimates in the unrestricted model
- M = Number of linear constraints under restricted model
- NT = Total number of observation
- K = Number of slope coefficients including intercept in the unrestricted model.

On the other hand the supplementary option can also be used in the study which is fixed effect estimator or so called FEE. In order to use this approach fully the following steps have been taken by the researchers.

$$y_{it} = \beta_1 i + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots + \beta_N x_{Nit} + e_{it} \quad 4.0$$

Now considering all the above data sets and divides it into the value t we will get the equation in the format as under:

$$\bar{y}_i = \beta_1 i + \beta_2 \bar{x}_{2i} + \beta_3 \bar{x}_{3i} + \dots + \beta_n \bar{x}_{ni} + \bar{e}_i \quad 5.0$$

From the above stated equation of the model it is quite cleared that researchers have taken into account the average values of the available data sets and after that by taking the mean deviation from the original values of the data which is very meaningful tool in order to remove the major difficulties of temporal and cross sectional variances from the data sets. After the removal of temporal cross sectional and variances in the data sets, the resultant equation will be as below:

$$y_{it} = \beta_1 i + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots + \beta_N x_{Nit} + e_{it}$$

$$- \bar{y}_i = \beta_1 i + \beta_2 \bar{x}_{2i} + \beta_3 \bar{x}_{3i} + \dots + \beta_n \bar{x}_{ni} + \bar{e}_i$$

$$y_{it} - \bar{y}_i = \beta_2(x_{2it} - \bar{x}_{2i}) + \beta_3(x_{3it} - \bar{x}_{3i}) + \dots + \beta_n(x_{nit} - \bar{x}_{ni}) + (\bar{e}_i - e_{it})$$

The above equation can be rewritten as under:

$$\check{y}_{it} = \beta_2 \check{x}_{2it} + \beta_3 \check{x}_{3it} + \dots + \beta_n \check{x}_{nit} + \check{e}_{it}$$

After the above stated equation the outcomes of both the least square dummy variable model LSDVM and fixed effect estimator FEE. Various software are available which have direct commands in order to anticipate the results which is so called fixed effect estimation approach, which adjust the data set at first and then estimate through least square as with greater cross sectional dummy variables difficult to contain in the data set.

Coincide with the previous researcher's approach when we estimate the parameter using the model of fixed effect or FE with the group variables like years, due to the problem of correlation (multicollinearity) such variables are to be omitted to be regressed so finally solitary solution for the problem is the random effect model REM. Here the main assumption for the random effect model is that we have selected each and every unit

randomly and unsystematically (means all the differences at individual level of data set denoted by μ_i with fixed population parameter $\bar{\beta}_i$ are being captured by the intercept $\beta_1 i$). So the intercept will be rewritten as under:

$$\beta_1 i = \bar{\beta}_1 + u_i$$

u_i is used to denote the random effect which are basically random differences among the entire cross sectional units i . the stated random differences are subject to the following stated suppositions:

$$E(u_i) = 0, Cov(u_i, u_j) = 0, var(u_i) = \sigma^2 u.$$

Now the fixed effect estimation equation will be converted into following situation:

$$y_{it} = \beta_1 i + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots \dots \dots \beta_N x_{Nit} + e_{it}$$

$$y_{it} = (\bar{\beta}_1 + u_i) + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots \dots \dots \beta_N x_{Nit} + e_{it}$$

The above transformed equation can be rewritten as under

$$y_{it} = \bar{\beta}_1 + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots \dots \dots \beta_N x_{Nit} + (e_{it} + u_i)$$

If we denote $(e_{it} + u_i) = v_{it}$

$$y_{it} = \bar{\beta}_1 + \beta_2 x_{2it} + \beta_3 x_{3it} + \dots \dots \dots \beta_N x_{Nit} + v_{it}$$

Results and discussions:

In the current study analysis we have used the pannel data sets which are quite meaningful for measuring the results of various cross sectional units of a range of financial sector related institutions. Cross sectional data highlight the information asymmetry for a particular dimension in different directions. The time span for this study is from the year 2007 to 2012. This approach is called “short and wide longitudinal data”. The total number of observation for the study is 102 with 17 financial sector selected firms. Due to its wider usage in the research studies, longitudinal data is very rich in information with very low level of co-linearity among the units observed over the time series, We normally avoid this type of colinearity to avoid the spurious results of the regression, by spurious regression we mean that the model is overly good fitted those give the model an unrealistic look. So the span of observation in a longitudinal spectrum increases the validity of the data.

