THE IMPACT OF DIVIDEND POLICY ON FIRM PERFORMANCE: A CASE STUDY OF THE INDUSTRIAL SECTOR

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Abstract

A dividend is a part of the profit that is distributed among the shareholders. When there is more profit, it increases the dividends which, in turn, increase the stock price of the firm and vice versa, when there is less profit it decreases the dividend payment and the stock price. In Pakistan the companies have no standard policy, therefore, they are open to decide about the dividend payment. The main objectives of the research are aimed at analyzing and investigating factors which affect firm performance such as dividend policy, capital structure short and long term, firm size and firm growth. In this research, the effect of dividend payment policy on the firm's future performance of the Karachi stock exchange (KSE) listed companies (specifically cement sector) is analyzed. For this purpose, 5 hypotheses are developed and tested. The analyses are carried out by the econometric model (linear regression). The result shows that dividend policy, capital structure long term and firm size influence the performance of the firm (ROE).

Keywords: Dividend Policy, Firm's Performance, Capital Structure, Firm Size, Firm Growth

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1. INTRODUCTION

A company declares dividends when they make a profit, but they do not distribute all of the profit to the shareholders as dividends. The profit which is not distributed as the dividend is called retained earnings. The company reinvests these earnings or pays off the debt using it. In Pakistan, there is no regulatory or standard policy for the payment of dividends. So the company has a free hand to decide how many dividends they should pay to their shareholders and when to distribute them.

The behavior of investors and the stock market provides information about dividend policy. When the dividend payment rises it causes an increase in the stock price of the firm as well and vice versa. The dividend payment policy has been explored in previous studies. Most of the theories show that the changes in the dividend payment policy depend on the information about the firm's profitability and future earnings. Most of them show that the dividend payment policies are inter-related with the expected future profitability and earnings of the firm. Such a hypothesis gives the same information to managers and investors about future predictions (e.g. Bhattacharya, 1979; Miller and Rock, 1985). Based on this information the investors claim that dividends are used as direct information about future profitability. The Bhattacharya (1979) states that the investors have to pay high taxes as compared to the capital gain. According to Rock and Miller (1985), the major signaling cost is associated with new issues of stock by the company experiencing a lack of earnings. Due to the fluctuation in share price, it is noticed that the future expected dividend payment policy is directly interrelated with the forecasted earnings of the firm,

and this signaling hypothesis affects positively the share price of that firm as well.

As Grullon et al. (2005) believe that the abovementioned signaling hypothesis is much more important for corporate finance; hence these theories must be thoroughly investigated. Many scholars have previously studied it, however, no agreement has been reached yet. Although the signaling hypothesis has been worked out, there are still some contradictions in the literature. Some scholars' theories of the signaling hypothesis are commonly accepted like Nissim and Ziv (2001), Bhattacharya (1979), while other scholars are not supported or limitedly supported, like (Grullon et al., 2005; Benartzi et al., 1997). Stock market and investor manners show that dividends have rich information. With the increase of the dividends the stock price of the firm also rises and vice versa (e.g. Grullon et al., 2002). Most of the studies suggest that change in the dividends has some information concerning the future earnings and profitability of the firm. Moreover, many of the studies show that the dividends payout is positively interrelated with future firm earnings and profitability. This type of theories is the signaling hypothesis, which based upon the information and awareness asymmetry between investors and managers e.g. (Bhattacharya, 1979; Miller and Rock, 1985). Due to this asymmetry, it is stated that the dividends give explicit signals about the firm future earnings, which are sent out intentionally to the investors by the management at some cost. Bhattacharya (1979) presents the cost of signaling stems as of the fact that the tax rate of the dividends is higher than that of capital gains. According to Miller and Rock (1985), the loss of finances to be used as investments is the major signaling cost.

A forecast of the dividend signaling hypothesis states that changes in the dividends are positively correlated with the firm future changes in earnings and profitability. Grullon et al. (2005) believe that these are the most significant issues in the firm corporate finance. The signaling hypothesis is most widely researched, though, as declared above, there are conflicting findings. Some of them sustain the signaling hypothesis (Bhattacharya, 1979; Nissim & Ziv, 2001), whereas others have limited or no support for it (Benartzi et al., 1997; Grullon et al., 2005). The majority of the researches in this area under discussion has obtained data from listed firms. Some assumptions stated that the information asymmetries are a big issue for unlisted and small firms that can sustain the signaling hypothesis. According to Miller and Modigliani's irrelevance theorem, it is believed that there is no effect on the strong association between the dividend changes and the change in future earnings of the firm (Stiglitz, 1969). Due to this reason, investors are unresponsive either to profits reinvested or the dividends paid out. Another case is that the private firms' management in many situations is represented by the real shareholders. In this case, these shareholders are quite "close" to management. Because of this, the use of the dividends as signaling strategy becomes costly, therefore, the private firm management tends to choose another alternate choice. The firms where the inside and outside shareholders are the same or equal there is no need to use the dividends as a signaling hypothesis.

