

Financial Ratios Analysis And The Impact Of Earning Potential Ratios Of A Company On Its Market Price Of Stock - A Study On Pharmaceutical And Chemical Industries Of Bangladesh

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Abstract: This paper shows the magnitude and impact of financial performance on its stock price of a company having three earning potential variables-Earnings-per-share (EPS) and Net asset value per share (NAVPS) and Return on Common stock Equity (ROCE). Study contains sector wise analysis on these variables using mean, standard deviation, correlation and multivariate regression techniques for making and drawing a conclusion. Reactions of the stock price as the consequence of the movement of the micro and macroeconomic factors is strongly supported by the literature review. We have taken only three earning potential ratios to test the impact on market price of stock. Multiple regression analysis is conducted to find out the relationship among different variables with the stock price per share. In this study an insignificant linear relationship among market price and such factors like EPS, NAVPS and ROCE of pharmaceutical and chemical industries are found at 95 percent level of significance.

Key words: Earning potential variables, Financial Statement, Macro and macro-economic factors, Ratios.

I. Introduction

Stock market is the most important part of any economy. The judgment of countries economic condition is measured through the performance of its stock market (Zara et al., 2011). Performance of individual companies play role to show the performance of market as a whole. So stock price is the biggest concern for the companies, as stock price is the indicator of the overall strength of the company, if the share price of a company continues to increase then it shows that company and its management is doing their performance excellently. Another concern for the companies is that if their share price is low then there are more chances of takeover because companies become relatively cheaper due to lower performance, profitability and returns. Hence, for last few decades financial analysts trying to explore suitable models to determine the value of shares. Valuation of stock can be determined by many ways, two most important models among analysts are the Dividend Discount Model and the Earnings Multiplier model. Some literatures in finance suggest that the Dividend Discount Model (DDM) is very important approach employed by the fundamentalists. The DDM assumes that the best estimate of the current value of a company's common stock is the present value of the estimated divided by future dividends paid by company to its shareholders. Some researchers, analysts, and investors suggest that this DDM approach has limited usefulness. According to MM theory (1961) argued that, DDM have some strict assumptions, under this strict assumptions, dividend is insignificant to the firm's value. Therefore, no one can forecast dividends with great accuracy.

Hence in the light of above restrictions and objections, the earnings multiplier or price earning model remains an important method to valuation. In fact price earnings model help investors to understand DDM as dividend is carried out of earning, investors must estimate the growth in earnings before going to estimate the growth in dividends. Investors can forecast the real price of stocks by using earning potential ratios such as Net Asset Value per Share (NAVPS), Earning per Share (EPS) and Return on Common stock Equity (ROCE). If the real value of stock is greater than the market value of stock, investors will prefer to buy this stock. In this respect, earning potential ratios are important indicators for investment decisions because such earning potential ratios reflect a more realistic picture of the financial performance of the company than the market price of the stock. This paper tries to analyze the magnitude and the impact of financial performance of a company on its share price; by using share prices as explained variable and three financial ratios- Net Asset Value per Share (NAVPS), Earning per Share (EPS) and Return on Common stock Equity (ROCE) as explanatory variables. To provide historical benchmarks for forecasting, typical values for ratios are documented for the period 2007-2014, along with their correlation of Listed Pharmaceutical & Chemicals Sector of Dhaka Stock Exchange (DSE) Bangladesh. In this research- financial analysis technique (financial ratios) has used to justify the hypothesis. This study tries to find out the relationship of between Market Price per Share (MPS) and Net Asset

Value per Share (NAVPS), Earning per Share (EPS) and Return on Common stock Equity (ROCE) of this sector.

