A Regressional Impact of Earning per Share on Market Value of Share: A Case Study Cement Industry of Pakistan

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Abstract   *The price of equity shares depends on the two basic factors, demand and supply. Price fluctuates with the phenomenon of buying and selling. Prices usually move up with buying and go down with selling of equity shares. Many accounting variables affect market value of equity share and Earnings Per Share is one of them. The purpose of this research is to find out the effect of Earning Per Share (EPS) on the Market Value of Share (MVS) and their mutual relationship. The targeted population was the Pakistani Cement industries that were listed in the Stock Exchange Commission of Pakistan (SECP). The thirteen Cement industries were selected for the analysis and secondary data was used for this purpose. The data was analyzed through SPSS software and represented in the form of tables and graphs. The finding shows that Earning Per Share (EPS) significantly impact the Market Value of Share. This study improves the understanding of share prices in broadening the base of market values of share, which may assist in creating a better investment culture in country that translates economy into a robust economy.*

Key words   Equity, Earning per shares, Market value of shares

1. Introduction

Earning is an important variable affecting the market value of equity share. Company producing and selling goods and services useful to citizens in a society and earning revenue covering its cost of production adds to its reserve and builds up the same. Once a successful company starts building up reserves it will also look for expanding its scale of operations and thus boost its income. Once a company begins earning attractive sum, the equity share will have more and more demand which will result in increase in market value of the equity. Earnings after interest, depreciation and tax belong to the equity shareholders. Earnings per share are usually derived by dividing earring (after deduction of tax, interest, Dividend and depreciation) on total number of outstanding shares. So earning per share is determined which the stock brokers and investors will watch carefully and consider it while deciding the market value of the equity share. In the above debate, we have measured the outcome of increase in earnings per share. The reverse will occur if the EPS falls down. In equity market there are many factors that affect the market value of share. Chandra (1981) realized that at what level a factor is distressing the market value of share helps investors to make an investment verdict and their impact on equity share value is helpful to corporate, management, Government and investors. Equity is the residual claim of investors in assets after the payment of all liabilities. In case if liability exceeds from assets then there exists negative equity.

The equity represents the remaining interests in assets that spread among individual shareholders of common or preferred stock. Sachdeva (1994) argued that determinants of share values are valuable in the formulation of management strategies concerning to dividend payment, right issues, bonus declaration, etc. Investors can also make better, intelligent and rational investment decisions. In recent research, a central issue is the evaluation of equity for which the researcher and scholars are trying to analyze the field of capital market with diverse approaches. In the pasture of research, the exercise of accounting information for equity valuation has seen a lot of activity. For analyzing value of equity and return of equity, the numbers of financial and accounting variables have been used in previous researches. But the Market Value of Share is being affected by most important variable known as Earning. To increase Revenue/Profit, a successful company raises its reserves and expands the scale of its operations. When a company attracts huge Revenue/Profit, the demand of Shares of that company also increases which results the increase in Market Value of Share. For this purpose a study is being made in cement industry of Pakistan. Data is collected from 13 companies of cement industry of Pakistan.

2. Literature review

It has been seen that the account equity valuation undertaking applies research in the field of using the information. Recently, as Pushpa Bhatt (2012) described the earning per share affect on equity market value of share with the publication of basic contributions with respect to top 50 Indian companies. Dr. Sanjeet Sharma (2011) in his study concluded that earning per share is the strongest determinant of the market value in a constructive track. So investors take care of earnings per shares variable in to account before investing in any company. Faris Nasif AL-Shubiri (2010) conducted his research by using simple and multiple regression analysis and concluded that there is positive and significant relationship between market value of stock and net asset value per share. So he argued that the changes in the stock price also depend upon the micro and macro economic factors. Piotrosbi D Joseph *et al.* (2004) concluded that the market price of the share is mainly determined by the forces of demand and supply of a particular security in the market. The market value replicates the combined understanding and facts of the market. Malakar, B. and Gupta, R. (2002) exposed that Earnings per share is found to be significant determinant of share value by considering share value of eight major cement companies in India for the period 1968 to 1988 and five variables, namely, dividend per share, retained earnings, earnings per share, the share price, and sales proceeds. Tuli, Nishi and Mittal, R.K. (2001) accomplished that earnings per share were found to be important in determining the share Price. Dechow, P.A. Hutton and R. Sloan, (1999) discussed the role of the residual value for equity valuation. Collins and Kothari, (1989) focus on the stock price change linked with unforeseen variances of earnings. It is supported on cross-sectional inter-temporal data. Collins, Pincus and Xier, (1989) studied the role of equity book value in equity valuation.

