Factors Affecting the Stock Price Movement: A Case Study on Dhaka Stock Exchange

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Abstract

Stock market is the mirror of the economy of any country. The strength of the economy reflects in the stock market numeric value. After crisis and fall down in different time over years Bangladesh Stock Market is going to settle in a slow speed. Investors are hoping a strong stock market and management beyond political influential and invincible hands. There may exist hundred or thousand causes and events to bring effect on stock price in the capital market of Bangladesh. The study has selected 17 variables which appear to be effective for the movement of stock price in Bangladesh capital market. From the 17 variables through SPSS dimension reduction (or factor analysis) the study got 5 core factors which affect the stock price. The obtained factors are: Industry Performance, Market Influences, Company Performance, Investor Decision, and Financial Consideration. Also to see the effect of selected variable on stock price movement, one variable – EPS is tested with stock price to see the effect. The result came that EPS is highly correlated to stock price movement in the capital market. As we have got different factors can affect the stock price movement. But investor should protect himself from the bad result of these factors. For this, before and after in stock market business the investors should consider about three main things which are acknowledged fully with company information & performance, risk management and continuous monitoring of stock performance.

Keywords: Dhaka Stock Exchange, Fundamental factors, Ideal Price of Stock, EPS, Stock Price, Stock Price Movement.

Introduction

Dhaka Stock Exchange (DSE) is not sufficiently developed to be viewed as it as a perfect securities exchange. The origin of DSE occurred over sixty four years back. The need of setting up a stock trade in the then East Pakistan was first felt by the legislature, in mid 1952, when previous Indian government restricted Calcutta Stock Exchange from executing in Pakistani shares and securities. In Bangladesh, the main impetus of money related segment was truly the business banks. Capital business sector had less parts to play. This was because of the way that the general individuals of Bangladesh are for the most part moderate and they have a blended discernment about the danger example in capital business sector, accordingly fewer speculations were made by them in the early years of DSE. Yet, in the mid 90's capital business began to apparatus up which made individuals intrigued about stock trade. As individuals began to pour their cash in the warmed business it made a major air pocket and clearly it needed to blast. After the burst of 1997, controllers made numerous moves to settle the business. Thus the business began to rigging up for the second time. This time the greater parts of speculators were new and youthful with little information about the essentials or danger of the business sector. They again began to contribute their cash, at times obtained cash to put resources into the capital business sector. Thus again the interest pushed the business sector to rise yet with a much speedier burst that the past one. The bores wretchedly neglected to recover the confidence of financial specialists, which is clear from the successive vacillation in the record at present. It is evident that the business is currently during the time spent remedy, which was long past due. Be that as it may, it is imperative at this moment to know whether there is still space for further amendment. In this setting, this paper means to help financial specialists and different partners to settle on educated choice by distinguishing the variables that really impact the stock price.

The essential capacity of any securities exchange is to assume the part of supporting the development of the business and economy of the nation and it is likewise the estimation device that gives the thought regarding the mechanical development and additionally the solidness of the economy with their execution. The rising record or steady development in the file is the indication of developing economy and if the list and stock prices are on the falling side or their changes are on the higher side it gives the impression of unsoundness in the economy exist in that nation. On the other side we realize that the development of the nation is straightforwardly identified with the economy which comprises of different variables like GDP, Foreign Direct Investment, Remittances, Inflation, Interest rate, Money supply, Exchange rate and numerous others. These variables are the

foundation of any economy. The developments in the stock prices are influenced by changes in essentials of the economy and the assumptions about future prospects of these basics. Securities exchange list is a method for measuring the execution of a business sector after some time. These records utilized as a benchmark for the financial specialists or store chiefs who contrast their arrival and the business sector return. Number of studies directed in USA, UK and Japan to figure out the relationship between macroeconomic variables and the changes of stock costs. The discoveries of these studies demonstrate that with the minor variety these macroeconomic variables have the huge effect on stock costs. These outcomes helped speculators to improve forecasts about the development of stock prices at whatever point these essentials change their position.

