Predictability of Share Prices through Corporate Annual Reporting: A Focus on the Dhaka Stock Exchange

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Abstract

This paper investigates the relationship between corporate performance indices found in corporate annual reports and stock price fluctuations in the Dhaka Stock Exchange (DSE).

The study analyses disclosures regarding Earnings Per Share, Net Asset Value per Share, Price Earnings ratio, Net Profit After Tax, Declaration of Dividends, and Dividend Yield Ratio made by companies in their corporate annual reports and investigates the relationship of these indices to the stock price fluctuation of those companies.

This research found that Dividend Yield Ratio (1% sig.) and Earnings Per Share (5% sig.) are positively related with share price. This paper concludes that share prices in the DSE rarely have any relationship with disclosures of the above corporate performance indices (r2 = .184) and as such these indices should not be the sole criteria on which to base stock investment decisions.

Keywords

Stock Price Fluctuation
Corporate Annual Reports
Dividend Yield Ratio
Earnings Per Share
Dhaka Stock Exchange

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Introduction

This study questions the recent arguments made by stock market specialists suggesting fundamental analyses of performance indices before investing in any stock and also investigates whether this holds under the theory of *Efficient Market Hypothesis (EMH)*. We extend the study by Saha and Bhuiyan (2013), which tested the relation between *P/E Ratio* and stock price fluctuation, by testing the effect of additional performance indices along with the *P/E Ratio* on stock price fluctuation.

Since the early 1970s, numerous studies on the stock market have been conducted, with most focusing on stock returns because it is important to both investors and business organizations to know what influences their investment returns and company stock value. Factors considered by researchers are *Dividend Price Ratio* (Campbell and Shiller, 1988a, 1998; Lo and McKindley, 1988; Poterba and Summer, 1988); *Price Earnings (P/E) Ratio* (Basu, 1983; Lamont, 1998); *Dividend yields Ratio* (Fama and French, 1988; Hodric, 1992; Kothari and Shanken, 1992; Goetzmann and Jorion, 1993); and *Earnings Ratio* (Ma and Kao 1990; Ajayi and Mougoue, 1996; Nieh and Lee, 2001). The identification of influencing factors on stock return is not only an important issue for academicians, but also has a critical role for fund managers and individual investors who aim to maximize the return on their investment. This has been a research question for decades and little attention has been paid to emerging markets like *Dhaka Stock Exchange (DSE)*.

This is the first known research of its kind investigating the predictability of stock prices in *DSE* based on such comprehensive *corporate annual report (CAR)* indices. Stakeholders of *DSE*, specifically the investors, regulators and officials of *DSE* and *BSEC* (Bangladesh Securities and Exchange Commission) may find interest in the study findings because emerging markets are differentiated from developed markets with respect to their heterogeneous nature and inherent dynamics. These are the markets characterized by high volatility and high average returns. It has been shown that they are not integrated with the developed markets

of the world as evidenced by a very low correlation with the rest of the world and among them (Bekaert et al., 1998). Thus, the present study on *DSE* may contribute an interesting insight to the existing knowledge.

Review of Literature and Hypothesis Development

Prior literature in this area studies similar relations in terms of developed and other developing countries of the world. Gordon (1959) was one of the first who developed a model to estimate stock value based on its dividend stream. Since then, a few other models and theories have been developed to explain the effect of dividend on stock value (Litzenberger and Ramaswamy, 1982; Elton et al., 1990). However, *residual dividend theory* argues that managers pay dividends only if they do not have any profitable investment projects. They will allocate earnings of the firm, first, to the company investment projects and the leftovers are distributed among shareholders. Lower (zero) dividends are preferred by investors due to the tax advantage of capital gains compared to dividends as argued by the *Tax-effect explanation* (Brennan, 1970). According to *Signaling theory* (Spence, 1973; Bhattacharya, 1979; Kalay, 1980; Miller and Rock, 1985) managers will send signals to investors to assure them that the firm will continue to prosper. Any means could be used as signals; however, signals should be in a form that is not easy for competitors to mimic. One of these signals is the dividend. Generally, paying a high amount of dividend (*i.e.* high *dividend yield*) signals the strength of income generation ability of the firm to investors.

