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Impact of Financial and Macro-economic Factors on Share Price Determination: A Study on Private Commercial Banks of Bangladesh

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Abstract: Modeling of share price of the financial services firms has a great importance in finance and economic studies. The objective of the study is to show how the financial factors of institutions and macro-economic factors of a country lay an impact on share prices in the secondary market. With this objective a sample of 24 commercial banks of Dhaka Stock Exchange (DSE) for the period 2008 -2012 was analyzed by multiple regressions. It was found that a highly positive significant relationship exists between the market price of stock and two dominating factors like- earning per share and price-earnings multiplier. Again it was found that share price fluctuation is the consequence of the movement of the macroeconomic factors which is strongly supported by the prior literature. Among the macro-economic factor, it was found that market price of stock is negatively related with money supply and lending interest rate.

Key Words: Institutional factors, Macro-economic factors, DSE, Share price determination.

1. Introduction

Bangladesh has the third largest capital market in the South Asia and the smallest one in Asia. Financial institutions play a significant role in the domestic market in capital formation. Though in recent years the number of non-banking financial institutions (leasing and merchant banks) is seen to increasingly creating their own places, the banking system captures the lion's share of the capital market. In the banking system, the private commercial banks (PCBs) hold more than 61% of the total deposits and 59% of industry assets followed by the four nationalized commercial banks (SCBs) that hold 27.5% of the total deposits and 28.8% of industry assets(Annual Report, Bangladesh Bank 2010-11). Aggregate financial sector (consists of banks, financial institutions, insurance and mutual funds) and listed private commercial banks possess 42.63% and 26.72 % of total market capitalization respectively (DSE Sectoral Performance - December 2012). That means banks hold 62.67% of share of total financial sector. This represents that the financial system of Bangladesh is predominately bank centric. That's why private commercial banks are the center of interest to invest in from the perspective of investors at both primary and secondary market. Investing in share belongs to bank companies' or any others need prediction of share price. Theoretically investors are suggested to calculate the

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present value of the all future prospects and evaluate the trend of volatility of share price of a company.

According to financialtheorists stock price is the present value of all future earnings expectations for the company, divided by its number of shares outstanding which meantthat the price is defined by the earning capacity of the company. But in practice these volatile prices of stocks are set by a combination of different factors that no analyst can consistently understand or predict. There are some observed factors that cause movements in stock price such as (i) Economic factors like, demand-supply, inflation, interest rate, dollar exchange rate etc. (ii) New information, (iii) Uncertainties, (iv) Psychological factorslike, greed and fear, (v) Banking sector reforms and (vi) Company financials. Stocks trading in smaller volumes of shares are subject to fluctuations because of supply and demand. If a large shareholder wants to sell a large number of shares into a market with weak demand, that can dramatically move share price. The flip side is also true when a large buy order comes into a market that lacks sellers. Information regarding company's financial, non-financial like money laundering case, increasing rate of non-performing loan, increasing rate of loan default culture and poor management scandals of financial institutions, even personal secrets are treated as the key, as these gives the market a reason to value a stock at a particular price level.Sometimes stocks are traded abnormally only because of significant new information, both positive and negative. The uncertain future of the company will bring some volatility in share prices even there is no new information in the market. The stock market is operated and enliven by human. That means human characteristics are also factors in price fluctuation.Greed for short-term gain and fear for losing investment can drive price fluctuation in stock market. The banking sector reform measures (in 2003 to onward) have had major impact on the overall efficiency and stability of the banking system of Bangladesh. A good number of banks and other financial institutions with various types of financial instruments emerged up. The institutional network and volume of operations of the financial sector have expanded and diversified. A number of scheduled banks have gone up from 11 in 1980 to 47 in 2011. The banks' involvement in non-traditional activities and the increase in profits from these activities have contributed to improvements in banking sector performance in terms of profitability, cost efficiency, and earnings efficiency. These changes in the sector can have positive or negative effects on share price for short-run or in the long-run too. Among all thesefactors company financial and economic indicators are assumed to be the first hand quantitative information to the new investors that has the most direct influence on a stock's price. Performance of the fundamental ratios of the industry will be essential and immensely

helpful to investors and analysts in assessing the better stocks that belong to different industry groups (Srinivasan, 2012). Except these entire factors socio-political situation, government finance policy, law enforcement, Securities and Exchange Commission (SEC) rules and regulations, micro and macro-economic factors have positive and negative influence on share business, in other words share price movement. The aim of this study is to contribute to the literature helping investors and analyst to formulate the relationship and significance among various financials and economic indicators that are readily available in annual publications and prospective share price information of a particular company.