Table 1: Descriptive statistics

Variables	Observation	Mean	Std. Dev.	Min.	Max.
PV	102	40.21412	50.38921	0	255
DPOR	102	33.67745	89.7478	-118	788.9
EPS	102	3.271275	6.283812	-19.02	23.34
FL	102	12.97001	14.55098	-38.73	56.67
AER	102	3.502059	12.25739	-6.59	118.19
ADR	102	65.68137	16.64507	32.1	128.97
DPS	102	206.8608	490.962	-525	4000

Table above describe the results of descriptive statistics for all the dependent and independent variables overall in the model. Here we can see that the mean value for dividend per share DPS is maximum with a highest value of 206.8608. The value of standard deviation for the dividend per share as independent variable is also max with a value of 490.962 as compared to other selected variables. For correlation calculated between the major determinants of dividend payout policy has been presented in the table below. Here the correlation is presented with respected level of significant.

Table 2: Correlation Matrix

Variables	DPOR	EPS	FL	AER	ADR	DPS
DPOR	1					
EPS	0.1951 0.0494**	1				
FL	0.1697 0.0882*	0.1098 0.2722	1			
AER	-0.0235 0.8146	-0.0693 0.4887	-0.0046 0.9636	1		
ADR	-0.0403 0.6875	-0.0576 0.5654	-0.0232 0.8167	0.0601 0.5485	1	
DPS	0.8733 0.0000***	0.4830 0.0000***	0.1472 0.1398	-0.0734 0.4637	0.0213 0.8314	1

*, **, *** depicts that correlation is significant @ 10, 05, 01percent level

Table above describe the correlation matrix. It is quite obvious to see that only the correlation between the dividend payout ratio DPOR and dividend per share DPS, earnings per share EPS and dividend per share DPS is significant at 01 % level.

Table 3: Pooled Regression

PV	Coef.	Std. Error	T	P > t
DPOR	-.1764045	.1085691	-1.62	0.0108**
EPS	2.547468	.8535923	2.98	0.004***
FL	.6954978	.2734491	2.54	0.013**
AER	-.1974997	.3209701	-0.62	0.540
ADR	.788796	.2401334	3.28	0.001***
DPS	.0519404	.0221566	2.34	0.021**
Const.	-33.06108	16.90862	-1.96	0.053

*, **, *** depicts that correlation is significant @ 10, 05, 01percent level

From the table above it is quite cleared that the value of dividend payout ratio DPOR, financial leverage FL and dividend per share is highly significant at 05 %, while the value of earnings per share EPS and advance to deposit ratio ADR is highly significant at 01% respectively. Under the stated alternative hypothesis “dividend payout ratio DPOR has a significant impact with the stock price volatility” has been accepted because the p-value of DOPR is significant at 05 % level of confidence. The betas coefficient of DOPR has negative amount of -.1764 which explains that one unit change in the DPOR will leads to a negative change in the stock price of the shares. The relationship between the earnings per share and stock price volatility is also according to the alternative hypothesis “there is significant positive association between the earnings per share and stock price volatility”.