This research shows whether the theory for KSE (Karachi Stock Exchange) listed specific firms is supported or not. Most of the work related to this theory depends upon the listed firms' data. The effect of the dividend payment policy on the firm's future performance for private listed firms in Pakistan is analyzed.

This research is based on the data that have not been studied thoroughly, although a prior framework is available. This analysis is going to encourage new issues and topics for debates on the relationship between future expected earnings and the dividend payment policy of the firm. Most of the scholars believe that the main problem for the unlisted and small firms is the information asymmetries that can corroborate the signaling hypothesis. It is hard to believe that there is no strong relationship between the change in the dividend payment and the change in the expected future profitability of the private firm.

The first discrepancy in Modigliani and Miller's irrelevance theorem is that the firm value does not depend upon the finance structure of that firm. From the statement, it can be concluded that it depends upon the investors, either the investors receive the dividend or reinvest those dividends for further profit.

The second argument is that in most of the private firms the management is conducted by the actual shareholders, therefore, they can use the firm in their own favor as compared to the outside shareholders of the firm. In fact, the management of the private firms cannot use the dividend payment as a signaling strategy, it seems to be costly, therefore, they tend to choose another strategy. There is no need for sending signals as the actual shareholders and the outside shareholders are the same in the firm. This research gives much knowledge about the dividend payment policies of private firms.

In our research 5 hypotheses are tested to analyze certain factors that affect firm performance. We have selected 5 variables: firm performance is taken as a dependent variable while dividend policy, capital structure short term, capital structure long term, firm size and firm growth are taken as independent variables. To observe the relationship between the dependent variable and independent variables we have selected 40 companies from the cement industry of Pakistan. Because of the lack of data, the information has been collected only for 8 years (from 2003 to 2010) from companies' annual reports, KSE site, and journal articles. In this research, a linear regression model from SPSS (a statistical package for social science) software is used to investigate the relationship of the variables towards Firm performance. The analysis concluded that the alternate hypothesis for dividend policy, capital structure long term and firm size is accepted that means that the dividend policy, capital structure long term and firm size influence the firm's performance.

The analysis of the data is carried out by using an econometric model (linear regression) to find out the relationship between firm performance and the dividend policy and also to estimate the impact of dividend policy in firm performance as a case study of the cement sector of Pakistan.

The research objectives of this paper are mostly based on the research problem:

General objective is to observe certain variables and factors that affect firm performance of cement sector companies in Pakistan.

Specific objectives are the following:

- To observe whether dividend policy affects firm performance or not;
- To observe the factors other than dividend policy that affects firm performance;
- To provide the reader with the knowledge about firm performance, dividend policy, capital structure, firm size, firm growth and its mutual correlation.

In this research 5 hypotheses are tested to analyze certain factors that affect firm performance of the cement sector companies listed on KSE in Pakistan. The first variable or factor is dividend policy; whether this factor affects firm performance of the selected companies. The second hypothesis to be tested is capital structure short term. The third hypothesis is capital structure long term; the effect of this factor on firm performance is calculated. The fourth hypothesis is the firm size effect on firm performance. The fifth and the last hypothesis is the measurement of firm growth, how much it influences firm performance. If the result shows the significant outcomes and the value exceeds 0.05, it means that the data is insignificant and the alternate hypothesis *(H1)* is rejected and the Null hypothesis *(H0)* is accepted. And if the final result decreases the value of 0.05 it means that the data is significant and the alternate hypothesis *(H1)* is accepted and the Null Hypothesis *(H0)* is rejected.

Significance of this research is to facilitate the Pakistani cement sector companies to gain knowledge and awareness about the variables that influence firm performance, so they can exercise on specific variables to increase firm performance, which will bring a good deal to strengthen the financial status and profitability of the firm. This improvement of the firm financial status and profitability of the firm will attract the investors towards the investment in this firm. This research also aimed at improving the firm value that encourages further firm growth; that, in its turn, leads to employment growth.

Moreover, this paper will also be helpful for academic analysts and researchers in studying the variables that influence firm performance. The individuals may get advantages from this study as well. The investors, after studying the variables that influence the firm value, provided by this research, can make better investment decisions.

The research is aimed at investigating the following research questions:

1. How does the dividend policy of the firm influence performance of the cement companies in Pakistan?
2. Do the firm's short term and long term debts influence firm performance?
3. Does the firm size affect firm performance?
4. Is there any impact of firm growth on firm performance and profitability?

The structure of the work is as follows: the next section presents the literature review with similar studies carried out on dividend policy and firm performance on different firms in different countries. In Section 3 the research methodology is presented, including sample design, variables, data, statistical techniques and statistical model. Section 4 analyzes the data and the latter present discussion, implication and conclusion.

2. LITERATURE REVIEW

Ghosh and Sirmans (2006) identified the effect of the dividend policy on the managerial goals and the incentive policies. They stated that the management of poorly skilled staff overinvests to enhance or maximize the firm size while skilled management identifies good assets. If the firm has a good option for the investment then the firm pays fewer dividends and invests more, such firm has the past history due to the past record the shareholders expect in future for the fewer dividend payouts. They examined the measurement of firm performance as return on asset, return on equity, and return on capital.