The dividend signal is very hard to mimic by competitors who are not as prosperous as the signaling firm. However, some empirical evidence has shown that this signal is not always perceived in a consistent way (Blume, 1980; Chen, 1986; Keim, 1985, 1986; Rao et al., 1992; Gombola and Liu, 1993; Gwilym et al., 2000; Al-Mwalla et al., 2010; Aono and Iwaisako, 2010) and has documented that dividends paid to investors may signal differently in different times. If the market is booming (*i.e.* bull market condition), a high amount of dividend paid to investors may signal that the firm do not have good investment opportunities ahead. However, if the market is weakening (i.e. bear market condition), a high amount of dividend paid to investors may signal the financial stability and strength of the firm. Research has tested and confirmed this conclusion using advanced econometrical methods (Rao et al., 1992; Gombola and Liu, 1993; Gwilym et al., 2000; Campbell and Diebold, 2009; Chang, Hsieh and Lai, 2009; Al-Mwalla et al., 2010; Aono and Iwaisako, 2010; Henkel et al., 2011). From this the following hypotheses are developed:

H1*: There is a positive relationship between reporting Dividend Yield Ratio and share price.*

H2*: The declaration of stock dividends helps to increase the share price.*

The last two decades have seen a dramatic change in corporate payout policy, as firms are increasingly using share repurchases to distribute cash (Fama and French, 2001; Grullon and Michaely, 2002). For the *S&P 500*, stock buybacks have grown from 10% of dividends in 1980 to actually surpassing dividend payments since 1997. At the same time repurchases have risen and the use of stock-based compensation has taken off. Three quarters of the members of the *S&P 500* from 1994 to 1998 increased stock option grants over the period. While current accounting standards do not require a firm's earnings to reflect the value of stock options granted to employees during the current year, they do attempt to account for the potential dilutive effect of outstanding options on an existing shareholder's claim on the firm. Reported *EPS* divides the level of earnings by the sum of common shares outstanding and common stock equivalents, which are added to reflect outstanding dilutive securities like options. The granting of stock options will increase the number of shares over which earnings are divided, thus diluting *EPS*. The cost of an option program is therefore ultimately reflected by an erosion of *EPS*. This is important, as the *EPS* is widely used to evaluate firm performance and determine stock valuation.

In order to counter this dilution, the firm can repurchase stock. Repurchasing shares reduces shares outstanding, and the cash used to purchase the stock is not deducted from earnings. Therefore, *EPS* will be boosted when

a firm repurchases stock. Thus, an ongoing share buyback program can at least partially undo the dilution that results from stock option grants, making the real costs firms are incurring from stock options less apparent. This illustrates why Charles Clough, chief investment strategist at Merrill Lynch, refers to share repurchases as 'a pure earnings management scheme' (The Wall Street Journal, February 22, 1999). To the extent that stock prices are sensitive to reported *EPS*, some firms may have an incentive to repurchase shares to undo the dilutive effect of option programs (Bens et al., 2003). This indicates that *EPS* is considered in literature to have impact on the share price variability, which links to our next hypothesis:

H3: *Share price change is positively related to the EPS.*

The inherent simplicity in understanding its significance has made *P/E ratio* particularly popular among ordinary investors. Investment analysts also give *P/E Ratio* its due importance before making investment decisions and for timing the entry into or exit from a stock. Basu (1997) showed how the *P/E ratio* can be used to select stocks that have good price appreciation potential. His analysis showed that stocks with low *P/E Ratios* earned a risk adjusted rate of return that beats the returns earned by a naive buy and hold strategy. The *P/E Ratios* of Japanese firms are known to be higher than those of other countries. In addition, apart from forecasting individual stock returns, stock market investors are also interested in the forecasting power of market wide averages of variables like *dividend yield*, *P/E* and *book-to-market ratios* as tools in market timing in highly volatile stock markets. One of the objectives of this paper is to investigate the ability of *P/E Ratios* to predict future stock market volatility in *DSE* – which is an emerging equity market.
Erb et al. (1995) argue that selection based on country risk rather than traditional attributes such as *P/E*, *dividend yield* and *book-to-market* yields superior results in emerging markets. Following the earlier research in 1960s and 1970s, which in general support the view that stock returns could not be predicted, more recent studies provide evidence that medium to long term stock returns can be explained by variables like *Dividend yields*, *P/E ratios, term structure, default premiums* and *past returns* (Fama and French, 1988, Campbell and Shiller, 1988b). These findings seem to contradict *EMH*. Yet Fama (1991) argues that return predictability is the result of changing expected returns over time, rather than a sign of inefficiency. Investigating the sources of predictability in stock returns, Ferson and Harvey (1997) found that, rather than inefficiencies like fads, it is the change in expected returns and risk sensitivities (beta) that explain the predictable component of stock returns. In contrast, Harvey (1995) asserts that emerging market returns are more predictable than developed market returns. Thus, return predictability does not necessarily give way to excess profits in the market. Bleiberg (1994) employs aggregate data for future stock returns and average *P/E Ratio* to develop a market timing and asset allocation strategy. To this end, he relates historical average *P/E Ratios* with future returns using *S&P 500* index. Bierman (1991) points out that *P/E* of Japanese firms are considerably overstated because of widespread reciprocal ownership in Japan. In his opinion, when large amounts of common stocks are held by corporations and when dividend payout is as low as is common in Japan, *P/E* can be substantially inflated. Ikeda (1992) claims that such upward bias of *P/E Ratios* is not necessarily due to crossholding alone. Instead, the *P/E* adjustment process should take into account different levels of scale, earning and payout ratios that are interconnected by different degrees of reciprocal ownership. Evans and Lewis (1995) argue that the general conception of the *P/E Ratio* plus the inflation rate ideally being no more than be 20 does not hold any longer. He suggests that the rule might have lost its validity and that many are trading at much higher *P/E Ratios*, but there still exist some fundamental relationship between the yield on stock and bonds. Several attemps have also been made to find the effect of firm size and *P/E Ratios* in relation to equity return. Basu (1997) claims that *P/E ratio* subsumes the size in sample specific cases. Thus this might be of research interest to see the effect of both *P/E ratio* and size (proxied by *Net Asset Value Per Share* in this study) on stock price fluctuation.

Cook and Rozeff (1984) later examined the joint effect of size and *P/E Ratio* and their findings suggest that both effects are at work, i.e. one is not subsumed by another as claimed by previous works. Fama and French (1992) provided even greater support for this ratio as

a measure of relative value. The purpose of their study was to examine alternative variables that would explain the cross-section of the rates of return on common stocks. Shapiro and Pham (1996) explain that the *P/E Ratio* indicates the future growth in earnings which is positively correlated to expected future return on equity and negatively related to current return on equity. They propose that current return on equity is not good indicator of *P/E* since a given level of *P/E* can be associated with alternative combinations of current and future return on equity. Fama and French (1988) and Campbell and Shiller (1998, 2001) use, in addition to *P/E*, the dividend-yield in order to predict future market returns. Shiller (2000) indicates that *P/E Ratios* that are high relative to their long-run historical average signal 'irrational exuberance' in the stock market and are usually followed by sell-offs and low future returns. Thus, the *P/E Ratio* has a tendency to revert back to its long-run historical *mean*. Kane et al. (1996) use the *P/E Ratio* as a proxy for the required rate of return and find it to be inversely related to volatility. Thus *P/E Ratio* is theoretically a potential factor in predicting the stock market fluctuation.

Consistent with the above mentioned studies, high (low) *P/E Ratios* relative to their long-run historical *means* lower (higher) future market returns. Thus, when investors expect higher future volatility, they will sell their current holdings (leading to a drop in *P/E*), and wait until expected returns rise in the future to compensate them for the risk. Kane et al. (1996) findings suggest a negative relation between *P/E* and volatility. Koutmos (2010) found that *P/E* can serve as an important market valuation tool. Since it is significantly related to volatility, it embodies information regarding investors' expectations for future market conditions and future returns. Although the long-term interest rate has been suggested as a proxy for the investment opportunity set (see Merton, 1973), empirical findings provide weak support for this. Al-Mwalla et al. (2010) indicate that the existence of long run equilibrium between *dividend yield*, *P/E Ratio*, size and stock returns for the sample under study. However, Saha and Bhuiyan (2013) found no effect of *P/E Ratio* on the share price fluctuations. From the above analysis we can develop the following hypotheses:

H4: *Change in Share price is associated positively with the P/E Ratio.*

H5: *Share price change has a significant positive relationship with the Net Asset Value per Share (NAVPS).*

H6: *Share price change is positively related to the Net Profit after Tax (NPAT).*

Research Design and Methodology

Sample Selection and Data Collection

The population for this study is the *DSE* enlisted companies of 2012, the latest year of which *corporate annual reports (CAR)* were available, when we conducted this study. The *DSE* after having a steep fall in the market in the preceding year, assumed a bearish nature in 2012. We selected 115 companies listed on *DSE* in 2012 (where 36 from financial sector and 79 from non-financial sector). No specific sector got any priority in getting selected in our sample. We selected 115 companies randomly so that the result discloses the actual picture of DSE. *Table 1* presents the composition of the sample companies below.