2. Objective

The specific objectives of the study are as follows:

- To find out the determinants of movement of share price in the secondary market in Bangladesh.
- To identify the dominating financial factors on share price movements.
- To evaluate the significance of macro-economic indicators in determination of share price.

3. Limitation

This study has been conducted over Dhaka Stock Exchange (DSE) enlisted private commercial banks only; Chittagong Stock Exchange (CSE) has been ignored here. The results may not be true for all of the industries playing at DSE or overall share market. The significance of institutional and macro-economic indicators together on the share price has not been evaluated in the study.

4. Literature Review

Different stand of literature of stock market growth or stock price determination has been taken as important in economics as well as finance literature. In finance, attention has been given to understand the determinants of stock price, whereas in economics attention has been given to assess the impact of various macro-economic variables on the stock market growth. In other words share market and share price movement itself is the most controversial and important topic to discuss and to research on. Therefore, a large number of empirical studies have been conducted about the determinants of stock prices. Several researchers examined the relationships between stock prices and selected factors which could be either internal or external. In this section some of these studies will be reviewed under the two distinct factors to be analyzed in this paper.

4.1. Financial Factors

The link between financial factors and share price changes has been extensively investigated in the financial literature. Many studies are done around Asia to formulate the relationship between stock price and different financial. Sharma and Singh (2006)used data from 160 Indian firms between 2001 and 2005 and found that earnings per share, price-earnings ratio, dividend per share, dividend coverage, dividend payout, book value per share, and firm size are the determinants of share prices.

Somoye et al. (2009) examined the factors influencing equity prices inthe Nigerian stock market for the period 2005-2007. They employed simple linear regression model to examine the impact of earning per share, GDP, interest rate, dividend per share and oil price on equity price. The empirical results showed the variable dividend per share, earning per share and GDP exerts a positive correlation to stock prices but are not significant determinants of share price.

Al-Shubiri (2010) investigated the determinants of market stock pricemovements of Jordanian commercial bank. The study includes thecommercial bank of Amman stock exchange for the period 2005-2008.The study used simple and multiple regression analysis to investigatethe determinants of market stock price. The empirical findings showed highly positive significant relationship between market price of stockand the factor like net asset value per share, stockdividend percentage and GDP while inflation andlending interest had a negative significant relationship with the share price.

Nirmala and Sanju (2011) identified the determinants of share prices inthe Indian stock market. The study focuses on three sectors viz., auto,health care & public sector undertakings over the period 2000-2009.They employed panel co-integration test and fully modified leastsquares method. The empirical findings showed that dividend per share and price earnings ratio influenced positively the share prices of all three sectors. The results further indicated that debtequity ratio is a significant factor influencing share prices for all thethree sectors and that it exerts a negative relation with share price.

Sharma (2011) examined the empirical relationship between equityshare prices of different industry groups and variablessuch as book value per share, dividend per share, earning per share,price earnings ratio, dividend yield, dividend payout, size in terms ofsale and net worth for the period 1993-2008. The results revealed thatearning per share, dividend per share and

book value per share hassignificant impact on the equity price of different industry groups inIndia.

Syed Atif Ali(2012) investigates the relationship and impact of company's internal factors on the stock prices. To achieve their objectives they have taken 6 years data from 7 different sectors of business and these sectors includes 35 companies. According to their regression results return on equity have insignificant impact on share prices but net profit margin, current ratio and total asset turnover (as independent variables) have significant impact on share price.

Menaje (2012) attempted to determine whether EPS and ROA have significant influence on share price of publicly listed firms in Philippines and found strong positive correlation of EPS with share price and a weak negative correlation of ROA with share price in year of 2009.