Ball and Brown (1968), Baskin (1989) argued that the earnings per share have a constructive relationship with market value. Buzzel and Gale (1987) argued in his research that Market share and profitability are strongly linked. Buzzel and Gale (1987) go on to state that, enterprises that have achieved a great share of the markets provide significantly extra gainful than their smaller-share competitors. This relationship between market share and profitability has been standard by corporate executives and experts, and it is clearly established in the results of our research over the past fifteen years. They conducted a cross sectional study by taking in to account earnings ratio of 105 companies for the period 1989-93. Malhotra (1987) concluded that the earnings per share had constructive and significant wave on the market value of equity shares. His targeted population was the four sectors of industries general engineering, cotton textile, food products and paper convening a period of four years from 1982 to 1985. Kumar and Hundal (1986) described the effect of earning per share on the market value of shares by using linear regression model. Miller and Modigliani, (1961) studied the impact of dividend policy and the development of the company's equity valuation. EPS impact study indicates the market value at the international level. In Pakistan Cement Industry context, there is a study to determine the relationship between the EPS and the market value of the shares.

3. Methodology of research

The targeted population was the Pakistani Cement industries that were listed in the Stock Exchange Commission of Pakistan. The thirteen Cement industries were targeted for the analysis and five years secondary data that was available in the financials of the cement industries of Pakistan and stock exchange commission of Pakistan reports used for this purpose. The data was analyzed through SPSS software and represented in the form of tables and graphs.

3.1. Conceptual framework

The conceptual frame work is designed to understand the factor that may affect the Market Value of Shares (MVS). According to framework the main factor that influenced the Market Value of Share is earning per Share (EPS).

$$\boxed{\text{EPS}} \longrightarrow \boxed{\text{MVS}}$$

The Market Value of Shares MVS is dependent variable while Earning per Share (EPS) is independent. Additive model is used here. Equation for the representation of the models is given as,

$$Yi = \alpha + \beta x_i + \varepsilon_i \tag{1}$$

Here, Yi represents the dependent variable, α denotes the constant, β is regression coefficient of independent variables, xi represents the independent variables also called as explanatory variables and ε_i denotes the random error. So equation representing our conceptual frame work is given as,

$$(MVS) = \alpha + \beta \, (EPS) + \varepsilon i \tag{2}$$

Here, (MVS) represents the dependent variable Market Value of Share and β (EPS) is independent variable and represents the Earning Per Share.

4. Hypothesis

The hypotheses for this research are,
H$_1$: There is a significant relationship between Market value of share MVS and Earnings per Share EPS.
H$_2$: There is a significant impact of Earnings per Share EPS on Market Value of shares MVS.

5. Data Analysis

The average values of Earning per Shares EPS and Market Value of Shares MVS of five years from 2009 to 2013 of targeted cement industries are represented in the tables given below.

Here EPS means Earning Per Shares, ACP Ltd (Attock Cement Pakistan Limited), BC Ltd (Best way Cement Limited), CCC Ltd (Cherat Cement Company Limited), DGKCC Ltd (Dera Ghazi Khan Cement Company Limited), DCI Ltd (Dada bhoy Cement Industries Limited), DCC Ltd (Dandot Cement Company Limited), DC Ltd (Dewan Cement Limited), FCC Ltd (Fauji Cement Company Limited), FeC Ltd (Fecto Cement Limited), FlC Ltd (Fly Cement Limited), GC Ltd (Gharibwal Cement Limite), KC Ltd (Kohat Cement Limited) and LPC Ltd (Lafrage Pakistan Cement Limited) . The above table shows the average increase or decrease in the Earning Per Share EPS of the thirteen cement companies form the years 2009 to 2013.