Table 4: Fixed effect least square dummy variable model (LSVM)

PV	Coef.	Std. Error	T	P > t
DPOR	-.0450446	.0982127	-0.46	0.648
EPS	.9293485	.8990837	1.03	0.304
FL	.5589301	.321921	1.74	0.086*
AER	-.1205418	.2450103	-0.49	0.624
ADR	.9018498	.2314444	3.90	0.000***
DPS	.0096463	.0208496	0.46	0.645
Const	-29.36642	17.17953	-1.71	0.091

*, **, *** depicts that correlation is significant @ 10, 05, 01percent level

From the table above it is quite cleared that adding the dummy variables in the model is not quite suitable because the values of all the intercepts except advance to deposit ratio and financial leverage is insignificant which indicates that the stated assumption of “all the intercepts and slope coefficients among the firms are different” are not acceptable. Table below explains the value of R² and adjusted R² in the least square dummy variable model. The value of R² and adjusted R² has been increased significantly increase due to the persistent difference among the firms etc.

Table 5: Fixed Effect Regression Model (FERM)

PV	Coef.	Std. Error	T	P > t
DPOR	-.0450446	.0982127	-0.46	0.648
EPS	.9293485	.8990837	1.03	0.304
FL	.5589301	.321921	1.74	0.086*
AER	-.1205418	.2450103	-0.49	0.624
ADR	.9018498	.2314444	3.90	0.000***
DPS	.0096463	.0208496	0.46	0.645
Const.	-29.36642	17.17953	-1.71	0.091

*, **, *** depicts that correlation is significant @ 10, 05, 01percent level

It is quite cleared from the outcome of fixed effect model approach that the values of interprets except of advance to deposit ratio and financial leverage are insignificant. So we have to remain confined to the pooled regression model in which the values of various explanatory variables are acceptable and have significant outcomes.

Table 6: Random effect model

PV	Coef.	Std. Error	T	P > t
DPOR	-.0993677	.0924886	-1.07	0.028**
EPS	1.688441	.7856699	2.15	0.032**
FL	.7223029	.2830962	2.55	0.011**
AER	-.1328945	.2420127	-0.55	0.583
ADR	.9012981	.2198885	4.10	0.000***
DPS	.0248932	.0193636	1.29	0.199
Const.	-35.21358	17.73139	-1.99	0.047

*, **, *** depicts that correlation is significant @ 10, 05, 01percent level

From the table above it is quite cleared that the outcomes are quite identical to the pooled regression model. Since the value of major explanatory variables are significant at 01, 05, and 10 % respectively

Conclusion and recommendation

Conclusion and policy implications:

This study was conducted with a hope to understand the impact of dividend payment policy on the stock market performance. We were able to understand the possible factors those are causing change in the stock price either in an upward or downward direction. Several other factors like liquidity factors, stability issues and consistency in the dividend payout are also significantly effecting the stock valuation for these banks. Dividend polices have a greater impact on the price volatility of the stock of the business .through our current findings of the study we can conclude that the variation in the stock price of the selected banks from the financial sectors have been influenced by number of dividend and related factors.

The most significant factors are dividend payout ratio, earnings per share, advance to deposit ratio, dividend per share and financial leverage of the banks. These are so much crucial among the several that by applying different models we found these explanatory variables to be more consistent in their impact on the dependent variable. Our findings suggest that management of the banks must consider these regressors as the key indicators of stock price instability in the market. These banks should remember these points in their mind during devising the new policies regarding their dividend declaration and other related issues. Meanwhile, these factors are highly value added to the financial institutions like banks and other government and non-government department associated with the financial matters, because a good return on investment in the form of dividends will definitely impact their market stability and competitive position. These factors altogether will leads towards the creation of good will for the particular organization. Meanwhile management of the banks should regard these economic indicators like inflation and the most important in the changing policies which are directed by the state bank of Pakistan. Although we tried to understand the impact of most significant variable i.e. dividend payout, which is causing changes in the stock market volatility of a particular bank but unfortunately certain constraints hinders us to limit our study to just few explanatory variables. Lot of other factors are still there which have significant impact on the stock price of the shares but we are unable to incorporate in our study are must also be considered while making the strategic decisions in this era.