Profilet(2013) put some questions about the determinants of share price volatility, such as what factors affect stock pricesand what specific financial factors makes share prices more volatile. To answer these questions they choose data of 500 publicly traded firms from survey data base. They have used OLS regression technique to check the relationship between these variables. According to their results dividend yield has a positive strong relationship with share price volatility while on the other hand firm size has negative correlation.

Finally it can be said that, in the securities market, whether the primary or the secondary market, the price of equity is significantly influenced by a number of factors which include book value of the firm, dividend per share, earnings per share, price-earnings ratio and dividend coverage ratio (Gompers, Ishii &Metrick, 2003).

4.2.Economic factors

The factors affecting the price of an equity share can be viewed from the macro and micro economic perspectives. Macro-economic factors include politics, general economic conditions - i.e. how the economy is performing, government regulations, etc. Then there may be micro economic factors like demand and supply conditions which can be influenced by the performance of the company and, of course, the performance of the company vis-a-vis the industry and the other players in the industry.Many studies are done around the world to investigate the causal relationship between stock market and different macroeconomic variables.

Joshep and Vezos (2006) assert that Foreign exchange (FX) rate and interest rate risks are important financial and economic factors affecting the value of common stocks. The results indicate a significant and negative relation between stock prices and inflation and output growth negatively and significantly affect stock prices.

Nadeem& Hussein (2009) investigated long run and short run relationship between macroeconomic variables and stock prices in Lahore stock exchange (LSE). Long run relationships were found between macro-economic variables and LSE 25 index. Industrial production index, exchange rate, money supply, and stock returns disclose positive effects. On the other hand inflation had a negative impact on share price.

A few studies were done in Bangladesh to explore the causal relationship between stock prices and macroeconomic variables. Rahman and Uddin (2009) considered exchange rates of US dollar in terms of Bangladeshi Taka, Indian Rupee and Pakistani Rupee and monthly values ofDhaka Stock Exchange General Index, Bombay Stock Exchange Index and Karachi Stock Exchange for the period January 2003 to June 2008. Result showed that there was no co-integrating relationship between stock prices and exchange rates.

Ali (2011) investigated the impact of changes in selected microeconomic and macroeconomic variables on stock returns at Dhaka Stock Exchange using data from July 2002 to December2009 (Ali 2011b). A Multivariate Regression Model computed on Standard OLS Formula has been used to estimate the relationship. They found that inflation and foreign remittance have negative influence whereas industrial production index, market P/E and percentage of average monthly growth in market capitalization have positive influence on stock returns.

Chaityet. al. (2014) investigated the externalities to stock price movement from the perspectives of investors in secondary stock market of Bangladesh. They chose twenty one variables related to institutional and micro-macroeconomic information which were concentrated into four factors considering Eigen value under factor analysis. They concluded that 'Profitability Indicator Factor', 'Dividend Impact Factor', 'Micro-macroeconomic Factor' and 'Salient Market Factor' are the most prominent determinant of stock price from the perspectives of investors in Bangladesh.

Khalid Mustafa (2013) investigates the relationship between money supply, interest rate and stock prices. They have used monthly basis data from January 1992 to June 2009. They have applied error correction model, co-integration and Granger Causality test to check the relationship between money supply and share prices. Their findings suggests that there exits uni-directional association between share prices and supply of money. There results also reveal that money supply is negatively affected by share prices in a short run relationship. According to their research findings money supply is not the strong determinant of stock prices. There is no long run relationship between money supply and stock prices.

In the light of the preceding literature review, many factors both micro and macro-economics, have impact on equity pricing in the stock market, the impact differs from firm to firm, industry to industry, economy to economy and from time to time, but one comforting conclusion is that most of the factors appear to have the same behavior regardless of time, industry or firm constraints. For instance, increased inflation and interest rates, declining dividends, earnings, and poor management leave negative impact on equity pricing and vice-versa.