Table 1. Earnings per Share Average and Standard deviation Values

Serial No.	Cement	EPSY09	EPSY10	EPSY11	EPSY12	EPSY13	EPS Average	Std. Deviation EPS
1	ACP Ltd	17.24	11.74	7.90	16.59	21.45	14.98	5.24844
2	BC Ltd	3.17	-3.71	.57	6.18	10.86	3.41	4.64890
3	CCC Ltd	1.67	-.14	.72	4.57	12.81	3.93	5.27353
4	DGKCC Ltd	1.63	.70	.45	9.38	12.56	4.94	5.63187
5	DCI Ltd	.01	-.06	-.14	-.20	-1.19	-.32	.49501
6	DCC Ltd	-3.27	-4.60	-3.58	-5.34	-4.92	-4.34	.88409
7	DC Ltd	-.46	-1.74	-.97	.98	.99	-.24	1.20754
8	FCC Ltd	1.43	.31	.52	.29	1.42	.79	.58304
9	FC Ltd	6.27	-4.15	1.34	6.91	11.63	4.40	6.01116
10	FC Ltd	-.92	-.98	-.83	.16	.06	-5.02	.56233
11	GC Ltd	-3.75	-4.30	-3.08	-.60	2.62	-1.82	2.85766
12	KC Ltd	.21	-2.55	.49	12.90	20.45	6.30	9.91147
13	LPC Ltd	-.97	-.72	-.09	1.13	.66	.00	.89161

Table 2. Market Value of Share Average and Standard deviation Values

Serial No.	Cement	MVSY09	MVSY10	MVSY11	MVSY12	MVSY13	MVS Average	Std. Deviation MVS
1	ACP Ltd	70.22	65.5	48.53	81.44	131.99	79.54	31.62363
2	BC Ltd	25.54	14.28	12.12	24.54	64.45	28.19	21.13567
3	CCC Ltd	13.53	9.22	9	29.62	58.19	23.91	20.93783
4	DGKCC Ltd	29.65	23.62	22.99	39.38	83.69	39.87	25.36670
5	DCI Ltd	2.12	2.05	2.1	2.2	3.37	2.37	.56273
6	DCC Ltd	8.3	2.46	1.32	2.45	5.5	4.01	2.85903
7	DC Ltd	2.75	1.72	1.69	3.43	6.86	3.29	2.12609
8	FCC Ltd	6.59	4.55	4.12	5.63	13.29	6.84	3.73402
9	FC Ltd	15.66	5.9	4.14	13.75	48.01	17.49	17.75780
10	FC Ltd	2.48	2.05	1.29	2.7	4.41	2.59	1.15305
11	GC Ltd	15.8	6.03	7.86	5	10.95	9.13	9.36122
12	KC Ltd	7.28	6.6	6.11	40.26	85.83	29.22	34.83416
13	LPC Ltd	2.7	2.74	2.7	4.32	8.49	4.19	2.50248

Here MVS means the Market Value of Shares. The above table shows the average increase or decrease in the Market Value of Share of the thirteen cement companies' form the years 2009 to 2013.
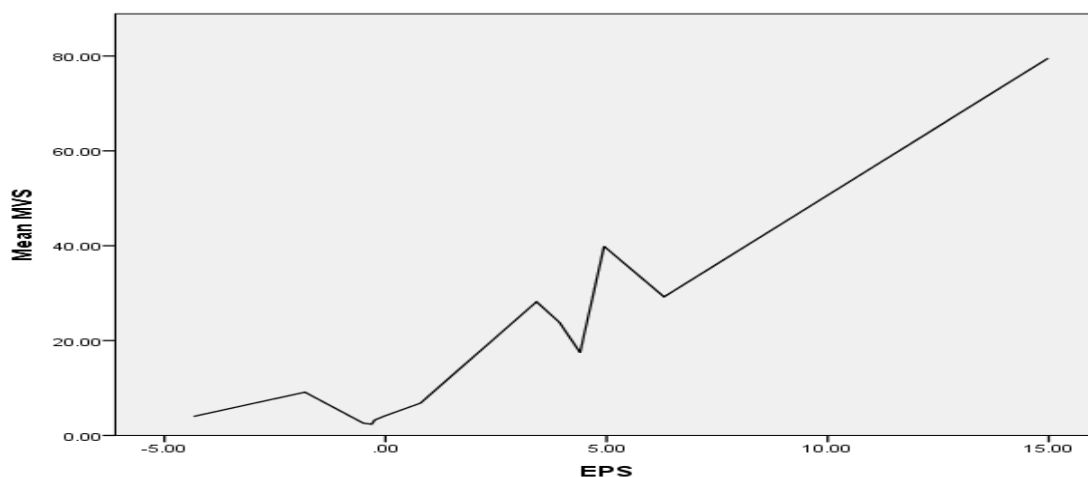
Graph 1. Graphical representation between mean values of MVS and EPS