Data Analysis

In order to obtain the objectives of the study, statistical tools like *mean, median, mode, standard deviation, co-efficient of variance, correlation, regressions, T tests*, and *F tests* have been used to analyze and interpret the data using the *Statistical Packages for Social Science (SPSS) 19.0 for windows*.

Regression Model and Variables Defined

The ordinary least squares regression model has been utilized to examine the relationship between independent variable (performance indices) and dependent variable (Share Price Change). The following regression equation is estimated for the study:

$$SPF = \alpha + \beta 1\ EPS + \beta 2\ NAVPS + \beta 3\ PER + \beta 4\ NPAT + \beta 5\ PSD + \beta 6\ DYR + \varepsilon \quad \ldots (1)$$

Dependent Variable

SPF	Share price Fluctuation

Table-1: Composition of the Sample Companies by Sectorwise

SECTOR	FREQUENCY	PERCENTAGE
Financial Sector		
Banking	22	19%
Finance and Investment	14	12%
Non-Financial Sector		
Food & Allied	8	7%
Fuel & Power	6	5%
Textile & Clothing	14	12%
Cement and Engineering	12	10.5%
Pharmaceutical & Chemicals	12	10.5%
Insurance	10	9%
Others	17	15%
TOTAL	**115**	**100**%

Table 2: List of Variables, Their Labels and Expected Signs and Relationships in the Regression

Variable Labels	Description of Variables	Expected Sign and Relationship
SPF	*Share Price Fluctuation*	(-+) Positively and negatively related with performance variables of the company.
EPS	*Earnings Per Share*	(+) Share price change is positively related to the *Earnings Per Share*.
NAVPS	*Net Asset Value Per share*	(+) Share price change has a significant positive relationship with the Net Asset Value per Share.
PER	*P/E ratio*	(+) Change in Share price is associated positively with the *P/E Ratio*.
NPAT	*Net Profit After Tax*	(+) Share price change is positively related to the Net Profit after Tax.
PSD	*Percentage of Stock Dividend*	(+) Declaration of stock dividend helps to increase the share price.
DYR	*Dividend yield ratio*	(+) There is a positive relationship between reporting *Dividend Yield Ratio* and share price.

Independent Variables

EPS	Earnings Per Share
NAVPS	Net asset value per share
PER	P/E ratio
NPAT	Net profit after tax
PSD	Percentage of Stock Dividend
DYR	Dividend Yield Ratio
ε	Error term.
α	Constant.

Analysis and Findings

Descriptive Statistics

Table 3 reports descriptive statistics for the sample firms. The results for Share Price Fluctuation (SPF) indicate the highest score achieved by a firm is 22.37% and the lowest score is -64.88% with a standard deviation of 17.058%. So, the companies are widely distributed with regard to Share Price Fluctuation. The mean of the *EPS* is 7.39 with standard deviation is 20.488. The average of the *Net Asset Value Per Share (NAVPS)* is 76.50 with standard deviation is 220.398.

The average PER and NPAT is 43.22 and 888.80; standard deviation is 97.868 and 2117.442 with minimum and maximum of – 1796.15 & -37.00 and 989.23 & 18891.10 respectively indicating sample companies are significantly dispersed in term of P/E Ratio and NPAT. Similar result appears in case of *Percentage of Stock Dividend (PSD)* and *Dividend Yield Ratio* (*DYR*) with minimum of 0.00 for both and maximum of 50.00 and 12.54 respectively.

Table 4 and *Figure 1* shows sample companies according to share price fluctuations in the last one year ended 31-12-2012. The change is shown in percentage.