The present outcomes of the study provide a road map and guideline to the commercial banks with which the management of the banks can analyze the successful determinants of financial outcomes as well. Increase in the share price lies behind the myth of how management take the key dividend payment decision for the stockholders of the business. Both internal and external factors are the key indicators of management and business performance. So the best combination of both of these factors should be taken into account for the moment. Some of the results in the present study are averse to the actual findings of the various earlier researchers also. The significant determination of the factors like administrative expense might be a true

explainer of stock price volatility in near future with the enhancement of financial outcomes in the coming future time duration. So the most important among the several factors might be the expense efficiency which leads to higher profitability and ultimately in the form better stock price of the firm.

Limitation of the study

Present research work is based on the one industry from the whole financial sector. It does not include the other firms like insurance, Mudarba companies and government saving institution. These organizations could significantly impact the overall performance of the financial sectors. Further possible improvement in our study is the short time span which leads to lower level of generalizability of the study. Further research could be done to increase the time span which will incorporate other factors like political instability, law and order condition and economic depression in determining the stock market valuation. Current work used the sample size of just 17 banks. Although the sample is quite reasonable from the whole population of banking sector, yet the bigger sample size will result in more and better outcomes which can finally be generalized over the entire financial sector.

References

- Aharony, J., & Swary, I. (1980). Quarterly dividend and earnings announcements and stockholders' returns: An empirical analysis. *The Journal of Finance*, 35(1), 1-12.
- Ahmed, H., & Javid, A. Y. (2008). The determinants of dividend policy in Pakistan.
- Ahmed, M. F. (1992). *Stock market behavior in Bangladesh*: Bureau of Business Research, University of Dhaka.
- Akbar, M., & Baig, H. H. (2010). Reaction of Stock Prices to Dividend Announcements and Market Efficiency in Pakistan. *The Lahore Journal of Economics*, 15(1), 103-125.
- Al-Kuwari, D. (2009). Determinants of the Dividend Policy of Companies Listed on Emerging Stock Exchanges: The Case of the Gulf Cooperation Council (GCC) Countries. *Global Economy & Finance Journal*, 2(2), 38-63.
- 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), p52.
- Amidu, M., & Abor, J. (2006). Determinants of dividend payout ratios in Ghana. *Journal of Risk Finance*, The, 7(2), 136-145.
- Anil, K., & Kapoor, S. (2008). Determinants of dividend payout ratios-a study of Indian information technology sector. *International Research Journal of Finance and Economics*, 15, 63-71.
- Arnott, R. D., & Asness, C. S. (2003). Surprise! Higher dividends= higher earnings growth. *Financial Analysts Journal*, 70-87.
- Baker, H. K., & Powell, G. E. (1999). How corporate managers view dividend policy. *Quarterly Journal of Business and Economics*, 17-35.
- Beim, D. O., & Calomiris, C. W. (2001). *Emerging financial markets*: Irwin Professional Pub.
- Bell, L., & Jenkinson, T. (2002). New evidence of the impact of dividend taxation and on the identity of the marginal investor. *The Journal of Finance*, 57(3), 1321-1346.
- Bhattacharya, S. (1979). Imperfect information, dividend policy, and "the bird in the hand" fallacy. *The Bell Journal of Economics*, 259-270.
- Bhattacharya, S. (1980). Nondissipative signaling structures and dividend policy. *The quarterly journal of Economics*, 95(1), 1-24.
- Black, F. (1998). The dividend puzzle. *Streetwise: The Best of "The Journal of Portfolio Management"*, 10.
- Blood, P. R. (1996). *Pakistan: a country study*: DIANE Publishing.
- Brav, A., Graham, J. R., Harvey, C. R., & Michaely, R. (2005). Payout policy in the 21st century. *Journal of financial economics*, 77(3), 483-527.
- Brittain, J. A. (1966). *Corporate dividend policy*: Brookings Institution.
- Chandio. (2006). Economic Growth, Financial Liberalisation and Poverty Reduction of Pakistan (1970-2000). *Unpublished PhD Dissertation, School of Economics, Kingston University, London*.
- Chen, C., & Wu, C. (1999). The dynamics of dividends, earnings and prices: evidence and implications for dividend smoothing and signaling. *Journal of Empirical Finance*, 6(1), 29-58.
- Chen, Z., Cheung, Y.-L., Stouraitis, A., & Wong, A. W. (2005). Ownership concentration, firm performance, and dividend policy in Hong Kong. *Pacific-Basin Finance Journal*, 13(4), 431-449.
- Chowdhury, G., & Miles, D. (1990). An empirical model of companies' debt and dividend decisions: evidence from company accounts data *Economic Modelling at the Bank of England* (pp. 187-221): Springer.
- Dhanani, A. (2005). Corporate dividend policy: the views of British financial managers. *Journal of Business Finance & Accounting*, 32(7-8), 1625-1672.
- Fraser, W. (1984). *Principles of property investment and pricing*: Macmillan.