5. Methodology

The study aims to show how the institutional and macro-economic factors impact on share price of banks in the secondary market of Bangladesh. For the research purpose, independent variables are identified and grouped into two distinct set. First group of variable namely "Financial Variables"- mainly the financial performance indicators of banks and second group of variables are "Macro-economic Variables"- the economic indicators of the country. In this study the dependent variable is "Share Price (SP)" in Bangladeshi taka. There were collected from the year-end market value of shares of 24 commercial banks for the time period of 2008 to 2012. As the average share price is not an appropriate economic representative of dependent variable in analysis of macro-economic factors' impact on share price, total amount of market capitalization of the respective years was used as a representation of stock market volatility. The market capitalization refers to the sum that is derived from the current stock price per share multiplied by the total number of sharesoutstanding. Although the market capitalization of a particular companyindicates the value of that company, it is only a temporary metricbased on the current stock market.

5.1. Variables

5.1.1. Financial Variables

- Retained Earnings (RE) of Bangladeshi banks; measured by RE in Billion BDT.
- Net Asset Value per Share (NAVPS) of Bangladeshi banks; measured by equity share capital plus shareholders reserves divided by total number of common share outstanding.
- Earnings per Share (EPS) of Bangladeshi banks; measured by the net income after tax divided by total number of common share outstanding.
- Dividend per Share (DPS) of Bangladeshi banks; measured by the total dividend announcement divided by the total number of common shares.
- Dividend Payout Ratio (DPR) of Bangladeshi banks; measured by dividend per share divided by earning per share.

- Price Earnings Ratio (PE) of Bangladeshi banks; measured by market price of share divided by earning per share.
- Firm Size (FSz) of Bangladeshi banks; measured by Total asset in Billion BDT.
- Assets Growth (AstGr) of Bangladeshi banks; measured by the ratio of change in total asset of firm per annum.
- Net Profit after Tax (NPAT) of Bangladeshi banks; measured by NPAT in Billion BDT.
- Return on Asset (ROA) of Bangladeshi banks; calculated by the Net profit after tax divided by Average total asset.

5.1.2. Macro-economic Variables

- Gross Domestic Product (GDP) of Bangladesh at market price.
- Average Lending interest rate (IR) of Bangladeshi banks,
- Average Inflation rate (INF) in Bangladesh;
- Average Dollar Exchange Rate (DXR) in Bangladesh;
- Supply of Money (MS) in Bangladesh; measured by summation of M1 and M2 expressed at Billion BDT where M1 comprises total notes and coin in circulation and Deposit Money Banks (DMBs) demand deposits and M2 is defined as total money supply(M1) and Time Deposits with DMBs (Bangladesh Bank website).

5.2. Data Collection

As the secondary data were needed for the study, Archival Research methodology was applied and publicly available archival data were analyzed in the study. The population size is 30 listed commercial banks in Dhaka Stock Exchange (DSE). Primarily all banks had been selected as sample but at the observation period some of banks were rejected due to data insufficiency as the websites of the banks were not updated with recent information. Finally 24 commercial banks were selected as sample using purposive sampling basis. The financial data of the sample institutions have been collected from website of Dhaka Stock Exchange and uploaded annual reports in respective website of the banks. The economic data have been collected from website of The World Bank and The Bangladesh Bank.

5.3. Hypotheses

The following research hypotheses were stated and tested at 5% level of significance (α = 0.05)

H_1: There is a significant relationship among Share Price (SP) and Financial Variables.

H_2: There is significant relationship among Share Price (SP) and Macro-economic variables

5.4. Models

For studying the two relationships multiple regression analysis was conducted and co-linearity among the variables was examined. All data are expressed in logarithmic forms because the collected data werenotnormally distributed. The following multiple regression models were developed for this purpose-

$$SP_{i,t} = \alpha_{i,t} + \beta_1 LogRE + \beta_2 LogNAVPS + \beta_3 LogEPS + \beta_4 LogDPS + \beta_5 LogDPR + \beta_6 LogPE + \beta_7 LogFSz + \beta_8 LogAstGr + \beta_9 LogNPAT + \beta_{10} LogROA + \epsilon_{i,t} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

And

$$SP_{i,t} = \alpha_{i,t} + \beta_1 LogGDP + \beta_2 LogINT + \beta_3 LogINF + \beta_4 LogDER + \beta_5 LogMS + \epsilon_{i,t} \dots\dots\dots\dots (2)$$

Where, $SP_{i,t}$ is the share price of individual firms in different times,$\alpha_{i,t}$ is the constant and $\epsilon_{i,t}$ is the error terms. β_1 to β_{10} are the regression co-efficient.