1.2 Problem statement

Market inefficiency is the major drawbacks for developing countries like Bangladesh where the regulatory system and information transparency is not certainly proficient to get the confidence of the investors and provide the sufficient basis for analyzing the data without anomalies. In recent years, problem in share market of Bangladesh is very critical. The Share market Bubble quickly turned out to be unsustainable due to involvement of large number of investors taking loan without proper analysis of the stock market. Crisis started to happen as the Bangladesh Bank pursued a contractory monetary policy in December, 2010. Because of the central bank's contractory monetary policy, the interest rate increased and the liquidity crisis was gradually deepened in the banking sector. Investors' confidence also declined and remained very low (Rahman 2012). Many lament investors have lost their money due to inappropriate implication of regulations, lack of proper knowledge of which factors really affect the price of the stock, how to take the decision to invest analyzing those factors and lack of information access to know directly the company performance. The thinness of trading, low market capitalization, low turnover rates and illiquidity of the market can be attributed to barriers to foreign investors to invest that can the market to be stable in some cases. Due to this instability investors are constantly concerned with the market value of stock. This study may help the investors to analyze the stock market price. Three major market value factors such as risk, time and cash, are often used to determine whether buying or selling a stock. Besides all these three, the market price per share is compared with relevant indicators of company profitability and earning return potentiality.

1.3 Objectives of the study

The overall objective of the study, which is to investigate whether in the Dhaka stock exchange (DSE), the market value of share reacts efficiently in terms of price adjustments like EPS, NAVPS and ROCE ratio. This objective may be broken down into the following specific objectives:

- To find out the relationship among the earning potential ratios those contribute to equity valuation.
- To find out the impact of three earning potential ratios on the stock price of a company.

II. Literature Review

Financial statements provide information concerning the financial situation of the company, its operational results, cash flow and earning direction and any changes of control in the company (Nirmala and Florence, 2009). Drawing on recent research on Earnings Multiplier model based valuation; this paper tries to produce a structural approach to financial statement analysis for equity valuation. This structure not only identifies relevant ratios, but also provides a way to find out the impact of stock price of a company. This structural approach contrasts to the purely empirical approach in Ou and Penman (1989) who identified ratios that predicted earnings changes in the data. The approach also contrasts to that in Lev and Thiagarajan (1993) who defer to "expert judgment" and identify ratios that analysts actually use unpracticed. Ratio analysis is integrated with this structural approach for stock valuation analysis; giving substance of inclusion of comprehensive income and gain. We include other comprehensive income to calculate those ratios Consistent with Nissim and Penman (2001). Ou and Penman (1989) demonstrate that several traditional financial statement variables can be used to predict whether a company will experience an increase or decrease in one-year-ahead earnings of stock. In addition, Anderson and Brooks (2006) note that four primary factors influence E/P ratios (i.e., year, industry, size, and idiosyncratic effects). The primary contribution of this study lies not in the identification of a particular set of variables but rather in the overall finding that traditional financial statement analysis can be used to remove much of the mystery surrounding how the market values a firm's stock relative to its earnings.

Before the decade of eighty much of the stock market literature viewed the present value of dividends was not the principal determinant of market return of stocks. Lintner (1956) paid attention to dividend policy and developed a theory based on two important things: stability of dividend policy and dividend dependency on earning level. Miller and Modigliani (1961) gave dividend irrelevance theory. Their study showed that dividend has no impact on stock prices and it is only affected by investment policy. Black and Scholes (1973) also gave their views in favor of dividend irrelevance theory. Leroy, Porter (1981) and Shiller (1981) found that under the assumption of constant discount factor stock prices were too volatile to be consistent with movement in future dividends. Many others researchers like Adesola and Okwong (2009), Hunjaraet.al(2011) found no relation between dividend policy and stock prices. Pradhan (2003) found the effect of dividends payments and retained earnings in companies listed in Nepal's stock market price and found that the payments of dividends and stock prices have strong correlation; retained earnings and stock market prices have a very weak relationship. Kumar and Hundal (1986) examined the impact of dividend per share, earning per share net asset value per share,