According to Agyei and Yiadom (2011), the main aim of their study is to identify the relationship between the dividend policy and the performance of the bank in Ghana. They gathered a five-year record of 16 banks in Ghana. From this analysis, they concluded that the banks paid the dividends with an average of 24.65%. They also studied the leverage, size and growth of the firms, resulting in that the dividend policy has affected the firm value or performance. Similar work (Amidu, 2007) was performed on the GSE (Ghana Stock Exchange) listed firms to see whether the dividend payment policies affect the organizational performance. He used the regression equation for calculation in order to represent the dividend payment by "o". According to the results, there is a positive relationship between the dividend policy and return on assets of the firm. Another study based on the firms listed on Kaula Lampour stock exchange analyzed firm performance along with the dividends, leverage and corporate structure and their impact on firm performance. In this study, the regression method was also used to define the effect of the variables on firm performance. The author analyzed the four-year data as a sample of a hundred companies' index in Kuala Lampour. The results suggested that firm performance was affected by the debt policy of the firm (Aliahmad, 2008). Another research was carried out in Pakistan to see the impact of the dividend policy on firm performance and shareholders' wealth. Dividend yield and dividend per share were taken into consideration to measure the dividend policy while return on equity (ROE) was considered to measure firm performance. The regression analysis showed that the dividend policy has a positive impact on shareholder's wealth and firm performance (Farrukh et al., 2017). A study took return on asset (ROA) and return on equity (ROE) as the dependent variables while Dividend payout ratio (DPOR), earning per share (EPS) and price earnings ratio (PER) as the independent variables to find out the effect of the dividend policy on firm performance. The result of the study showed that the independent variables influence the dependent variables positively (Hafeez et al., 2018). Omer and Khondkar (2019) carried out a research to analyze the location effect on the dividend policies of the Indian firms as an emerging market. The authors used different techniques and it

provided an appreciable result for the dividend payout ratios for the firms in the main financial center of India like Mumbai. Chen et al. (2019) investigated the impact of the dividend policies on the compensation of the newly appointed CEO. The research analysis demonstrated a positive relationship to the newly CEO compensation.

Non-listed firms were also studied to analyze the influence of the dividend policy variation on the firm's future performance (Abrahamsen, 2010). Based on the analysis result a strong relationship between earnings and dividend payment increases was identified: when the firm's profitability improves the dividend payment policy also improves. However, according to the author, the analyzed firms are not stable in their dividend policy and they change it from time to time. These firms raise the dividend payment only in the form when the firm's profitability is expected to rise permanently.

The firm that increases corporate debt and has no growth or investment opportunities would adversely affect firm performance. In contrast, the firms that have investment and growth opportunities and resorting external funding affect firm performance positively. The firms that have growth opportunities or the firm's which do not have growth opportunities have different corporate dividend policy, but give the main information about the impact on firm performance, while in the capital market of Malaysia the dividend policy remains stable. Both the domestic and multinational firms' ownership gives strong information on firm performance in case the firms have no growth opportunities.

Deeptee and Roshan (2009) determined that the dividend payment is a process of paying shares of profit to the shareholders of the firm. They stated that the firm issues the equity as common stock and preferred stock. In the preferred stock policy, a fixed amount of shares of the profit is issued while for the common stockholders the dividend payment policy varies, depending upon the profit earned. The firm shows the amount distributed among the shareholders. This dividend settlement is known as the dividend policy. The scholars hypothesized that the dividend payment policy shows the organization's future profitability.

A research carried out on the importance of the dividend policy with respect to firm performance, firm risk and return of the shareholders of the firm denies implying the signaling hypothesis which states that "the dividend rate is directly proportional to the future firm performance". The study detected a positive correlation between firm profitability, cash flow and other performance measures and the dividend rate of the firm. It also observed that the share prices positively correlate with the announcement of dividend initiation which suggests that these are not expected by the investors and can be considered as positive news. The subsequent decline in the dividend rate for five years, underestimated by the investors had a negative effect on the stock return, future profitability and performance of the firm. When the five-year declined dividends were examined, and compared with the expected return, it showed that the investors had underestimated the growth and prosperity of the firm (Sharma, 2001).

Lamont et al. (1997) studied the effect of the financial constraint on the assets return and the firm value. They made different portfolios of the firm related to the financial constraints and then calculated the returns on the stock of these firms. On the basis of this measurement, they concluded that the different stocks gave the return subsequently over the period of time. These financial constraints variables, which affect the assets returns, are connected to other variables which are not explained but influence the stock return. The specific firms gave low stock returns in a specific time period both actually and expectedly in asset pricing models. The scientists found out the limited views which support the hypothesis that the financially constrained firms' performance reflects the business cycles, the monitory policy and credit conditions.