6. Analysis of the findings

The relevant data available from the stated publications and websites of the twenty four banking companies are collected, tabulated and analyzed and analysis of the finding is presented in this section. To examine the significance of factors that may have effect on share price movement, two step analyses have been done. The analysis of financial factors followed byan analysis of macro-economic factors has been done.

6.1. Descriptive Analysis

First of all descriptive analysis was done for variables for year 2008 to 2012. Appendix (B) Table-1 presents the means, standard deviation, maximum and minimum values of the variables and the Skewness scores of the distributions of the institutional variables. It was found that the highest mean values with the highest standard deviation of the variables were- RE (in Billion Taka) Tk.1.55 in 2011 with Tk.1.09 in 2012, NAVPS Tk.24.81 in 2009 with Tk.8.70 in 2012, EPS Tk.4.71 in 2010 with Tk.2.15 in 2012, DPS Tk.1.48 in 2010 with Tk.0.90 in 2012, DPR 29.54% in 2010 with10.76% in 2010, PE 17.23% in 2010 with 14.25% in 2008, FSz (in Billion Taka) Tk.156.41in 2012 with Tk.100.59 in 2012, AstGr 31.57% in 2009 with 12.62% in 2010, NPAT (in Billion Taka) Tk.2.02 in 2011 with Tk.1.35 in 2011,

ROA 2.07 in 2010 with 1.48 in 2011, SP Tk.79.16 in 2010 with Tk.83.26 in 2008 respectively.

From Appendix (B) Table-9 it was found that the highest values were- GDP (Billion Taka) Tk.11,880.711 in 2012, Lending interest rate 16.38% in 2008, Inflation rate 10.70% in 2011, Dollar exchange rate Tk.81.86 in 2012, Money supply (Billion Taka) Tk.6,845.15 in 2012 and Market Capitalization (Crore Taka) Tk.325,879.77 in 2012.

6.2. Regression Analysis

6.2.1. FinancialVariable Analysis

The regression model equations were tested by ordinary least-squares (OLS) estimators using multiple regression analysis of all periods of the study. To show the overall impact of different institutional variables on share price multiple regression analysis (Equation 1) was done for year 2008 to 2012. In Appendix (B) Table-2 to Table-7 coefficients of regression model are presented for different years and for overall years. Presented results show some inconsistency in prediction as the share market was very much volatile in some period of observation in Bangladesh. Appendix (B) Table-2 presents that in year 2008 EPS and PE have significant (at $p<0.05$) positive relation to share price with t-stat of 34.543 and 123.868 respectively, whereas DPR, FSz, AstGr and ROA have insignificant negative relation to share price. Appendix (B) Table-3 presents that RE, DPR, FSz and AstGr have insignificant negative relation to share price whereas only PE has significant (at $p<0.05$) positive relation to share price with t-stat of 7.359 in year 2009. Appendix (B) Table-4 presents the coefficients for year 2008 and it is shown that PE (at $p<0.05$) and NPAT (at $p<0.10$) have significant positive relation to share price with t-stat of 23.840 and 1.945 respectively, whereas RE, DPR and FSz have insignificant negative relation to share price. Appendix (B) Table-5 presents the results of year 2011 and here a repetition of outcome is observed that means in year 2011 EPS and PE have again a significant (at $p<0.05$) positive relation to share price with t-stat of 51.201and 67.390 respectively, whereas RE and NPAT have insignificant negative relation to share price. Table-6 also supports the results of year 2008 and 2011. EPS and PE have found as significantly (at $p<0.05$) and positively correlated with share price. But DPR, AstGr and NPAT are not. Finally Appendix (B) Table-7 shows results of overall period of observation. Inconsistency in results is observed here due to data averaging. PE and NAPT are found to have a significant (at $p<0.05$) positive relation to share price with t-stat of 21.042 and 2.720 respectively and ROA which was not significant in every single period from 2008 to 2012, is found slightly significant (at $p<0.10$) but negatively correlated with share price. Other variables having negative beta coefficients are DPR and FSz. If above discussed results

are summarized, then the relationships between dependent and independent variables will be conclusive. The mathematical sign contained in coefficients of beta resulted in different year are presented in following table.