leverage ratio on market price of share by using the linear regression model. They found dividend policy was the more sensitive factors in affecting share price. However, the relationship is also affected by the following: (i) persistence of earnings (ii) positive earnings or negative earnings (iii) frequency of reporting (iv) efficiency of market. Myers and Bacon (2004) studied the impact of dividend policy on stock price. Their results showed that there exists a positive relationship between the price-earnings ratio and dividend payout ratio. Their findings also indicated that there is a significant positive correlation between the debt equity ratio and dividend payout ratio. Raballe and Hedensted (2008) studied the characteristics of dividend payers in Denmark. They used ROE as one of the factor that can affect the dividend policy and stock price they found that ROE is positively related with stock price. They also found that dividend payers were those who have high ROE. In Denmark share repurchases were dividend payers of firms with high ROE the most generous dividend payers. Liu and Hu (2005) studied the empirical analysis of cash dividend payment in Chinese listed companies they took 299 firms. They found that companies which pay more cash dividend have high EPS and ROE they also found that EPS and ROE are positively related with stock prices of the firms. Penman et.al. (1998) found that dividend and cash flow influence the stock price most. Cochrane (1992), Timmerman (1995), Adelegan(2001,2004) have argued that fluctuation in stock prices can be explained by time-varying discount rates and future excess returns. Cochrane (1992) by using an alternative methodology to decompose the variability of stock prices also found the variability of excess return to be more important than the variability of dividend growth. So in this study we have taken return on common equity and net asset value per share ratio to see whether these factors affect the stock price.

There is a number of evidence existing that relationship between earnings and share price is affected by the persistence of earning. Especially earnings associated with lower persistence have lower value relevance than earnings associated with higher persistence (Kormendi&Lipe, 1987; Collins & Kothari, 1989).In Nigerian stock Market Germon and Meek, (2000),Adelegan (2003), and Wohar et al.(2006) found that the relationship between share price and Earnings per share is high but the Return on equity is very low and dividend is changed. Similar picture is found in the study on stock exchange of Germany, Norway and The United Kingdom (King and Langli, 1998). A different scenario is found in another study on Colombo Stock Exchange taking 6 commercial banks from 2005-2009 that Return on equity is significantly related with the share price Perrera and Thrikawala, (2010) assuming in built-in that with positive accounting figures of an entity will convey a good message to its investors. A lower degree of efficiency in less developed countries market might be caused by common characteristics of loose disclosure requirements as well as thinness and discontinuity of trading and different ways of reaction to stock price (Uddin,2009). Raihan, et al (2007) found that in Chittagong Stock Exchange (CSE) in Bangladesh, stock return series do not follow random walk model and the significant autocorrelation co-efficient at different lags do not accept the hypothesis of weak form efficiency. Mobarek and Keasay (2000) also found the same result after conducting research in Dhaka Stock Exchange (DSE) of Bangladesh. Conducting research in Dhaka Stock Exchange (DSE) Rahman, et al (2006) found the negative correlation between the market risk and stock return. Razin, et al (1999) showed that the market that lack regulation and disclosure rules face greater moral hazard and adverse selection problem and behaves differently. Consistent with Subrahmanyam (1994) Wong, et al (2009) found that when limit hits are imminent stock prices approach limit bounds at faster rates & with increased volatility and higher trade efficiency in considering the performance of a company. Glaser and Weber (2007, 2009) found the correlated individual overconfidence score with several measures of trading volume of individual investors. After high portfolio returns investors buy high risk stocks and reduce the number of stocks in their portfolio without considering the performance and potentiality of the companies.

Previous studies indicate lot things and factors influence the stock price in the stock markets. The researchers also identified the earning potential ratios those influence the stock price differently due to different level of market efficiency. In this study, multiple regression analysis is conducted to find out the relationship among the accounting variables/ratios like NAVPS (Net Asset Value per Share), EPS (Earning per Share) and ROCE (Return on Common Equity) with the stock price. In this study, it is found an insignificant linear and non-linear relationship among the variables is insignificant at 95 percent level of significance.