Literature Review

It is gotten a handle on that different variables have developed as determinants of offer costs for diverse markets to be specific profit, held income, size, profit per offer, profit yield, influence, payout proportion, book esteem per offer, remote conversion scale, GDP, giving premium rate, examiner reports, accessibility of substitutes, Government arrangement, speculator assessments, claims, macroeconomic basics, administration, market liquidity and soundness, mergers and takeovers, and specialized impacts. Scientist explored two imperative zones of behavioral fund; speculators' mindfulness about capital business sector and the administrations rendered by the financier houses by utilizing an organized poll in view of a review between times of August 2010-September 2010 on 76 individual financial specialists. The outcomes uncover that speculators are cognizant these days and have uplifting state of mind towards capital business sector. The financial specialists are contributing after deliberately exploring all business sector related issues. There is a huge hole in the middle of expected and genuine administration of financier houses. Reasons like high commission rate, non-helpful state of mind of agents, high record support expense and so forth made such contrasts. In the wake of breaking down overview results, instruction and control of the financial specialists are observed to be huge variables for venture, inclination and thought of purchasing shares while no impact of age and sex are found. As indicated by discoveries of the study, financial specialists are recommended to be capable toward both capital business sector circumstance and be aware of financier house administrations. There are absences of studies concerning individual financial specialists' conduct in Bangladesh (Farzana, W. et al., 2012).

The sole center of this very research was to outline the real determinants of stock cost if there should be an occurrence of the biggest securities exchange in Bangladesh named as Dhaka Stock Exchange (DSE). The specialists have utilized board information relating to five divisions of DSE - Food and Allied, Fuel and Power, Engineering, Pharmaceuticals and Chemicals, and Healthcare parts for the period 2006-2010 and utilized completely altered standard slightest squares strategy. According to the examination result variables like - profit, value income proportion and influence were huge determinant of offer costs for all the previously stated parts. Also, benefit did impact offer costs just on account of the Food and Allied, Engineering, and Healthcare parts separately (Elizabeth, C. K. & Haryati, S., 2012).

A study has put an incredible step to recognize what decides the offer costs of securities exchange concentrating only on money related area of Bangladesh. Information have been gathered from organizations like Bank, Insurance, Leasing Companies connected with budgetary part going from 2005 to 2011 from Dhaka Stock Exchange (DSE). Some related variables like Net Profit after Tax (NPAT), Price income proportion (P/E), Net resource esteem (NAV), Earnings per offer (EPS) were chosen from past writing for choosing stock value (SP) determinants. A relapse demonstrate alongside some expressive measurable instruments was connected utilizing SPSS. Discoveries demonstrate that Earnings per offer (EPS), Net resource esteem (NAV), Net benefit after assessment (NPAT) and Price profit proportion (P/E) have solid association with stock costs (Uddin, M.R., Rahman, S.M. Z., Hossain, M.R., 2013).

Deb, S. G., & Mukherjee, J. (2008) try to explore the effect of some macroeconomic variables on the execution of Ghana Stock Exchange with the assistance of quarterly time arrangement information for the period from 1991 to 2005 by utilizing co joining and mistake adjustment model. The discoveries recommend that there is a powerless impact of Treasury bill rates and on at the other hand business sector requires some investment to react in expansion situation. More solid results can be created by including some other macroeconomic variables like cash supply and mechanical generation in this study.

One of the most punctual studies which give the reasonable thought regarding the kind of connections between some macroeconomic variables and securities exchange files was directed by Garcia and L. Liu, (1999) in which the analyst explores the relationship between macroeconomic variables and stock costs in Emerging nations like Brazil, China, India and Russia. The macroeconomic variable in this study was conversion scale and oil cost. The month to month information from March 1999 to June 2006 was broke down on Box-Jenkins ARIMA model and the outcomes propose that there is no noteworthy relationship sound between the oil costs and swapping scale over the share trading system of those developing nations and as a result of that powerless type of business sector productivity exist in these capital markets.