Uwuigbe et al. (2001) examined the association between the dividend payout and the financial performance of the Nigerian listed companies as well as investigated the relationship between the firm size, the dividend payouts and the ownership structure. They collected secondary data from 50 firms' annual reports for the period from 2006 to 2010. They analyzed the collected data employing the statistical techniques through the regression analysis. The analysis established a significant positive relationship between firm performance and the dividend payout of the sample firms of Nigeria. They also exposed that the ownership structure and size of the firm have also a significant impact on the firm dividend payout. Another study examined the relationship between the dividend policy (DP) and the corporate leverage (CL) of the firm in respect of corporate firms' size across Indian industries. They investigated the panel data of 73 firms across the Indian industries [Chemical and Fertilizer, Cement, Oil and Gas, Shipping and Textiles, IT and Pharmaceutical] listed with the Indian stock exchange as a sample. They used multiple regressions to analyze and measure the effects of firms' Capital Structure (CS) (leverage) on the dividend payout (DP). The authors concluded that there is a considerable effect of the independent variables on the dependent variable. They also suggested that the dividend payout of all types of small size firms, medium size firms, large and corporate firms of India depends upon the firm debt level in the capital structure (Ramachandran & Pakkirisamy, 2010). According to Ramli (2010) who investigated Malaysia companies to see the impact of large shareholders of the firm on the dividend policy determined that the dividend payout increases with the increase of shareholding of the largest shareholders. If there is an extensive 2nd largest shareholder the dividend payout will also increase in the company.

Stacescu (2006) found that the rise of average earnings of the firm leads to the increase of dividend rates of that firm and vice versa. Whenever the dividend rates increase due to the rise in earnings, the dividends paid for the year will be higher than those of the previous year and they will be lower due to the earnings decrease. These strongly documented findings of the managers are not to the benefit of the dividend cuts. Since, the managers increase the dividends when they are completely confident about the future predicted

earnings of the firm, which will be a rather high profit and cut the dividends in the case when they are sure enough about the decrease in the future predicted earnings. Joliet (2006) carried out research on a large sample of multinationals located in Europe, Australia and North America. The study analyzed the association of the stock returns and countries' operating earnings or profitability. According to the analyzed suggestions, it depends upon the expectations of the investors from the operating regions which may not meet their expectations. Those investors who have non-dividend stocks are more sensitive to fluctuation in profitability and changes in stocks. On the other hand, the dividend-paying stocks depend on a change in profitability, because the dividend policy gives information about the profitability of most of the foreign projects. The firms having low dividend rates may have great opportunities for investments and the dividend rates will increase in the future. The operating regions having great investment opportunities will cut the dividend payout ratio and the operation regions with low profitable investment opportunities will increase the dividend payout ratios. Although, in the regions with great investments opportunities, the investors are paid out by sporadic repurchase of the stocks, while in the regions with high profitability, the investors are paid out in the form of dividends.

There are some scholars who made the theoretical foundation of a signaling hypothesis. One of them was Bhattacharya (1979). He presented a theoretical model, according to which, the function of the dividends is a signal for future prediction of earnings and cash flows. When a company decreases the dividend payment, it predicts the company lower future cash flow, and when the company increases its dividend payment, it shows the higher future cash flow. The dividends are higher taxed than that of capital gain; therefore, the dividends shall function as a costly signal for future prediction. According to Bhattacharya's model, the outside investors have not got much knowledge about the firm profitability and the high tax rate of the dividends than that of the capital gain. Bhattacharya summarized his model as follows: the dividends perform a function of explicit signals for the future predicted earnings of the firm and intentionally send this information to the management and shareholders at a time.

Miller and Rock (1985) studied the dividend policies of those firms where the asymmetric information exists and there is different information for the firm insiders and outsiders about the firm earnings, net dividend and investment at the time of the dividend announcement. The basic and main information for the outsiders is about the dividends, that is not enough for the evaluation of firm performance. The firm insiders have the information about the unannounced earnings and investments that is the main difference for the evaluation of firm performance. In this paper, a model is developed which states that the dividends act as signaling, like the firm insider's view on the future, predicted economics. Another model of signaling equilibrium is developed by John and Williams (1985). This model states that the firm should issue new shares or should retire the outstanding shares to increase funds for investments. Most of the scholars have tried to study the relationship of dividend changes and prove it empirically.

Nissim and Ziv (2001), Benartzi et al. (1997) present their hypothesis, according to which the dividend changes may give new information about the future performance or profitability of the firm.

Nissim and Ziv (2001) found a positive relationship between the dividend changes and the firm future profitability changes by investigating the hypothesis. They also found that the dividends cut positively relates to the future earnings for 4 subsequent years, but does not relate to future profits or earnings. As they defined in their research the weak correlation between decreasing dividends and future profitability, though it does not mean that the dividends cut does not give information about future profitability. They also stated that the earnings of the current year do not give much information about the future dividend decrease.

Grullon et al. (2005) presented an article where it was stated that "the changes in the dividends do not give signals about the changes in the future earnings". Thus, the signaling hypothesis is not acceptable. According to them the work by Nissim and Ziv about linear mean reversion in profitability is not valid. Therefore, the authors employed a model, according to which there is no relationship between the dividend changes and future earnings. Consequently, no proofs or no indications are given in support of the idea that increasing dividends acts as the signal for future profitability of the firm. Furthermore, they also showed that forecasting out of the sample is likely better without using changes in the dividends as the independent variables. The given evidence in this article, as well as, in the other article showed that the changes in the dividends are not useful signals for the changes in the future earnings.