III. Methodology of the Study

The typical ratios for the analysis like Return on Common Equity(ROCE),Return on Net Assets(RNOA), Operating Liability Leverage(OLLEV), Financial Leverage(FLEV),Net Borrowing Cost (NBC),Profit Margin(PM), Asset Turn Over(ATO),Operating Income(OI), Net Financing Expense(NFE), Debt-Equity(DE),Free Cash Flow(FCF),Net Asset Value(NAV),Earning Per Share(EPS), Market Price Per Stock(MPS),Price Earning(PE) ratio, Common Stock Equity(CSE),and Net Operating Assets(NOA) are taken in the data. We calculate the following ratios as:

Comprehensive Net Income (CNI)=Comprehensive Operating Income (OI) –Comprehensive Net Financial Expense (NFE)

Common Stock Equity (CSE)=Net Operating Assets (NOA) – Net Financial Obligations (NFO)

where

NFE = (Financial Expense – Financial Income), after tax

NOA = Operating Assets (OA) – Operating Liabilities (OL)

NFO = Financial Obligations (FO) – Financial Assets (FA)

Total Assets = OA + FA,

Total Liabilities & Preferred Stock = OL + FO,

Operating income (OI = CNI + NFE) is the income flowing from net operating assets and, by the calculations here, is after tax.

Return on Net Operating Assets (RNOA) $t = \frac{OI_t}{NOA_{t-1}}$

Net Borrowing Cost (NBC) $t = \frac{NFE_t}{NFO_{t-1}}$

ROCE = RNOA + [FLEV × SPREAD]

Cash ROCE= CFFO/ CSE

where

FLEV = $\frac{NFO}{CSE}$ (Financial Leverage) and

SPREAD = RNOA – NBC.

CFFO= cash flow from operating activities

CSE= Common stock on equity

PM = $\frac{OI}{Sales}$ (Profit Margin)

ATO = $\frac{Sales}{NOA}$ (Asset Turnover)

OLLEV = $OI \div OA$ is operating liability leverage.

DE = $\frac{Debt}{Equity}$

NAVPS = (Total Asset- Total Liabilities)/ Number of common stocks

EPS= Net Income ÷ Number of Common stocks

PE= Market Price per share ÷ Earning per Share.

We began the empirical analysis by attempting to estimate multivariate models to know the market price reaction. For the ratio analysis, Financial Statements of the companies were collected from secondary sources- Annual Report. In this study the dependent variable is “Market Price of Stock” (MPS) in Bangladeshi taka and the independent variables are (i) Net Asset Value per Share (NAVPS); (ii) Return on Equity (ROCE) and (iii) Earnings per Share (EPS) in Bangladeshi taka.

Hypotheses

H₀₁: There is a linear association between Market Price of Stock (MPS) and Net Asset Value per Share (NAVPS), Earnings per Share (EPS), and Return on Common stock Equity (ROCE). This hypothesis is tested by linear function model- $MPS_t = const + b_1NAVPS_{t-1} + b_2EPS_{t-1} + b_3ROCE_{t-1} + et$.

H_{a2}: There is a non-linear association between Market Price of Stock (MPS) and Net Asset Value per Share (NAVPS), Earnings per Share (EPS), and Return on common stock Equity (ROCE). This hypothesis is tested by logarithmic function model- $Ln MPS_t = const + b_1Ln NAVPS_{t-1} + b_2Ln EPS_{t-1} + b_3Ln ROCE_{t-1} + et$.

IV. Analysis

Analysis the relationship of Typical Ratios:

Table1 summarizes the mean, median and other aspects of the distribution of ratios pooled over all firms and years; 2007-2014. This is the industry average of Pharmaceuticals and Chemicals sector. The first panel gives the main drivers of the ROCE component of residual earnings. Median ROCE (15.10%) is, interestingly, close to, or perhaps a little higher than what is normally assumed as the equity cost of capital (RNOA).