From *Table 4* and *Figure 1*, it is clear that in 2012, share prices of most of the companies have changed significantly and these changes

were predominantly negative. 28 companies are standing in the scale of -39.50 to -29.50 which occupy 24.35% of the total companies. 25 companies are standing in the scale -49.50 to -39.50. *Table 4* indicating that price change of most of the sample companyies took place between -59.50 and -9.50. Thus, it can be said that a high level of negative trend was found in share price fluctuation during the year 2012.

Top and Lowest Ranking Companies

Table 5 lists stocks which to some extent managed to retain their price despite the bearish market in 2012. This table confirms that *DSE* had a bearish trend in the market in 2012. Even in the top-fifteen list, a good number of stocks exhibited a negative trend in terms of their market price. *Bangas*, which belongs to *Foods and Allied*, tops the list by having the highest positive price change. *Mutual fund, Telecommunication, Cement and Textile industries* were represented in positive change of share prices. Also *Fuel & Power, Engineering, Finance, Tannery, Food & Allied* and *Textile* industries were represented in the top list though facing a somewhat downtrend in the stock price. Table 6 describes the company according to their lowest ranking in SPF.

Table 3: Descriptive Statistics (N=115)

Variables	Mean	Minimum	Maximum	Std. Deviation
SPF	-32.01	-64.88	22.37	17.058
EPS	7.39	-2.70	204.01	20.488
NAVPS	76.50	-40.88	1566.48	220.398
PER	43.22	-37.00	989.23	97.868
NPAT	888.80	-1796.15	18891.10	2117.442
PSD	15.40	0.00	50.00	12.196
DYR	0.99	0.00	12.54	1.612
SP*F = *Share Price Fluctuation; EPS = Earnings Per Share; NAVPS = Net Asset Value Per Share; PER = P/E ratio; NPAT = Net Profit After Tax; PSD= Percentage of Stock Dividend; DYR= Dividend Yield Ratio				

Table 4: Number of Companies in Stock Price Fluctuation Scale

Price fluctuation scale (%)	No. of Companies	Percentage (%)
-69.50 to -59.50	2	1.74
-59.50 to -49.50	15	13.04
-49.50 to -39.50	25	21.74
-39.50 to -29.50	28	24.35
-29.50 to -19.50	20	17.39
-19.50 to -9.50	12	10.43
-9.50 to -0.50	8	6.96
-0.50 to 9.50	4	3.48
9.50 to 19.50	0	0.00
19.50 to 29.50	1	0.87
Total	**115**	**100**

Table 6 represents stocks which suffer the highest price loss. This reaffirms the idea initiated in *Table 5* that *DSE* was facing a bearish trend in 2012. Most of the companies represent the *Banking* industry. Other industries which suffered price losses are *Finance, Food & Allied* and *Textile, Pharmaceutical & Chemicals* and *Miscellaneous*.

Correlation Analysis, Results and Interpretation

Table 7 provides the Pearson product-moment correlation coefficients of the continuous

explanatory variables as well as the dependent variable included in the survey.

The result of *Pearson product-moment correlation* demonstrates that *DYR* is positively related with *SPF* (P<0.01, Two-tailed) at significant level 0.000. The results also show that *NPAT* and *EPS* are positively associated with *SPF* (P<0.01, Two- tailed) at significant level 0.009 and 0.010 respectively. On the other hand, *PER* is negatively associated with *SPF* but not significant at the level of 0.176 (P<0.01 and P<0.05, Two-tailed). However, *SPF* has a positive relationship with *NAVPS* and *PSD* but not significant at the level of 0.382 and 0.762 respectively (P<0.01 and P<0.05, two-tailed).