3. METHODOLOGY

This section discusses the methodology of the research. It illustrates the methods used for data collection, data dispensation, data analysis and the research design. Secondary data is collected and used for the analysis.

3.1. Sampling design

In this paper 40 companies of the cement sector of KSE are taken as a sample. According to the data of these companies, *firm performance* is taken as the dependent variable while *dividend policy, capital structure short term, capital structure long term, firm size and firm growth* are taken as the independent variables.

3.1.1. Target population

Target population may be described as the collection of whole data an investigator wants to analyze. In this research paper, the target population is the cement sector companies listed on KSE of Pakistan. As the data gathering or collection method states the cement sector in Pakistan consists of 48 companies and we took 40 of them randomly for the research analysis. Subsequently, we concentrated on the 40 companies to observe the relationship of the

dividend policy and other variables such as capital structure long term, capital structure short term and size of the organization and defined the influence on the performance of 35 cement sector companies.

3.1.2. Sampling size

Sampling size can be described as a number of elements in the population to be analyzed. The sample size must be large enough to contain a high probability of detecting the right differentiation between the two groups. 40 companies are used in our analysis to investigate the way the dependent variable *(firm performance)* is affected by the independent variables.

3.1.3. Sample selection

In this research, we have selected 5 independent variables which are dividend policy, capital structure short term, capital structure long term, firm size and firm growth. We focused on the cement sector of Pakistan and all the data are taken from the annual reports of the companies from 2003 to 2010.

3.2. Variables

3.2.1. Dependent variable

Firm performance of the cement sector companies denoted with (ROE) is considered as the dependent variable for the study.

3.2.2. Independent variable

Dividend policy denoted with (DP), capital structure short term denoted as CSS, capital structure long term as CSL, firm size as FS and firm growth as FG of the cement sector companies of Pakistan are considered as independent variables.

3.3. Data

Secondary data is the data that have been collected earlier than by the previous analysts and researchers for the study purpose (Zikmund, 2003).

The secondary data are analyzed and collected to fulfill various objectives of the research. This study consists of some variables that are firm performance, dividend policy, capital structure long term and short term, firm size and growth.

The main sources for the secondary data collection are the companies' annual reports, KSE site and journal articles.

3.4. Statistical techniques

3.4.1. Firm Performance

Changes in dividends give the knowledge of managerial evaluation of the future and current firm performance to the investors and also help the corporate managers to be aware of managerial behavior (Gunasekarage & Power 2006). In this research the performance of the organization is taken as the dependent variable and mathematically calculated as follows:

$$Organization's\ performance\ (ROE) = \frac{EBIT}{Equity} \quad (1)$$

3.4.2. Dividend policy

"The dividend increase acts as the signal for a permanent shift in future earnings rather than growth in future earnings. A firm's dividend policy behaves in a way the managers have the intention of paying the dividends, which is a fixed amount of current profitability, and they regulate this target from previous year's dividend" (Lintner, 1956). In this research, the main factor and the main independent variable is dividend policy. We calculated the equation for dividend policy as follows:

$$Dividend\ Policy\ (DP) = \frac{Cash\ dividend}{Net\ total\ income} \quad (2)$$

3.4.3. Capital structure

Short term

This short term capital structure is measured as the short term debt ratio to total assets of the firm *i* in time *t*, this ratio can be calculated as follows:

$$Capital\ Structure\ Short\ term(CSS) = \frac{Short\ term\ liabilities}{Total\ assets} \quad (3)$$

Long term

The capital structure long term of the firm is measured as the ratio of long term debt to total assets of the firm *i* in time *t*, this ratio can be calculated as follows:

$$Capital\ Structure\ Long\ term\ (CSL) = \frac{Long\ term\ liabilities}{Total\ assets} \quad (4)$$

3.4.4. Firm size

Firm size is the control variable. In this research, size of the firm is taken as the independent variable. The size of the firm is measured as the log of sales for firm *i* in time *t*.

The firm size can be calculated as follows:

$$Firm\ size\ (FS) = Log\ of\ sales \quad (5)$$

3.4.5. Firm growth

Growth of the firm is taken as the independent variable which is measured as the growth in net total assets of firm *i* in time *t*. Firm growth can be calculated as follows:

$$FG = \frac{Current\ year's\ total\ assets - Previous\ year's\ total\ assets}{Total\ assets\ of\ previous\ year} \quad (6)$$

3.5. Statistical model

SPSS software is used for the analysis of the secondary data collected from the cement sector companies listed with KSE Pakistan. The secondary data is organized in a variety of statistical formats for quantitative research analysis. This analysis determines the association between the dependent and independent variables of the research. SPSS provides accuracy and efficiency in statistical measurement. In this research, a Linear Regression model is used.

3.6. Linear regression

Linear regression is used to specify the nature of the relationship between two variables. Another way of looking at it is to give the value of one variable (called the independent variable in SPSS), and how the values of some other variables can be predicted (called the dependent variable in SPSS).