Table1: Summary of Ratios 2007-2014

Panel A: The Drivers of Return on Common Equity (ROCE)

		ROCE	RNOA	NBC	FLEV	SPREAD	PM	ATO	OI	NFE	DE
N	Valid	21	21	21	21	21	21	21	21	21	21
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		.1297	.1532	-.0581	.3272	.2105	.2681	1.4812	334.940	75.7806	-.3571
Std. Error of Mean		.03113	.02548	.10158	.25928	.10339	.06337	.40269	121.244	24.2151	1.5452

Median	.1510	.1446	.0820	.3224	.0408	.1306	1.0720	104.800	23.6667	.7980	
Std. Deviation	.14264	.11677	.46550	1.1881	.47379	.29039	1.84535	555.612	110.967	7.0809	
Minimum	-.26	.04	-1.89	-3.19	-.13	.02	-1.37	6.40	1.20	-30.96	
Maximum	.33	.60	.22	2.97	2.01	1.11	7.32	2366.00	397.00	4.88	
Percentiles	25	.0320	.0740	.0097	.1008	-.0212	.0677	.3777	58.3333	8.2000	.5060
	50	.1510	.1446	.0820	.3224	.0408	.1306	1.0720	104.800	23.6667	.7980
	75	.2456	.1803	.1062	.9802	.2161	.3670	1.3928	373.975	101.100	1.4490

a Multiple modes exist. The smallest value is shown

Panel B: Core ratios for influencing the value of stock

		ROCE	NAV	EPS	MPS	PE	CSE	NOA
N	Valid	21	21	21	21	21	21	21
	Missing	0	0	0	0	0	0	0
Mean		573.7833	86.5706	36.6869	995.7334	52.7718	1880.3325	2541.2198
Std. Error of Mean		228.99136	37.95181	14.24850	398.86336	12.41726	719.25506	953.11171
Median		105.0000	32.6000	7.2267	259.0680	33.6720	767.4000	515.2500
Std. Deviation		1049.37024	173.91704	65.29483	1827.8215	56.90305	3296.0407	4367.7065
Minimum		14.80	-9.33	.28	31.00	12.98	-60.80	22.60
Maximum		4211.67	816.67	262.29	7021.99	281.81	12490.40	16152.00
Percentiles	25	53.7167	13.1000	3.2650	118.7129	28.3143	173.5000	243.7330
	50	105.0000	32.6000	7.2267	259.0680	33.6720	767.4000	515.2500
	75	579.7000	82.7167	30.4993	755.2711	60.3038	1822.0250	2897.2000

a Multiple modes exist. The smallest value is shown

RNOA is higher at the mean and median than the traditional NBC, and has considerably higher variation. The distribution of the difference between the two demonstrates that the “clean” distinction between operating and financing items and the adjustment for operating liabilities can have a significant effect: for almost 50% of firm-years the absolute difference is greater than 3%. The median RNOA of 14.46% compares with a median ROCE of 15.10% and is closer to what we typically think of as an average business return. The distinction between operating and financing assets and liabilities changes the financial leverage measure, FLEV, from the traditional Debt/Equity ratio measured as (Total Liabilities+ Preferred Stock)/Common Equity. Median FLEV is 0.3224, compared to 0.7980 for the Debt/Equity ratio. This is because FLEV recognizes only indebtedness from financing activities and also recognizes that debt held (as assets) effectively defuses debt owed. So far about 20% of firm’s financial leverage is negative; these firms are net holders of financial assets rather than net issuers. Net borrowing costs (NBC) in the table are after tax. The SPREAD over the net borrowing cost is positive at the median but negative for about 25% of firm-year observations. Median ROCE (15.1%) is higher than median RNOA (14.46%), indicating that typically the on-average positive leverage combines with positive spread to lower ROCE favorably.