- Gordon, M. J. (1959). Dividends, earnings, and stock prices. *The Review of Economics and Statistics*, 41(2), 99-105.
- Gujarati, D. N., & Madsen, J. (1998). Basic econometrics. *Journal of Applied Econometrics*, 13(2), 209-212.
- Husain, I. (2005). Key Issues in Managing Pakistan's Economy Inaugural address. *The Lahore Journal of Economics*.
- Hussain, F., & Qasim, M. A. (1997). The Pakistani Equity Market in 50 Years: A Review. *The Pakistan Development Review*, 863-872.
- Ibrahim, A. A. (2006). Corporate Governance in Pakistan: Analysis Of Current Challenges And Recommendations For Future Reforms. *Wash. U. Global Stud. L. Rev.*, 5, 323.
- Iqbal, J. (2008). Stock Market in Pakistan: An Overview.
- Irfan, C. M., Nishat, M., & Sharif, H. (2002). Key Fundamental Factors and Long-run Price Changes in an Emerging Market—A Case Study of Karachi Stock Exchange (KSE)[with Comments]. *The Pakistan Development Review*, 517-533.
- Jensen, M. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*, 76(2).
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Kapoor, S. (2011). Impact of dividend policy on shareholders' value: a study of Indian firms.
- Khan, J. A. (1999). *India and West Asia: emerging markets in the liberalisation era*: Sage Publications.
- Khan, M. (1999). The Political Economy of Industrial Policy in Pakistan 1947-1971.
- Khan, N. U. (2011). Dividend policy and the stock market reaction to dividend announcements in Pakistan.
- Khan, S. R. (2007). Pakistan's Economy since 1999 Has There Been Real Progress? *South Asia Economic Journal*, 8(2), 317-334.
- Khan, T. (2006). Company Dividends and Ownership Structure: Evidence from UK Panel Data*. *The Economic Journal*, 116(510), C172-C189.
- Kostyuk, D. (2006). *DIVIDEND PAYOUT. ITS IMPACT ON FIRM VALUE*. National University.
- Kyle, P., & Frank, B. (2013). DIVIDEND POLICY AND STOCK PRICE VOLATILITY IN THE U.S. EQUITY CAPITAL MARKET. *Proceedings of ASBBS*, 219-231.
- Lasfer, M. A. (1995). Ex-Day Behavior: Tax or Short-Term Trading Effects. *The Journal of Finance*, 50(3), 875-897.
- Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 46(2), 97-113.
- Litzenberger, R. H., & Ramaswamy, K. (1979). The effect of personal taxes and dividends on capital asset prices: Theory and empirical evidence. *Journal of financial economics*, 7(2), 163-195.
- Litzenberger, R. H., & Ramaswamy, K. (1982). The Effects of Dividends on Common Stock Prices Tax Effects or Information Effects? *The Journal of Finance*, 37(2), 429-443.
- Lonie, A. A., Abeyratna, G., Power, D., & Sinclair, C. (1996). The stock market reaction to dividend announcements: A UK study of complex market signals. *Journal of Economic Studies*, 23(1), 32-52.
- Lukman, M. (2010). Pakistan foresees a better future. *Published in the South Asian Financial Market Review*.
- Manos, R. (2001). *Capital structure and dividend policy: evidence from emerging markets*. University of Birmingham.
- Maykut, P., & Morehouse, R. (2002). *Beginning qualitative research: A philosophical and practical guide* (Vol. 6): Routledge.
- McCluskey, T., Burton, B., Power, D., & Sinclair, C. (2006). Evidence on the Irish stock market's reaction to dividend announcements. *Applied Financial Economics*, 16(8), 617-628.
- Michaely, R., & Allen, F. (2002). Payout policy. *Available at SSRN 309589*.
- Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *the Journal of Business*, 34(4), 411-433.
- Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, 40(4), 1031-1051.
- Mulyadi, M., Anwar, Y., & Iqbal, M. (2012). The importance of corporate governance in public sector. *Global Business and Economics*.
- Naeem, S., & Nasr, M. (2007). Dividend policy of Pakistani firms: trends and determinants. *International Review of Business Research Papers*, 3(3), 242-254.
- Nishat, M., & Irfan, C. M. (2001). *Dividend policy and stock price volatility in Pakistan*. Paper presented at the th Annual General Meeting of PSDE, Pakistan Institute of Development Economics, Pakistan.
- Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *The Journal of Finance*, 56(6), 2111-2133.
- Pettit, R. R. (1972). Dividend announcements, security performance, and capital market efficiency. *The Journal*