Table 3. Descriptive Statistics of Market Value of Share

	N	**Mean**	**Std. Deviation**
EPS2009	13	1.7123	5.34441
EPS2010	13	-.7846	4.20396
EPS2011	13	.2538	2.72159
EPS2012	13	4.0731	6.13760
EPS2013	13	6.8769	8.53657
Valid N (list wise)	13		

Table 4. Descriptive Statistics of Market Value of Share

	N	Mean	Std. Deviation
MVS2009	13	15.5862	18.64794
MVS2010	13	11.2862	17.42013
MVS2011	13	9.5362	13.16747
MVS2012	13	19.5938	23.42907
MVS2013	13	40.3869	41.74264
Valid N (list wise)	13		

The above tables give the details of arithmetic mean and standard deviation of Earning per Share EPS and Market Value of Share (MVS) of the sample companies of all the 5 years from 2009 to 2013 under study. The tables' show variance that as mean of Earning Per Shares EPS increased the mean of Market Value of shares also increased and vice versa. Descriptive statistics shows the positive relationship between EPS and MVS.

Table 5. Model Summary

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	.882	.872	7.87155

The R^2 in the model is 0.882 which means that the independent variables can explain 88.2% of change in the dependent variable. The adjusted R^2 demonstrates that 87% of the variances between dependent and independent variables in this model.

Table 6. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5114.993	1	5114.993	82.551	.000[b]
	Residual	681.574	11	61.961		
	Total	5796.567	12			

a. Dependent Variable: MVS

b. Predictors: (Constant), EPS

The researcher used one variable that is acting as independent variable and model shows the significant impact of this variable on dependent variable Market Value of Shares MVS in Pakistan.

Table 7. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.940	2.462		3.631	.004
	EPS	4.261	.469	.939	9.086	.000

a. Dependent Variable: MVS

Beta explains the contribution of independent variable Earning Value of per Share EPS with beta coefficient of 4.261 and sig. value of .000 makes the strong contribution in explaining the Market Value of Shares. The independent variable shows impact on dependent variable Market Value of Shares MVS significantly. The statistical tests applied in this case, also suggest there is a strong relationship between independent variables and dependent variable.

Table 8. Correlation

Correlation		MVS Average
EPS Average	Pearson Correlation	.939[**]
	Sig. (2-tailed)	.000

**. Correlation is significant at the 0.01 level (2-tailed).

Result declaring significant correlation=.939 because value is falling between -1 to +1.

The regression analysis shows that there is a significant impact of independent variable on dependent variable Market Value of Shares MVS. Also the correlation analysis shows that the correlations between variable is as follows, the variable has correlation significant at 0.01 levels with each other. The results of correlation and regression analysis support all hypotheses i.e., the factors have a significant and positive relation with dependent variable Market Values of Shares MVS in Pakistan.

6. Conclusions

There are different factors affecting the market value of a share. Among them one of the important factor taken in the study is Earnings per share Therefore, the present study examines impact and the relationship between MVS & EPS. The regression and correlation models for EPS exposed basic related variable that influencing the MVS of that industry. The graphical representation also shows that MVS increase with the increase of EPS and vice versa. The study is based on the data of 13 cement companies of Pakistan. According to data analysis results we can conclude that EPS impacts the market value of share and have a positive and significance relationship between EPS and MVS in Pakistan cement industries. So our all the hypothesis H_1 and H_2 are proved. Hence investors can form better verdict and make intellectual and rational investment verdicts based on these variables while making investments in cement industry of Pakistan.

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