NBC and SPREAD in the table are presented with qualifications. Realized gains and losses on debt are not identified and hence are not included in NBC. Unrealized gains on long-term financial assets and unrealized gains and losses on short term financial assets have been recognized in other comprehensive income item. So the standard deviation for OI is higher than other variables. The remaining columns of Panel B give mean, median and standard deviation of the market price reflected variables like-earning per share (EPS), net asset value per Share (NAVPS), price earnings ratio (P/E), Return on common Equity(CROCE), Net operating asset (NOA), and common stock equity(CSE) to provide more information.

Interaction among Ratios: Table 2 gives matrix of Spearman correlations for the ratios summarized Table-1.

FLEV and SPREAD: The effect of leverage (favorable or unfavorable) depends on the sign of the SPREAD; FLEV may be set by management after contemplating the SPREAD the firm will generate. One might expect a positive relationship between FLEV and SPREAD: a firm borrows more (to lever up ROCE) only if it can maintain high SPREAD which is less likely to turn unfavorable. But some argue that financing is irrelevant. Positive leverage generates higher anticipated ROCE, but increases the risk of lower profitability. Higher anticipated residual earnings increase in anticipated ROCE is exactly offset in present value form by an increase

in the cost of equity capital. Accordingly, management may choose leverage for reasons other than increasing profitability of the equity. Table 2 panel B shows the relationship is positive and significant. The Spearman's Correlation between FLEV and SPREAD is 0.616 which is significant at 99% confidence level, and between FLEV and RNOA is -0.453, where relationship is significant and negatively correlated. Perhaps a high median RNOA or SPREAD is the reward to business risk and firms with high business risk choose to have lower financing risk. Also, higher financial leverage presumably results in higher borrowing costs, reducing the SPREAD. And perhaps profitable firms generate a lot of cash which they use to reduce leverage.

RNOA and ROCE: The Pearson Correlation between RNOA and ROCE is 0.719 in panel A of Table 2. This relationship is strongly positive at confidence level 99%. There is significant positive relationship between these two ratios.

PM and ATO: The DuPont decomposition recognizes that $RNOA = PM \times ATO$ and it is commonly recognized that firms can generate the same RNOA with different combinations of margins and turnovers. The profit margin is the refined Core Sales PM and ATO here is based on NOA which incorporates operating liabilities. The Spearman's Correlation between Core Sales PM and ATO is -0.314 which is not significant at 99% or 95% level of confidence.

EPS, NAV, ROCE and MPS Table 2, panel B show the positive relationship among earning per share, net asset value per share, and return on equity with market price per share. The value of coefficient between EPS and MPS is 0.897 that means strong relationship between EPS and MPS. The value of coefficient between NAVPs and MPS is 0.563 which shows the positive relationship between NAVPs and MPS. The value of coefficient between ROCE and MPS is 0.534 which also shows positive relationship between FCF and MPS.