Figure 1: Number of Companies in Stock Price Fluctuation Scale

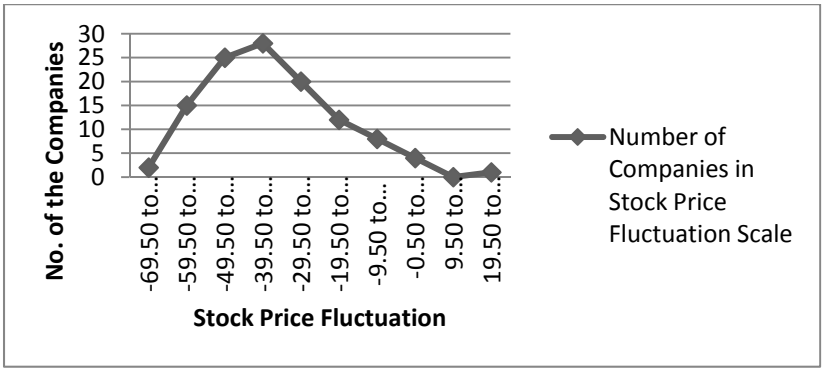

Table 5: Top Ranking Companies

Name of the Companies	Price Fluctuation	Ranking	Industry Type
Bangas	22.37	1	Food & Allied
Grameen Mutual Fund one	8.40	2	Mutual Funds
Grameenphone Ltd.	7.96	3	Telecommunication
Heidelberg cement BD.	4.71	4	Cement
Delta Spinners Ltd.	1.18	5	Textile
Jamuna Oil company Ltd.	-1.00	6	Fuel & Power
Navana CNG Ltd.	-1.60	7	Engineering
Marico Bangladesh Ltd.	-3.20	8	Pharmaceutical & Chemicals
Titas Gas Transmission & Dist. Co.	-3.83	9	Fuel & Power
GQ Ball pen	-6.44	10	Miscellaneous
Investment corporation of BD.	-7.09	11	Finance
Apex Foods Ltd.	-8.33	12	Food & Allied
Square Textile Ltd.	-8.78	13	Textile
Bata Shoe	-10.15	14	Tannery
AMCL(Pran)	-10.62	15	Food & Allied

Multiple Regression Analysis, Results and Interpretation

Table 8 shows the association between share price fluctuation and experimental variables. The coefficient of coordination *R-square, F ratio, Beta coefficients* and *T-statistics* for the *regression model* and summarized results of the dependent variable on the explanatory variables can be seen in *Table 8*. The result indicates an *R-square* of 0.184, and an *F value* of 4.059, which is significant at the 0.001 levels. Both of these values suggest that an insignificant percentage of the variation in Share Price Change can be explained by the variations in the whole set of independent variables and this is in line with the *EMH*. The coefficients of independent variable *DYR* and *EPS* are significant at the 0.038 (P < 0.05, two-tailed) and 0.002 (P<0.01, two tailed) respectively. The result suggests that *Dividend Yield* and *Earning Per Share* are positively associated with Share Price Fluctuation. This result supports our hypotheses 1 and 3. Finally, regression results for the four other important variables (*NAVPS, PER, NPAT,* and *PSD*) are insignificant, and hence, unrelated to share price fluctuation. This is inconsistent with our hypotheses 2, 4 (Consistent with Saha and Bhuiyan, 2013), 5, and 6. *Table 9* shows

Table 6: Lowest Ranking Companies

Name of the Companies	Price Fluctuation	Ranking	Industry Type
Lanka Bangla Finance Ltd.	-64.88	115	Finance
Fine Foods Ltd.	-64.29	114	Food & Allied
DESH Garments	-56.67	113	Textile
Bank Asia Ltd.	-55.67	112	Banking
Monno ceramic Ltd	-54.97	111	Ceramics
Keya cosmetic Ltd.	-54.33	110	Pharmaceutical & Chemicals
Union Capital Ltd.	-54.05	109	Finance
People Leasing & Finance Service	-53.71	108	Finance
Metro Spinning mills Ltd.	-53.66	107	Textile
Sahiam textile	-53.29	106	Textile
One Bank Ltd.	-52.99	105	Banking
Estern Bank Ltd.	-52.40	104	Banking
FAS Finance & Investment Ltd.	-51.76	103	Finance
Uttara Bank Ltd.	-51.09	102	Banking
BSC	-50.90	101	Miscellaneous

Table 7: Pearson Correlation Analysis Results (N=115)

Variables	SPF	*EPS*	NAVPS	PER	NPAT	PSD	DYR
SPF	1						
EPS	.241**	1					
NAVPS	.082	.597**	1				
PER	-.127	-.069	.000	1			
NPAT	.242**	.227*	.033	-.114	1		
PSD	.029	.154	-.065	-.043	.008	1	
DYR	.355**	.111	.061	-.124	.643**	-.244**	1
Sig.(2-tailed) SPF							
EPS	.010						
NAVPS	.382	.000					
PER	.176	.462	1.000				
NPAT	.009	.015	.724	.224			
PSD	.762	.100	.492	.647	.931		
DYR	.000	.237	.515	.187	.000	.009	