Levine and Zervos (1996) examined the way of easygoing connection between stock prices and

swapping scale in four old EU nations (Austria, France, Germany and the UK) and the four new individuals (Czech Republic, Hungary, Poland and Slovakia) and in the USA. The information changes for every district contingent on the accessibility. The month to month information from December 1969 to December 2003 is utilized for Austria, France, Germany, UK and USA while for Poland it is from December 1993 to December 2003 for Czech Republic December 1994 to December 2003 for Hungary January 1995 to December 2003 and for Slovakia June 1995 to December 2003. There are a few tests are utilized like Co reconciliation investigation, vector lapse rectification displaying standard Granger loss test to discover the linkage between swapping scale and stock costs and they reason that there is no long run relationship exist in initially broke down period covering from 1970 to 1992. In the period from 1993 to 2003 much more grounded loss discovered in old EU individuals and USA in view of their solid securities exchange and conversion scale advancement. Long run harmony does not exist in new EU individuals because of relative being worked on business sectors.

Ologunde, A., Elumilade, D., Saolu, T., (2006) try to re-examine the hypothesis which suggest the stock market have negative impact on real economic activities in Germany. They gather the information of 41 years from 1960 to 2000 and construct the VAR model. They utilized CPI as the measure of expansion while genuine rate of return of DAX stock list was utilized as securities exchange returns. They presume that the stock costs are adversely related with the development of job in the nation while the GDP development rate have the positive connection with securities exchange. This study should be possible with including more variables into the model which produces more suitable results.

Heritage Foundation, (2012) explore the impact of local and global macroeconomic variables on Vietnamese stock costs. They connected relapse demonstrate on vieteame information and additionally the US information of same variables which incorporates Vietnam stock costs, mechanical creation, CPI, VN fundamental premium rates and government security rates for Vietnam while S&P 500, modern generation, CPI, US treasury charge three month rates and long haul government security information for US. The consequences of the study suggest that mechanical generation have the positive effect on Vietnamese stock prices though transient and long haul both sort of interest rates indicated immaterial impact on stock costs. The outcomes likewise propose that genuine generation action of US has the noteworthy effect on Vietnamese stock prices.

Rationale of the study
The rationale of the report topic is that the volatility of stock price movement over few years is very high. Even capital market experienced with the lowest and highest stock exchange point in the meantime. There are different causes and events which affects the stock movement in Bangladesh capital market. But constituted composite of the cause and events, which factors affect the stock price most is important to find. Different researches have made related to this topic in different ways. But the study has selected its own variables which affects the stock price movement very high. For the above reasons, we have made decision to prepare a research on Factors Affecting the Stock Price Movement in Bangladesh.

Research Questions
The specific research Questions are given below:
  a)   What factors affect stock price movement in Bangladesh capital market?
  b)   Whether EPS as a factor of variables can change the stock price?
  c)   How Stockholders thinks about factors that affect stock price movement?

Objective of the study
We have carried out this study to find out some key issues about Price movement factors of stock market in Bangladesh. As a result we have developed some objectives of this study.

Core Objective
The core objective of this study is to find out what factor or factors influence stock market price movement. It is also to find the answer of the research questions which have been given in the previous Para.

Specific objectives
Some specific objectives of this study are:
  • Determine the factors from selected variables which can affect the stock price movement in the capital market of Bangladesh.
  • Find the opinion of different stockholders of different company's stock on factors that affect the stock price movement.
  • Test of EPS if EPS declaration can affect the stock price?
  • To give some recommendations for the betterment of the stockholder in stock trading.

Methodology

This study is broadly designed to find out the influence factors of changing the stock price. Besides the paper endeavors to contrasts the business sector cost of shares and their optimal cost to figure out if these stocks are as of now exaggerated or underestimated.

Research Design

This study is done in an exploratory research design method. The objectives of the study are to find the factors. So, it is an exploratory research. But there will be recommendation based on results too.

Data Sources

There are two sources of data which have been used in the study: 1) Primary Source and 2) Secondary Sources. Primary data is the first hand information or raw information which has collected at first time. In the study, the responses on variables which have collected from 30 respondents is source of Primary Data. Source of Data which has collected from different articles, research, report, thesis paper or from websites is called secondary data. In this study, several research papers have been viewed from the determination research design and formula. Also data have collected from different websites for the DSE and other websites.

Sampling Plan and Data Collection Procedures

This study is narrow, so sample size of respondents is only 30. After determining the sample size the data were collected from selected stakeholder of capital market who was convenient to us. Data were collected through a formal questionnaire. Questionnaire was divided into two parts – Personal information and variables list. Respondents were asked to put mark on the variables by determining how the variable affects the stock price movement In this study, Likert scaling technique has been used to code data. In this likert scaling technique, 5 response categories have been used ranging from 1(minimum) to 5 (maximum). The label of these 5 response categories are like 1= strongly agree, 2= agree, 3= Neutral, 4= disagree and 5= strongly disagree.