Regression equation:

$$ROE = \alpha + \beta_1 DP + \beta_2 CSS + \beta_3 CSL + \beta_4 FS + \beta_5 FG \quad (7)$$

Where ROE = firm performance, α = regression constant, DP = dividend policy, CSS = capital structure short term, CSL = capital structure long term, FS = firm size and FG = firm growth.

4. DATA ANALYSIS

In this research 40 annual reports of the companies from the cement sector in Pakistan for the period of 8 years from 2003 to 2010 are studied. SPSS software is used to analyze the data and get effective and valid findings. The Linear Regression model is used in to get the accurate output from the descriptive statistical analysis.

4.1. Linear regression

Table 1. Regression model summary

Model	*R*	*R Square*	*Adjusted R square*	*Std. the error of the estimate*
1	.940[a]	.883	.866	.36645

Note: a. Predictors: (Constant), FG, CSL, CSS, FS, DP

In Table 1 *R* represents the correlation between the dependent variable and the independent variables. The value of R is 0.940. It shows that ROE is 94.0% and correlates with the dividend policy, capital structure short term, capital structure long term, firm size and firm growth. R square indicates the variance in the dependent variable (ROE) due to the independent variables (DP, CSS, CSL, FS, and FG). Here the value of *R* square is equal to 0.883 which becomes 88.3%. It means that the independent variables explain the variation of 88.3% in the dependent variable (ROE) of the research. The rest of the percentage portion shows that there are some other factors that also explain the variation in firm performance (dependent variable).

Table 2. Analysis of variance (ANOVA)[a]

Model		*Sum of squares*	*Df*	*Mean square*	*F*	*P value*
1	Regression	34.434	5	6.887	51.286	.000[b]
	Residual	4.566	34	.134		
	Total	39.000	39			

Note: a. Dependent Variable: ROE
b. Predictors: (Constant), FG, CSL, CSS, FS, DP

F change shows the statistical significance of the model. This model shows that the test and model are highly significant for the analysis of this study.

Table 3. Coefficients[a]

Model		*Unstandardized coefficients*		*Standardized coefficients*	*t*	*P value*
		B	*Std. Error*	*Beta*		
1	(Constant)	6.038E-012	.058		.000	1.000
	DP	.638	.116	.638	5.483	.000
	CSS	.129	.095	.129	1.354	.185
	CSL	.227	.062	.227	3.659	.001
	FS	.244	.076	.244	3.215	.003
	FG	-.068	.071	-.068	-.962	.343

Note: a. Dependent variable: ROE

P value in the table above represents the significance and insignificance of the variables. If P value decreases from 0.005, it shows that the variable is significant and when it increases from 0.005 it shows that the variable is insignificant. In the above-listed variables dividend policy, capital structure long term and firm size are the significant factors or variables, while the other variables capital structure short term and firm growth are the insignificant variables. P value for DP is 0.000; it shows that dividend policy is a significant independent variable for the dependent variable of the research. This means that dividend policy has a positive impact on ROE. P value for CSS is 0.185; it shows that capital structure short term is an insignificant independent variable for the dependent variable. This shows that the capital structure short term has no impact on ROE. P value for CSL is 0.001 that states that capital structure long term is a significant independent variable for the dependent variable. This means that capital structure long term positively influences ROE. For FS P value is 0.003, which specifies that firm size is a significant independent variable for the dependent variable. This shows that firm size has a positive relationship with ROE. The last independent variable, firm growth, has P value of 0.343. This shows that firm growth is an insignificant variable for the research dependent variable and has no effect on ROE.

In the given model B shows the change in the dependent variable due to the change in the independent variables. The coefficient or B value for DP is 0.638 that indicates the change of one unit in the independent variable (DP): it will change by 0.638 units in the dependent variable. If there is one unit change of CSS it will cause 0.129 units to change in ROE. If there is one unit change of CSL it will cause 0.227 units to change in ROE. When there is one unit change of FS it will change ROE by 0.244 units and when there is one unit change in firm growth, it will cause -0.068 units negative change in ROE.

4.2. Hypothesis testing results

H0: There is no significant impact of dividend policy on ROE in the cement sector.
H1: There is a significant impact of dividend policy on ROE in the cement sector.

- *DP is Significant so H1 is accepted and H0 is rejected.*

H0: There is no significant impact of CSS on ROE in the cement sector.
H1: There is a significant impact of CSS on ROE in the cement sector.

- *CSS is insignificant so H0 is accepted and H1 is rejected.*

H0: There is no significant impact of CSL on ROE in the cement sector.
H1: There is a significant impact of CSL on ROE in the cement sector.

- *CSL is significant so H1 is accepted and H0 is rejected.*

H0: There is no significant impact of FS on ROE in the cement sector.
H1: There is a significant impact of FS on ROE in the cement sector.

- *FS is significant so H1 is accepted and H0 is rejected.*

H0: There is no significant impact of FG on ROE in the cement sector.
H1: There is a significant impact of FG on ROE in the cement sector.