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 8: Regression Analysis Results (N=115)

Variables	Coefficient	Standard Error	Beta t Values	Significance
EPS	.244	.097	2.102	.038*
NAVPS	-.080	.009	-.712	.478
PER	-.067	.015	-.757	.451
NPAT	-.068	.001	-.569	.570
PSD	.078	.132	.826	.411
DYR	.387	1.275	3.216	.002**
*P < 0.05, two-tailed, ** P < 0.01, two-tailed				
R square = 0.184; Adjusted R square = .139; F value = 4.059; F significance = 0.001; Durbin-Watson test = 2.082				

the summarized result of *regression analysis* indicating expected signs and actual signs with significant levels.

In the summarized result of regression, it is found that *EPS* and *DYR* have positive relationship with *SPF* indicating that if the two

independent variables change share price may also change in the same direction, which supports our hypothesis 1 and 3. Other variables *NAVPS, PER, NPAT, PSD* have negative relation with *SPF* which does not support hypotheses 2, 4, 5 and 6.

Table 9: Summary of the Regression Results

Variable Labels	Expected Sign	Actual Sign	Significance Level
EPS	+	+	*
NAVPS	+	–	
PER	+	–	
NPAT	+	–	
PSD	+	+	
DYR	+	+	**
* Significance level at 5% ** Significance level at 1%			

Conclusion and Recommendations

This paper identifies the relationship between several fundamental stock market indices which are generally used by investors and technical analysts to analyze and explain the trend of stock markets, especially price movements. The recent downturn and bearish trend in *DSE* has resulted in much disappointment among investors in, and analysts of, *DSE*. In particular, the effect was devastating on small and individual investors who suffered financial losses (Chowdhury, 2011), which is more evident when they went for collective movement (Al Jazeera, 2011; Reuters UK, 2011). In response to this, the government and technical specialists suggested going for fundamental analyses before investing in stock market. While researchers agree the fundamental analyses help to minimize the loss and to some extent restrain from investing in situations when the stock market is highly overvalued, they have also shown that if *EMH* holds, it is very unlikely to predict the market constantly through fundamental analyses.

Based on the sample year 2012, this study found that performance indices like *EPS, Net Asset Value Per Share, P/E ratio, NPAT, Percentage of Stock Dividend, Dividend Yield Ratio* have no significant relationship with price fluctuation in *DSE*. The study finds a little correlation among variables. Through a *Multiple Linear Regression* analysis authors demonstrate that there is no significant relationship among stock prices and market indices except *EPS* and *Dividend Yield Ratio*. Only two indices e.g. *Dividend yields* (1% sig.) and *Earnings Per Share* (5% sig.) are found to be positively related with share price change.

This paper questions the suitability of using performance indices as a basis for investment decisions. Most of the investors invest in share market for the short run but investing for the short run is risky for the market as well as for them, so investors should invest in share market for the long run. This research is both timely and important because in Bangladesh many investors invest in the share market leaving their actual job assuming that investing in stock market will help them to make more money than their actual job. However, the capital market may not give secure returns like salary or interest on savings. It may be preferable to look at stock investment only as a long term investment rather than depending on it for meeting living expenses, which leads to a short term perspective. In spite of the contribution of this research the authors acknowledge that this research can be further retested in several ways. Additional research can be commenced to find the extent of relationship between the indices and stock prices over time through longitudinal analysis. Such a study would provide additional insights in scrutinizing performance indices for investment. Research based on a particular industry type only (e.g., the pharmaceutical industry and textile industries in Bangladesh) may also give some niche knowledge and help to identify details regarding the particular industry. Additionally, research with a larger data set can give more confidence in the findings.

Finally, performance indices should not be considered alone for investing in stock market. Other situations should also be considered, such as – the political situation of the country, the economic condition of the country, the previous history of the market, and the current average condition of the market. In other words, if a firm has all indices are positive than the market or industry average, this could also mean that the market is expecting difficulties in the near future. Similarly, a negative index does not necessarily mean that

a firm is undervalued. Rather, it could indicate a 'vote of no confidence' by the market, i.e. the market believes that the firm is headed for trouble. Hence, the extent of market efficiency plays an important role in generating abnormal gains from a portfolio based on these performance indices, so if we use indices alone, we will be surely putting our life-time savings at risk.

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