Data Analyzing Techniques

Statistical method of factor analysis has been applied in this study. Analysis of data is required to fulfill the objectives of report, to find out the factors and to bring correlation between one variable (EPS) and stock price movement.

Analysis of the study

Among 17 variables, to determine the factors all variables are rotated into SPSS 21 statistics application. The results are given below to show obtained factors and related information.

Output – 1: Descriptive Statistics

The first output from Factor analysis using SPSS 21 is descriptive analysis from the table we get the mean and standard deviation value for each variables. It is only to show the average of opinion given by the respondents.

In the table below, the noticeable values are – first question have got mean value 4.70 which means respondents agree strongly that EPS is a considerable facto in dictating the stock price movement. Also the standard deviation of the variable is .47 and covariance 10% which indicates very less difference in opinions of the respondents.

In the below part, the variable (trends play powerful part at monitoring stock price movement) has got mean value 4.90 and standard deviation .31 which indicates Respondents are strongly agree with that variable which can change stock price. The values are showing strongest among the total 17 variables.

Table 1: Descriptive Statistics

	Mean	SD	N
Can EPS be a considerable factor in dictating the stock price movement	4.70	.47	30
To what extent do you find P/E ratio influencing stock price movement	4.00	.83	30
Do you think dividend can be important to stock price movement	3.00	1.23	30
Stock splits are important to the maintenance of stock price movement	3.20	1.10	30
Do you find Share Buy Back important	2.57	1.10	30
Company news can be factorial to the stock price movement	2.93	1.08	30
Industry performance can be crucial	4.33	.71	30
Investors' sentiment is an important dimension to consider	3.07	1.08	30
Do you think economic factors are important	4.63	.49	30
Do you think Takeover or Merger affect stock price	3.03	1.42	30
Do you think new product introduction and practicing are important	3.77	1.04	30
Insider trading can affect stock price movement	3.83	.98	30
Economic strength of market or peer should be considered as affecting	4.50	.51	30
Substitutes are influencers at dictating stock pricing	4.33	.71	30
Incidental transactions are also viable to be taken as affecters	2.53	1.27	30
Trends play powerful part at monitoring stock price movement	4.90	.31	30
Liquidity plays important role at setting and maintaining stock price movement	3.87	.86	30

Among others variables Economic strength of market has means value 4.50 (standard deviation .51); Industry performance (mean 4.33 and sd .71); Economic Factors (mean 4.63 and SD .49); Substitutes (mean 4.33 and SD .71) – all are showing strong values which indicates respondents are strongly agree in these variables that these variables can change the stock price movement in Bangladesh.

In the meantime, we also see that variables like – Do you find Share Buy Back important (mean 2.57 and SD 1.10); Company news can be factorial to the stock price movement (mean 2.93 and SD 1.08); and Incidental transactions are also viable to be taken as affecters (mean 2.53 and Standard deviation 1.27) – have got lowest mean value with highest standard deviation value and also the covariance value for these three variables are 42.8%, 36.86% and 50.20% respectively. These values indicate that respondents that mean clients of ILSL are not sure about the effects of the variables in affecting the stock price movement.

Output – 2: KMO and BARTLETT's Test

SPSS output 2 shows several very important parts of the output: the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity. The statistic varies between 0 and 1. A value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations (hence, factor analysis is likely to be inappropriate). A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors.

Kaiser (1974) recommends accepting values greater than 0.5 as acceptable. Furthermore, values between 0.5 and 0.7 are mediocre, values between 0.7 to 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999).

Moreover, Bartlett's measure tests the null hypothesis that the original correlations matrix is an identity matrix. For Factor analysis to work we need some relationship between variables and if the R-matrix were and identity matrix then all correlations would be zero. Therefore we need this test to be significant (or have a significance value less than 0.05). A significant test tells us that the R-matrix is not an identity matrix; there are some relationships between the variables we hope to include in the analysis.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.535
Bartlett's Test of Sphericity	Approx. Chi-Square	240.352
	df	136
	Sig.	.000

From our SPSS output on KMO and Bartlett's Test it is seen that the Kaiser-Meyer-Olkin Measure of Sampling Adequacy value is 0.535 which means the sampling adequacy is acceptable but not good.