Table 2: Spearman's rho Correlation Matrix

Panel A: Correlation among the drivers of ROCE

		ROCE	RNOA	NBC	FLEV	SPREAD	PM	ATO	NFE	OI
ROCE	Correlation Coefficient	1.000	.719(**)	-.074	-.138	.313	.017	.175	-.148	.377
	Sig. (2-tailed)	.	.000	.750	.552	.167	.942	.447	.522	.092
	N	21	21	21	21	21	21	21	21	21
RNOA	Correlation Coefficient	.719(**)	1.000	-.313	-.453(*)	.596(**)	-.151	.529(*)	-.370	.281
	Sig. (2-tailed)	.000	.	.167	.039	.004	.515	.014	.099	.217
	N	21	21	21	21	21	21	21	21	21
NBC	Correlation Coefficient	-.074	-.313	1.000	.460(*)	-.878(**)	.348	-.234	.295	.053
	Sig. (2-tailed)	.750	.167	.	.036	.000	.122	.308	.195	.819
	N	21	21	21	21	21	21	21	21	21
FLEV	Correlation Coefficient	-.138	-.453(*)	.460(*)	1.000	-.616(**)	.379	-.052	.414	.031
	Sig. (2-tailed)	.552	.039	.036	.	.003	.090	.823	.062	.895
	N	21	21	21	21	21	21	21	21	21
SPREAD	Correlation Coefficient	.313	.596(**)	-.878(**)	-.616(**)	1.000	-.321	.358	-.319	.041
	Sig. (2-tailed)	.167	.004	.000	.003	.	.156	.111	.158	.860
	N	21	21	21	21	21	21	21	21	21
PM	Correlation Coefficient	.017	-.151	.348	.379	-.321	1.000	-.314	.088	.034
	Sig. (2-tailed)	.942	.515	.122	.090	.156	.	.165	.703	.882
	N	21	21	21	21	21	21	21	21	21
ATO	Correlation Coefficient	.175	.529(*)	-.234	-.052	.358	-.314	1.000	-.130	-.055
	Sig. (2-tailed)	.447	.014	.308	.823	.111	.165	.	.575	.812
	N	21	21	21	21	21	21	21	21	21
NFE	Correlation Coefficient	-.148	-.370	.295	.414	-.319	.088	-.130	1.000	.570(**)
	Sig. (2-tailed)	.522	.099	.195	.062	.158	.703	.575	.	.007
	N	21	21	21	21	21	21	21	21	21
OI	Correlation Coefficient	.377	.281	.053	.031	.041	.034	-.055	.570(**)	1.000
	Sig. (2-tailed)	.092	.217	.819	.895	.860	.882	.812	.007	.
	N	21	21	21	21	21	21	21	21	21

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

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

Spearman's Correlation Matrix

Panel B: Correlation among Core ratios for determining value of stock

		ROCE	NAV	EPS	MPS	PE	DE	CSE	NOA
ROCE	Correlation Coefficient	1.000	.523(*)	.216	.534(*)	-.645(**)	-.417	.766(**)	.542(*)
	Sig. (2-tailed)	.	.015	.348	.391	.002	.060	.000	.011
	N	21	21	21	21	21	21	21	21
NAV	Correlation Coefficient	.523(*)	1.000	.500(*)	.653(**)	-.260	.216	.588(**)	.353
	Sig. (2-tailed)	.015	.	.021	.001	.256	.348	.005	.116
	N	21	21	21	21	21	21	21	21
EPS	Correlation Coefficient	.216	.500(*)	1.000	.897(**)	-.439(*)	.099	-.016	-.087
	Sig. (2-tailed)	.348	.021	.	.000	.047	.670	.947	.708
	N	21	21	21	21	21	21	21	21
MPS	Correlation Coefficient	.534(*)	.653(**)	.897(**)	1.000	-.221	.190	.031	-.108
	Sig. (2-tailed)	.391	.001	.000	.	.336	.410	.893	.642
	N	21	21	21	21	21	21	21	21
PE	Correlation Coefficient	-.645(**)	-.260	-.439(*)	-.221	1.000	.178	-.271	-.099
	Sig. (2-tailed)	.002	.256	.047	.336	.	.440	.234	.670
	N	21	21	21	21	21	21	21	21
DE	Correlation Coefficient	-.417	.216	.099	.190	.178	1.000	-.195	-.287
	Sig. (2-tailed)	.060	.348	.670	.410	.440	.	.397	.207
	N	21	21	21	21	21	21	21	21
CSE	Correlation Coefficient	.766(**)	.588(**)	-.016	.031	-.271	-.195	1.000	.812(**)
	Sig. (2-tailed)	.000	.005	.947	.893	.234	.397	.	.000
	N	21	21	21	21	21	21	21	21
NOA	Correlation Coefficient	.542(*)	.353	-.087	-.108	-.099	-.287	.812(**)	1.000
	Sig. (2-tailed)	.011	.116	.708	.642	.670	.207	.000	.
	N	21	21	21	21	21	21	21	21

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

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

V. Findings

Usually autocorrelation is found in time series data. Autocorrelation normally occurs only in regression analysis using time series data. Time series data can also suffer from the heteroscedsticity problem. Durbin–Watson test statistics value of linear function model is conducted where value is 2.034 which are near to 2.0 means that the model has no autocorrelation problem.