- *FG is insignificant so H0 is accepted and H1 is rejected.*

5. DISCUSSIONS, IMPLICATIONS AND CONCLUSION

This section explains the overall findings and concludes the whole research. It contains the review of statistical investigations and analysis that are discussed above. It demonstrates the impression of the analysis and measurement scale, the regression analysis and descriptive statistics. It presents the main implications and findings of the analysis. At the end of this paper, there are some recommendations for the future researches, based on this limitation, conclusion and findings.

5.1. Statistical analysis summary

5.1.1. Descriptive analysis

Three of the variables used in this research paper are significant with ROE, while the two others are insignificant. Every 1% increase in the standard deviation of the significant independent variables will increase ROE. According to the result, it is concluded that CSS and FG have less effect on ROE. Each variable has a positive relationship with ROE or firm performance except Firm Growth. 1% standard deviation of DP will increase ROE for 63.8 %. 1% standard deviation of CSS will increase ROE for 12.9%. 1 % standard deviation of CSL and FS will increase ROE for 22.7% and 24.4% while 1% standard deviation of FG will cut ROE for 6.8 %.

5.1.2. Regression analysis

Regression analysis in Table.1 shows that *R value* is 0.940, which is very close to point 1. It demonstrates that there is a strong correlation between the dependent variable and independent variables. However, the value of R square is 0.883 which means that there is 88.3 % variation in ROE due to the variation of DP, CSS, CSL, FS and FG. Taking it into consideration, we can conclude that the percentage of variation of dividend policy, capital structure short term, capital structure long term, firm size and firm growth is highly related to ROE. However, there are three variables that are significant towards the relationship, which are dividend policy, capital structure long term and size of the firm.

5.2. Limitations of the study

The data collection was one of the main challenges because some of the firms had no online data. They still have not got websites; therefore, it was difficult to collect their previous data accurately.

There are some sites that have collected the KSE listed companies' data; the problem was with some of the data values that are quite wrong or incorrect compared to the original data. A number of research papers and studies related to this topic in Pakistan are insufficient, and not completely understood and conceptually clear for the researchers.

Besides that, the collected data was calculated manually by stating to the annual reports of the selected companies. For calculating the Independent variables the data is collected from the annual reports as well as from the net and books. The formulas for the independent variables are calculated manually therefore; there this data may be unfair even being several times tested and checked.

5.3. Conclusion

In Pakistan, there are no standard rules and regulations for the dividend payment. Therefore, the firms are free to decide how much to pay and when to distribute the dividend payment among their shareholders. The firms do not distribute all profit as dividend but they reinvest or pay off the debt from the retained earnings. There is a great influence of the dividend policy on the firm's future performance because when there is an increase or decrease in the dividend payment it also affects an increase or decrease in the stock price of the firm. Therefore, we conducted this research in order to see the impact of the dividend policy on firm future performance. For this purpose, we selected 40 cement sector companies listed on the KSE of Pakistan. We took the dependent and independent variables and developed hypothesis in order to check the relation among these variables. In this research, the Regression Analysis has been used from SPSS to investigate the relation of DP, CSS, CSL, FS and FG of 40 KSE listed cement sector companies toward ROE (Firm Performance). We tested the hypothesis and as a result, it is concluded that the alternate hypothesis for dividend policy, capital

structure long term and firm size is accepted while for capital structure short term and firm growth the null hypothesis is accepted. It means that the dividend policy, capital structure long term and firm size influence the performance of the firm (ROE).

5.4. Recommendation for future researches

The research may also analyze other companies. This paper used only the cement sector companies of Pakistan for the analysis. In the future, researchers should increase the area of research such as hotel industries, technology industries and the construction industry, etc. The researchers should also select the large sample size that will increase in accuracy of the result.

In addition, this research has analyzed the relation of the dependent variable (ROE) (firm performance) to the independent variables (the dividend policy, capital structure short term, capital structure long term, firm size and firm growth). Therefore, it is recommended the researchers to analyze other independent variables as well as a ratio of management, depreciation, information technology and customer satisfaction, etc.