Again for these variables and data Bartlett's test is highly significant (p<0.001) and therefore, on the basis of the output a factor analysis is appropriate.

Output – 3: Factor Extraction
SPSS output 3 lists the eigenvalues associated with each linear component (factor) before extraction, after

extraction and after rotation. Before extraction, SPSS has identified 17 linear components within the data set (we know that there should as many eigenvectors as there are variables and so there will as many as variables). The eigenvalues associated with each factor represent the variance explained by that particular linear component and SPSS also displays the eigenvalue in terms of the percentage of variance explained.

Here from the below table which has got from SPSS result for the study data we see, the Component (factor) 1 explains 24.322% of total variance. It should be clear that the first few factors explain relatively large amounts of variance (especially factor 1, 2, 3) whereas subsequent factors explain only small amounts of variance. SPSS then extracts all factors with eigenvalues greater than 1, which leaves us with four factors. The eigenvalues associated with these factors are displayed with the percentage of variance explained in the columns labelled *Extraction Sums of Squared Loadings*. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored (hence, the table is blank after the fourth factor).

Table 3.1 : Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.135	24.322	24.322	4.135	24.322	24.322
2	2.794	16.438	40.760	2.794	16.438	40.760
3	2.496	14.683	55.443	2.496	14.683	55.443
4	1.494	8.786	64.229	1.494	8.786	64.229
5	1.377	8.102	72.331	1.377	8.102	72.331
6	.951	5.592	77.923			
7	.828	4.872	82.795			
8	.718	4.222	87.017			
9	.446	2.626	89.643			
10	.404	2.374	92.017			
11	.380	2.235	94.252			
12	.272	1.600	95.851			
13	.185	1.091	96.942			
14	.181	1.063	98.005			
15	.158	.929	98.934			
16	.126	.742	99.676			
17	.055	.324	100.00			
Extraction Method: Principal Component Analysis.						

Table 3.2 : Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.135	24.322	24.322	3.033	17.841	17.841
2	2.794	16.438	40.760	2.548	14.988	32.830
3	2.496	14.683	55.443	2.548	14.988	47.818
4	1.494	8.786	64.229	2.377	13.980	61.798
5	1.377	8.102	72.331	1.791	10.533	72.331

In the final part of table (labelled *Rotation Sums of Squared Loadings*), the eigenvalues of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the four factors is equalized. Before rotation, factor 1 account for considerably more variance than the remaining three (24.322% compared to 16.438%, 14.683%, 8.786%, 8.102%), however after extracting it accounts for only 17.841% of variance (compared to 14.988%, 14.988%, 13.980%, 10.533% respectively).

Output – 4: Communalities and Component Matrix

SPSS output 4 shows the table of communalities before and after extraction. Principal analysis works on the initial assumption that all variance is common; therefore, before extraction the communalities are all 1. The communalities in the column labelled extraction reflect the common variance in the data structure. The amount of variance in each variable that can be explained by the retained factors is represented by the communities after extraction. So, for example 43.5% of the variance associated with question 1 is common, or shared, variance.

Table 4: Communalities

	Initial	Extraction
Can EPS be a considerable factor in dictating the stock price movement	1.000	.435
To what extent do you find P/E ratio influencing stock price movement	1.000	.600
Do you think dividend can be important to stock price movement	1.000	.733
Stock splits are important to the maintenance of stock price movement	1.000	.539
Do you find Share Buy Back important	1.000	.651
Company news can be factorial to the stock price movement	1.000	.747
Industry performance can be crucial	1.000	.744
Investors' sentiment is an important dimension to consider	1.000	.743
Do you think economic factors are important	1.000	.731
Do you think Takeover or Merger affect stock price	1.000	.798
Do you think newproduct introduction and practicing are important	1.000	.820
Insider trading can affect stock price movement	1.000	.813
Economic strength of market or peer should be considered as affecting	1.000	.848
Substitutes are influencers at dictating stock pricing	1.000	.805
Incidental transactions are also viable to be taken as a factor	1.000	.761
Trends play powerful part at monitoring stock price movement	1.000	.754
Liquidity plays important role at setting and maintaining stock price	1.000	.774