- of Finance*, 27(5), 993-1007.
- Poterba, J. M., & Summers, L. H. (1984). New evidence that taxes affect the valuation of dividends. *The Journal of Finance*, 39(5), 1397-1415.
- Rasheed. (2008). Historical Development. *Published in Pakistan Economic Policy*.
- Ross, S., Westerfield, R., Jordan, B., & Roberts, G. (2007). *Fundamentals of Corporate Finance*, Sixth Canadian Edition: McGraw-Hill Ryerson Higher Education.
- Ross, S. A., Westerfield, R., & Jordan, B. D. (2008). *Fundamentals of corporate finance*: Tata McGraw-Hill Education.
- Rozeff, M. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, 5(3), 249-259.
- Rubin, A., & Smith, D. R. (2009). Institutional ownership, volatility and dividends. *Journal of Banking & Finance*, 33(4), 627-639.
- Shin, H.-H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education*, 8, 37-45.
- Watts, R. (1973). The information content of dividends. *The Journal of Business*, 46(2), 191-211.
- Woolridge, J. R., & Ghosh, C. (1985). Dividend cuts: do they always signal bad news? *Midland Corporate Finance Journal*, 3(2), 20-32.
- Zakaria, Z., Muhammad, J., & Zulkifli, A. H. (2012). THE IMPACT OF DIVIDEND POLICY ON THE SHARE PRICE VOLATILITY: Malaysian Construction and Material Companies. *International Journal of Economics and Management Sciences*, 1-8.

Appendix

Table 7: Commercial Banks in Pakistani capital market

Bank ID	Bank Name	Observations by bank category
1	National Bank of Pakistan	6
2	Bank of Khyber	6
3	Askari Bank Limited	6
4	Bank Alflah Limited	6
5	Habib Bank Limited	6
6	Mezan Bank Limited	6
7	Allied Bank Limited	6
8	NIB Bank Limited	6
9	Habib Metropolitan Bank Limited	6
10	United Bank Limited	6
11	Muslim Commercial Bank Limited	6
12	Bank Al-Habib Limited	6
13	The Bank of Punjab	6
14	Soneri Bank Limited	6
15	SAMBA Bank Limited	6
16	KASB Bank Limited	6
17	Faysal Bank Limited	6
Total observations		102

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