Table3 Coefficients (a)Panel A linear function model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F Value	Sig	R ²	Adjusted R ²	Durbin-Watson statistics
		B	Std. Error	Beta							
Linear function model	(Constant)	41.567	81.924		2.507	.509	14.845	.000(a)	.578	.544	2.038
	NAVPS	0.707	0.617	0.234	2.767	.047					
	ROCE	0.064	0.114	0.549	0.563	.051					
	EPS	1.134	1.722	0.510	5.886	.041					

a Predictors: (Constant), EPS, NAVPS, FCF

b Dependent Variable: MPS

Panel B logarithmic function model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F Value	Sig	R ²	Adjusted R ²	Durbin-Watson statistics
		B	Std. Error	Beta							
Logarithmic function model	(Constant)	39.568	71.944		.462	.0438					
	NAVPS	0.919	.367	.002	.056	.040	25.74	.000(a)	.490	0.469	1.938
	ROCE	0.867	.060	.104	2.449	.059					
	EPS	0.947	1.116	1.021	5.226	.011					

Linear Function model and Logarithmic Function model were tested by ordinary least-squares (OLS) estimators. Using multiple regression analysis of two models found unequal beta coefficients and these are more than zero. By comparing result of Table 3, panel A, it was found that the linear function model cannot accept the hypothesis one at 95% level of confidence consistent with Raihain et al(2007), Somoyee et al(2009). It contains the adjusted R squared value (0.544) which is very low due to market inefficiency, says that the model can explain only 54.4 % of variation in market value of share due to variation on NAVPS, ROCE, and EPS. EPS estimated value B=1.134 implies that 1%increase in EPS the average amount of MPS increases at 1.134%. F ratio is found significance at $\alpha = 0.05$, that means the regression model is insignificant at 90 percent and significant at 95percent level of confidence. Also the independent variables namely NAVPS and EPS are significant at $\alpha = 0.05$ ($p < 0.05$), ROCE is significant at $\alpha = 0.051$ ($p < 0.10$). So, Null hypothesis is rejected. Another model non linear model has lower adjusted R squared value in compare to linear function model adjusted R squared value is 0.469. In case of logarithmic model independent variable NVPS is significant at $\alpha = 0.04$ ($p < 0.05$) i.e. it is significant at 95 percent confidence interval, and another independent variable ROCE is significant at $\alpha = 0.509$ ($p > 0.10$). It is not significant at 95 percent confidence interval that can accept the second hypothesis only at 94% confidence of interval. So the alternative hypothesis is accepted at 94% confidence level. There is non-linear relationship among the dependent (MPS) and independent (NAVPS, ROCE, EPS) variables. Like previous studies in developing markets, result reveals that Bangladesh stock price does not react in a linear way due to earning potential ratios. Sufficient evidence supports to reject the first hypothesis that is there is an insignificant linear relationship between market price of stock and net asset value per share (NAVPS), Return on Common Equity (ROCE) and earnings per share (EPS).

VI. Conclusions

Using multiple regression analysis in this study found insignificant linear relationship between MPS and other earning potential ratios of pharmaceuticals and chemical companies listed in Dhaka Stock Exchange in Bangladesh. Market inefficiency is the main reason for this. Besides the investors especially individual investors invest their money without much consideration of financial condition/health of the company. Investors invest their money expecting only for cash dividend or short term return from those investment. Therefore the market price of stock of the company does not react with the changing of most important earning potential variables/ratio though shows the performance, position and strength of cash generating ability of the company. Hence it is apparently assumed that accounting information is not properly reflected on share price or investors do not use accounting information to make their investment decision in Bangladesh.

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