At this stage SPSS has extracted four factors. One important decision is the number of factors to extract. By Kaiser's criterion we have five factors. However, this criterion is accurate when there are less than 30 variables and communalities after extraction are greater than 0.7 From commonalties table, we can see that the total number of variables are 17 (lower than 30) and the average value after extraction is 0.723 (higher than required 0.7) so, it is acceptable to retain all factors with eigenvalues above 1 (Kaiser's criterion).

Output – 5: Scree Plot
The scree plot shows the eigenvalue into graph. In the scree plot it is seen that 5 factors has got 1 eigenvalues and they are above the value 1. Other variables are under 1 and goes down to end to no. 17.
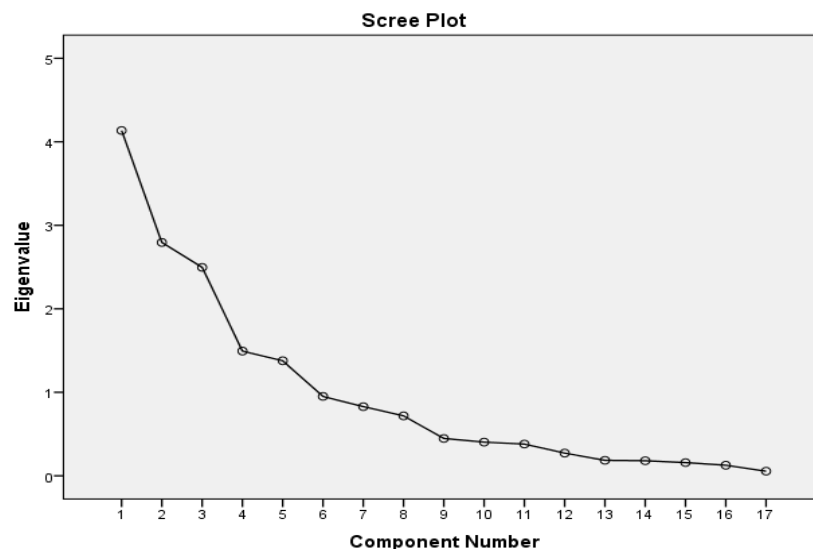

Figure 1: Scree Plot

OUTPUT – 6: ROTATED COMPONENT MATRIX
SPSS output 6 shows the rotated component matrix (also called the rotated matrix in factor analysis) which is a matrix of the factor for each variable onto each factor. This matrix contains the same information as the component matrix in SPSS 4 except that it is calculated after rotation. There are several things to consider about the format of this matrix. First, factor loading less than 04 have not been displayed because the study asked for these loadings to be suppressed. If you didn't select this option, or didn't adjust the criterion value to 0.4, then output will differ. Second, the variables are listed in the order of size of their factor loadings because it is asked for the output *Sorted by Size*. If this option was not selected output looks different and complex.

However, the rotation of the factors structure has clarified things considerably: there are five factors and variables load very highly loaded in different factors. The suppression of loadings less than 0.4 and ordering

variables by loading size also makes interpretation considerably easier.

In the end, it is the responsibility of researcher to give a name to each factor by considering the underlying variables. The name of the factor should explain every variable under it. In the end of this part, the study has revealed 5 factors and has given a name to each factor.

Table 5: Rotated Component Matrix

	Component				
	1	2	3	4	5
Incidental transactions	-.834				
Substitutes are influencers	.796				
Economic factors	-.749				
Industry performance	.612		.606		
Dividend	.576			-.467	
Economic strength of market or peer		.848			
Do you think Takeover or Merger affect stock price		.837			
Insider trading can affect stock price movement		.746	.436		
New product introduction and practicing			.839		
Liquidity at setting and maintaining stock price			-.718		
Company news			-.652	.458	
P/E ratio				.763	
Share Buy Back				.702	
Investors' sentiment			.441	-.624	
Stock splits					.728
Trends					.727
EPS					-.416
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 7 iterations.					