Table : Year wise symbolic presentation of relationship between dependent (SP) and institutional independent variables										
Year	RE	NAVPS	EPS	DPS	DPR	PE	FSz	AstGr	NPAT	ROA
2008	+	+	+	+	-	+	-	-	+	-
2009	-	+	+	-	+	+	-	-	+	+
2010	-	+	+	+	-	+	-	+	+	+
2011	-	+	+	+	-	+	+	+	-	+
2012	+	+	+	+	-	+	-	-	-	+
2008-2012	+	+	+	+	-	+	-	+	+	-

Note: Positive relationship symbolized by (+) sign and (-) sign indicates negative relationship.

Though the selected independent variables are expected to have a positive relationship with dependent variable, due to unusual market movement some unexpected results are observed in the period of observation. From the table above, if we consider maximum and overall sign incurred for beta coefficient for each of the variable, it will suggest that RE, NAVPS, EPS, DPS, PE, NPAT and ROA have maximum positive correlation with share price determination whereas DPR and FSz have negative relation with share price. Finally, Appendix (B)Table-8 describes that the multiple regression model accept the H_{11} that there is relationship among institutional variables and market price of shares. Table contains the value of Coefficient of Determination (R^2), significance statistics and F- values of the model for year 2008 to 2012. It is shown in the table that R^2 values are 1, 0.935, 0.996, 0.999 and 0.999 respectivelystating that the model explains 100%, 93.5%, 99.6%, 99.9% and 99.9% of the variation in market value of share for the respective years. Eventually the model explains 99.6% of the variation for overall period of observation ($R^2=0.996$). F-statistic is found significant (at $p<0.05$) in every year from 2008 to 2012 and throughout the period of observation. F-values are 4.707, 18.724, 308.184, 2.184, 2.176 and 289.727 for each of the years from 2008 to 2012 and overall period respectively, which means that the regression model is highly significant at 95 percent confidence level. So the model can be a predictive tool for share price of Bangladeshi private commercial banks.

6.2.2. Macro-economic Variable analysis

To show the impact of different economic variables on share price, multiple regression analysis (Equation 2) was done. Appendix (B) Table-9 to Table-13 presents the results of macro-economic factor analysis with relation to share price. Appendix (B) Table-9 presents economic data that are used in analysis for year 2008 to 2012.

Appendix (B) Table-10 and Table-11 indicate that the multiple regression model accept H_2. So there is significant relationship among macro-economic variables and market value of

shares. The model contains R squared value of 1 that means the model explains 100% of variation in share market price movement.Appendix (B)Table 12 presents coefficients of beta of the macro-economic variables where it is seen that lending interest rate (IR) and money supply (MS) are negatively correlated with share price movement but inflation rate (INF) and dollar exchange rate (DXR) have positive relationship to share price. But the model excludesGDP because of lacking collinearity with share price movement. That means the growth of the capital market has not matched the growth in the realeconomy.

7. Conclusion

The present study examines the impact of financial and macro-economic variables on determination of share prices of private commercial banksat the secondary market in Bangladesh. The study employs industrial data consisting of annual time seriesover the period 2008-2012. Data from banking sector are analyzed by multiple regression analysis using Statistical Package for Social Science (SPSS 16.0). The study reveals that retained earnings (RE), net asset value per share (NAVPS), earning per share (EPS), dividend per share (DPS), price earnings ratio (PE), net profit after tax (NPAT) and return on asset (ROA) have maximum positive correlation with share price determination which is compatible to the findings of Somoye et al (2009), Al-Shubiri (2010), Sharma (2011) and Manaje (2012) whereas dividend payout ratio (DPR) and firm size (FSz) have negative correlation with share price. This means investors may assess firms' capital/asset (RE/NAV/AstGr), earning power (NPAT/PE/EPS/ROA) and dividend policy (DPS) in estimating share price. But they may have negative attitude toward higher dividend payout ratios because it gives impression about having idle retained earnings or lacking of future prospect of the company. Investors are also indifferent about the size of the firm as they look for highly profitable and prospective firms to invest in. So this study confirms that performance of the fundamental ratios of the industry will be essential and helpful to investors and analysts in assessing the better stocks that belong to different industry. The paper also investigates the relationship between stock prices and five macroeconomic variables for Bangladesh. The results suggest that the DSE stock market of Bangladesh is not informationally coped with respect to money supply in the economy which is supported by the literature that there is no long run relationship between share price and money supply in the economy (Khalid Mustafa, 2013). Additionally, there seemsto have a causal link between the stock prices to exchange rate changes similar to the result of Nadeem and Hussein (2009). Here is also a repetition of the outcome of the previous literature that lending interest rate is negatively associated with share