REFERENCES

1. Abrahamsen, S. (2010). *Do dividends predict future firm performance?* (BI Norwegian School of Management Master Thesis). Retrieved from https://www.bi.edu/globalassets/forskning/centre-for-corporate-governance-research/msc-theses/ccgr_msc_016.pdf
2. Agyei, S. K., & Marfo-Yiadom, E. (2011). Dividend policy and bank performance in Ghana. *International Journal of Economics and Finance, 3(4),* 202-207. https://doi.org/10.5539/ijef.v3n4p202
3. Aliahmed, H. J. (2008). The impact of financing decision, dividend policy and corporate ownership on firm performance at presence or absence of growth opportunity: A panel data approach, evidence from the Kuala Lumpur Stock Exchange. Paper presented at the 21st *Australasian Finance and Banking Conference 2008.* https://doi.org/10.2139/ssrn.1246563
4. Amidu, M. (2007). How does dividend policy affect performance of the firm on Ghana stock Exchange. *Investment Management and Financial Innovations, 4(2),* 103-112.
5. Benartzi, S., Michaely, R., & Thaler, R. (1997). Do changes in dividends signal the future or the past? *The Journal of Finance, 52(3),* 1007-1034. https://doi.org/10.1111/j.1540-6261.1997.tb02723.x
6. Bhattacharya, S. (1979). Imperfect information, dividend policy, and "the bird in the hand fallacy. *Bell journal of economics, 10(1),* 259-270. https://doi.org/10.2307/3003330
7. Chen, J., Song, W., & Goergen, M. (2019). Passing the dividend baton: The impact of dividend policy on new CEOs' initial compensation. *Journal of Corporate Finance*, *56*, 458-481. https://doi.org/10.1016/j.jcorpfin.2019.04.004
8. Deeptee, P. R., & Roshan, B. (2009). Signaling power of dividend on firms' future profits a literature review. *Evergreen Energy International Interdisciplinary Journal, 2(1),* 1-9. Retrieved from http://www.nyu.edu/classes/keefer/EvergreenEnergy/boodhoopurm.pdf
9. Farrukh, K., Irshad, S., Shams Khakwani, M., Ishaque, S., & Ansari, N. Y. (2017). Impact of dividend policy on shareholders wealth and firm performance in Pakistan. *Cogent Business & Management, 4(1),* 1-11. https://doi.org/10.1080/23311975.2017.1408208
10. Ghosh, C., & Sirmans, C. F. (2006). Do managerial motives impact dividend decisions in REITs? *The Journal of Real Estate Finance and Economics, 32(3*), 327-355. https://doi.org/10.1007/s11146-006-6805-8
11. Grullon, G., Michaely, R., Benartzi, S., & Thaler, R. H. (2005). Dividend changes do not signal changes in future profitability. *The Journal of Business, 78(5),* 1659-1682. https://doi.org/10.1086/431438
12. Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity? *The Journal of Business, 75(3),* 387-424. https://doi.org/10.1086/339889
13. Gunasekarage, A., & Power, D. M. (2006). Anomalous evidence in dividend announcement effect. *Managerial Finance, 32(3),* 209-226. https://doi.org/10.1108/03074350610646726
14. John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signaling equilibrium. *The Journal of Finance, 40(4),* 1053-1070. https://doi.org/10.1111/j.1540-6261.1985.tb02363.x
15. Joliet, R. (2006). *Disparities in geographic performance: some effects on the cost of capital and the payout policy.* https://doi.org/10.2139/ssrn.914121
16. Hafeez, M. M., Shahbaz, S., Iftikhar, I., & Butt, H. A. (2018). Impact of dividend policy on firm performance. *International Journal of Advanced study and research work 1(4),* 1-5. Retrieved from http://www.ijasrw.com/pdf/July18/ij10.pdf
17. Lamont, O., Polk, C., & Saaá-Requejo, J. (2001). Financial constraints and stock returns. *The review of financial studies, 14(2),* 529-554. https://doi.org/10.1093/rfs/14.2.529
18. Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review, 46(2),* 97-113. Retrieved from http://ecsocman.hse.ru/data/890/126/1231/lintner_1956.pdf
19. Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of finance, 40(4),* 1031-1051. https://doi.org/10.1111/j.1540-6261.1985.tb02362.x
20. Nissim, D., & Ziv, A. (2001). Dividend changes and future profitability. *The Journal of Finance, 56(6),* 2111-2133. https://doi.org/10.1111/0022-1082.00400
21. Farooq, O., & Aktaruzzaman, K. (2019). Financial centers and dividend policy: Evidence from an emerging market. *Management Decisions.* Retrieved from https://www.emeraldinsight.com/doi/full/10.1108/MD-12-2017-1230
22. Ramachandran, A., & Packkirisamy, V. (2010). *The impact of firm size on dividend behavior: A study with reference to corporate firms across industries in India.* Retrieved from http://www.fm-kp.si/zalozba/ISSN/1581-6311/8_049-078.pdf
23. Ramli, N. M. (2010). Ownership structure and dividend policy: Evidence from Malaysian companies. *International Review of Business Research Papers, 6(1),* 170-180.
24. Sharma, S. (2001). Do dividend initiations signal firm prosperity? World Financial Center.
25. Stacescu, B. (2006). Dividends revisited: An in-depth look at the relationship between dividends and earnings. https://doi.org/10.2139/ssrn.890740
26. Stiglitz, J. E. (1969). A re-examination of the Modigliani-Miller theorem. *The American Economic Review, 59(5),* 784-793. Retrieved from https://www.jstor.org/stable/1810676?seq=1#page_scan_tab_contents
27. Uwuigbe, U., Jafaru, J., & Ajayi, A. (2012). Dividend policy and firm performance: A study of listed firms in Nigeria. *Accounting and Management Information Systems, 11(3),* 442-454. Retrieved form https://ideas.repec.org/a/ami/journl/v11y2012i3p442-454.html
28. Zikmund, W. G. (2003). Sample designs and sampling procedures. *Business research methods, 7(2),* 368-400.