Factor -1: Industry Performance

The variables loaded under factor 1 are given below:

Loaded Variables	Factor Loadings
Incidental transactions	-.834
Substitutes are influencers	.796
Economic factors	-.749
Industry performance	.612
Dividend	.576

By considering loaded variables of the factor, it could be named as *Industry's Performance*. As all variables are related to the performance of industry performance like substitute influences, industry performance, economics performances etc.

Factor – 2: Market's Performance

Loaded Variables	Factor Loadings
Economic strength of market or peer	.848
Do you think Takeover or Merger affect stock price	.837
Insider trading can affect stock price movement	.746

By considering loaded variables under the factor 2 it should be named as *Market Performance.* Economic strength of market or peer, Takeover or merger trend affect and insider trading is under the market factors.

Factor – 3: Company Performance

Loaded Variables	Factor Loadings
New product introduction and practicing	.839
Liquidity at setting and maintaining stock price	-.718
Company news	-.652

By considering loaded variables under the factor 3 it should be named as *Company Performance.* Because

company news, new product introduction and liquidity fall under the performance of company in the market.

Factor – 4: Investor Decisions

Loaded Variables	Factor Loadings
P/E ratio	.763
Share Buy Back	.702
Investors' sentiment	-.624

By considering loaded variables under the factor 3 it should be named as *investor decisions.* Because depending on P/E ratio investor decides what to do, share buyback depends on investor opinion and investor's sentiment already related to Investors Decisions.

Factor – 5: Financial Considerations

Loaded Variables	Factor Loadings
Stock splits	.728
Trends	.727
EPS	-.416

By considering loaded variables under the factor 3 it should be named as *Financial Considerations*. Because trends related to financial performance of the total industry, other two is indirectly related to Financial Considerations.

After factor analysis of variables it is clear that from the result that the stock price movement in Bangladesh capital market depends on five factors. The factors are:

1. Industry Performance
2. Market Influences
3. Company Performance
4. Investor's Decisions
5. Financial Considerations

Relationships between EPS and Stock Price Movement

Here, it has been shown an empirical study that shows the relationship between shares price and earnings per share that means profitability. It has been shown two things that are share price before declaring dividend and after declaring dividend. To do this, we have taken DSE-20 shares as sample data. Total process is as following:-

  I.   Sample data is DSE-20 shares.
 II.   Moving average to calculate the average price and average EPS.
III.   Converted some par value into Tk. 10 for convenience.
 IV.   First, it has shown how strongly share price is related to without EPS.
  V.   Secondly, it has shown how strongly share price is related to with EPS.
 VI.   Then we have analysis this relationship by coefficient of correlation [r] and coefficient of determination [r2].

Table 6: Sample Data of EPS

Company	Before EPS Price (X)	After EPS Price (Y)	EPS AVERAGE
Islami Bank Bd Ltd	61.9	64.04	4.75
NBL	82.5	73.15	15.57
Prime Bank	53.8	69.78	5.96
Southeast Bank	37.93	48.7	5.42
Dhaka Bank	55.5	48.67	6.31
Uttara Finance	251.4	305.8	12.76
Bangladesh Lamps	193.5	241.74	4.3
Singer Bangladesh	614.38	573.88	12.38
BATBC	628.1	632.5	47.58
AMCL (Pran)	126.6	170.7	4.8
BOC Bangladesh	577.15	684.1	32.23
Square Textile	164.9	175	6.01
BeximcoPharma	268.8	347.65	36.3
ACI Limited.	259.45	372.35	5.88
Square Pharma	308.5	360.48	13.56
Meghna Cement	228.3	221	5.4
Apex Tannery	124.25	168.75	4.05
Bata Shoe	532.4	636.2	30
Monno Ceramic	63.28	99.66	8.14
GQ Ball Pen	152.25	208.7	4.03

Source: DSE monthly review.

Before EPS Price: These prices are taken 3 months later after giving dividend by the moving average.