price in Bangladesh (Al-Shubiri, 2010). But relation found in the study between inflation rate and share price contradicts with previous literatures (Al-Shubiri, 2010, Joshep and Vezos, 2006 and Ali, 2011b) as analysis shows a positive relation between these two variables. It seems that the management of the selected banks adequately predicted the effects of inflation and sufficiently managed the cost efficiency of the firms and remained profitable within the periods of high inflation. That's why inflation failed to exert a negative influence on their share price in the observation periods.However some inconsistencies in yearly results are observed in the study because of unstable market situation due to stock market crash in 2011. A continuous fall in share indexwas observed in the periods after 2011 whereas shares were overpriced throughout the year before crash. This two extremes might be caused togetherto bring such unusual results in the analysis. However, there is a wide scope of further studies on this topic where researcher may study on multiple industry data with a different time period and/or qualitative factors that have much influence on share price mentioned in the introduction to arrive at a newer conclusion.

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Appendix A

Name of Selected Banks			
1	AB Bank Ltd.	13	Mercantile Bank Ltd.
2	Al-Arafa Islami Bank Ltd.	14	Mutual Trust Bank Ltd.
3	Bank Asia Ltd.	15	NCC Bank Ltd.
4	City Bank Ltd.	16	One Bank Ltd.
5	Dhaka Bank Ltd.	17	Premier Bank Ltd.
6	Dutch-Bangla Bank Ltd.	18	Prime Bank Ltd.
7	Eastern Bank Ltd.	19	Shahjalal Islami Bank Ltd.
8	EXIM Bank Ltd.	20	Social Islami Bank Ltd.
9	First Security Islami Bank Ltd.	21	Southeast Bank Ltd.
10	IFIC Bank Ltd.	22	Standard Bank Ltd.
11	Islami Bank Ltd.	23	Trust Bank Ltd.
12	Jamuna Bank Ltd.	24	United Commercial Bank Ltd.

Appendix B

Table 1: Descriptive Statistics for institutional independent and dependent variables in every years