After EPS Price: These prices are taken after declaring dividend by the motioned company over the year using moving average (Cash, Bonus Share or Right Issue)

Table 7: R & R^2 Calculation

Company	Before EPS Price (X)	After EPS Price (Y)
Islami Bank Bd Ltd	61.9	64.04
NBL	82.5	73.15
Prime Bank	53.8	69.78
Southeast Bank	37.93	48.7
Dhaka Bank	55.5	48.67
Uttara Finance	251.4	305.8
Bangladesh Lamps	193.5	241.74
Singer Bangladesh	614.38	573.88
BATBC	628.1	632.5
AMCL (Pran)	126.6	170.7
BOC Bangladesh	577.15	684.1
Square Textile	164.9	175
BeximcoPharma	268.8	347.65
ACI Limited.	259.45	372.35
Square Pharma	308.5	360.48
Meghna Cement	228.3	221
Apex Tannery	124.25	168.75
Bata Shoe	532.4	636.2
Monno Ceramic	63.28	99.66
GQ Ball Pen	152.25	208.7

Correlation coefficient R: 0.980445635 and Coefficient of determination R^2: 0.961273643 (From SPSS sheet).

Interpretation and Findings

Interpretation R^2: R^2 is a statistic that will give some information about the goodness of fit of a model. In regression, the R^2 coefficient of determination is a statistical measure of how well the regression line

approximates the real data points. An R^2 of 1.0 indicates that the regression line perfectly fits the data. Values of R^2 outside the range 0 to 1 can occur where it is used to measure the agreement between observed and modeled values and where the "modeled" values are not obtained by linear regression and depending on which formulation of R^2 is used. If the first formula above is used, values can never be greater than one. If the second expression is used, there are no constraints on the values obtainable. In our study the result is **0.961273643.** So it expresses two variables perfectly.

Interpretation R: The correlation coefficient is a number between 0 and 1. If there is no relationship between the predicted values and the actual values the correlation coefficient is 0 or very low (the predicted values are no better than random numbers). As the strength of the relationship between the predicted values and actual values increases so does the correlation coefficient. A perfect fit gives a coefficient of 1.0. Thus the higher the correlation coefficient the better it is.

Here, our result is **0.980445635** which is near about 1.Therefore, EPS and share price is highly correlated. Indeed, we can say when one company declared dividend then the price increases.

Appropriateness of factor analysis is measured through Kaiser-Meyer-Olkin test and the result shows that factor analysis is the ideal method of analyzing the data. Initial eigenvalue indicates the control of individual component. Among 17 components, 5 components are retained on the basis of eigenvalue. These five components have total 72.331% of variance. As a result it can be summarized that these five components have 72.331% influential power to move the price of stock market. The total eighteen variables are extracted into five factors and these five factors are labeled as follows: Industry Performance, Market's Performance, Company Performance, Investor Decisions, and Financial Considerations. Finally it can be said these five factors affect the price movement of stock market.

Recommendation

As we have got different factors can affect the stock price movement. But investor of ILSL should protect himself from the bad result of these factors. For this, before and after in stock market business the investors should follow the common regulations which are given below:

➢ Know the company what the investors are going to invest by being acknowledged with
  • Financial performance of the company; Company's track record
  • Business Cost; Risk Factors; Dividend History
  • Leadership
➢ To reduce the risk in stock business the investor's should consider these recommendation
  • Holding of diversified stock portfolio
  • Invest for the long term
  • Don't try to time the market, after a sudden time price can fall so fast
  • Get advice if the investor is not a knowledgeable investor
  • Be careful about buying private stock
  • Be aware of the dangers of investing offshore
➢ Continuous monitoring of stock performance
  • Review your account statements
  • Check stock tables
  • Compare against benchmarks
  • Get current news on the companies you're invested in.
  • Use indicators to re-asses investment decisions
  • Consult with advisor
  • Follow stock market news
  • Keep up with general economic news

As we know that the investors can get information on a company, investor can check different disclosure documents, annual reports, news release, and company websites.

Conclusion

There may exist hundreds or thousands causes and events to bring effect on stock price. The study has selected 17 variables which appear to be effective for the movement of stock price. From the 17 variables through SPSS dimension reduction (or factor analysis) the study got 5 core factors which affect the stock price. The obtained factors are: Industry Performance, Market Influences, Company Performance, Investor Decisions, and Financial Considerations. Also to see the effect of selected variable on stock price movement, one variable – EPS is tested with stock price to see the effect. The result came that EPS is highly correlated to stock price movement in the capital market.

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