Year	Index	RE	NAVPS	EPS	DPS	DPR	PE	FSz	AstGR	NPAT	ROA	SP
2008	Min.	0.00	11.03	0.74	0.00	0.00	7.29	29.81	12.00	0.10	0.33	16.32
	Max.	1.79	34.12	5.63	2.75	50.00	78.70	288.02	55.61	2.67	2.74	432.85
	Mean	0.62	20.96	3.30	0.81	22.27	15.63	62.87	27.42	0.81	1.33	56.16
	Std. Dev.	0.48	6.03	1.27	0.60	10.08	14.25	51.93	11.35	0.58	0.49	83.26
	Skew.	1.24	0.68	-0.03	1.56	0.30	4.08	3.83	0.91	2.15	0.63	4.38
2009	Min.	0.01	12.45	1.33	0.14	10.00	6.80	39.98	9.32	0.33	0.68	20.62
	Max.	3.54	47.79	7.83	3.13	47.00	34.40	340.64	53.98	3.40	3.15	196.08
	Mean	0.88	24.81	4.04	1.22	28.43	12.97	80.15	31.57	1.28	1.64	53.38
	Std. Dev.	0.76	8.67	1.61	0.74	10.13	5.56	59.89	11.69	0.83	0.57	35.84
	Skew.	2.15	1.04	0.23	0.74	-0.05	2.53	3.86	-0.03	1.61	0.74	2.97
2010	Min.	0.23	12.81	1.24	0.19	12.00	8.34	55.17	7.51	0.55	0.86	23.54
	Max.	4.77	43.00	10.00	3.26	55.00	30.23	443.68	53.21	4.46	3.21	229.00
	Mean	1.44	23.95	4.71	1.48	29.54	17.23	102.75	28.92	2.00	2.07	79.16
	Std. Dev.	0.97	7.57	1.93	0.88	10.76	5.27	77.66	12.62	0.98	0.67	42.05
	Skew.	1.82	1.13	0.53	0.50	0.83	0.66	3.97	0.18	0.74	-0.06	2.20
2011	Min.	0.33	13.38	1.34	0.17	10.00	7.32	67.62	11.91	0.46	0.62	26.26
	Max.	5.29	44.70	10.80	4.32	40.00	26.19	502.61	53.00	6.35	8.31	162.00
	Mean	1.55	22.81	3.44	0.94	24.40	14.53	127.09	26.48	2.02	1.75	48.03
	Std. Dev.	1.04	7.82	1.88	0.84	7.89	4.94	86.50	11.76	1.35	1.48	29.82
	Skew.	2.27	1.51	2.69	3.04	-0.16	0.85	3.84	0.53	1.81	4.06	2.72
2012	Min.	0.28	14.72	1.12	0.11	10.00	4.55	81.74	9.30	0.18	0.19	15.90
	Max.	5.16	54.27	11.60	4.64	40.00	32.28	592.58	42.77	5.52	1.55	114.84
	Mean	1.24	22.13	2.77	0.55	16.15	12.14	156.41	24.38	1.49	0.93	29.54
	Std. Dev.	1.09	8.70	2.15	0.90	7.23	5.74	100.59	7.94	1.09	0.38	20.31
	Skew.	2.43	2.54	3.28	4.39	1.70	2.18	3.81	0.49	2.26	-0.20	3.59

Table 2: Coefficients (Year 2008)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.104	.092		1.129	.279
	Retained Earnings	.000	.003	.000	-.031	.975
	Net Asset Value per Share	.008	.018	.003	.464	.650
	Earnings Per Share	.981	.028	.694	34.543	.000*
	Dividend Per Share	.026	.031	.027	.833	.420
	Dividend Payout Ratio	-.023	.034	-.015	-.695	.499
	Price Earnings Ratio	.998	.008	.755	123.868	.000*
	Firm Size	-.034	.024	-.025	-1.412	.181
	Asset Growth	-.001	.010	.000	-.108	.916
	Net Profit After tax	.028	.026	.028	1.108	.288
	Return on Asset	-.012	.028	-.006	-.439	.668

a. *Dependent Variable: Share price*

b. *The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 3: Coefficients (Year 2009)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.452	7.478		-.328	.748
	Retained Earnings	-.053	.045	-.149	-1.176	.261
	Net Asset Value per Share	.333	.218	.221	1.529	.150
	Earnings Per Share	2.873	3.749	2.654	.766	.457
	Dividend Per Share	-1.837	3.758	-2.834	-.489	.633
	Dividend Payout Ratio	1.100	3.762	.910	.292	.775
	Price Earnings Ratio	.938	.127	.674	7.359	.000*
	Firm Size	-.326	.255	-.299	-1.282	.222
	Asset Growth	-.011	.103	-.010	-.107	.916
	Net Profit After tax	.500	.287	.577	1.739	.106
	Return on Asset	.083	.323	.048	.257	.801

a. *Dependent Variable: Share price*

b. *The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 4: Coefficients (Year 2010)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.177	2.187		.538	.600
	Retained Earnings	-.013	.029	-.020	-.445	.664
	Net Asset Value per Share	.018	.062	.012	.293	.774
	Earnings Per Share	.563	1.098	.584	.513	.617
	Dividend Per Share	.483	1.091	.789	.442	.666
	Dividend Payout Ratio	-.625	1.096	-.505	-.570	.578
	Price Earnings Ratio	.985	.041	.662	23.840	.000*
	Firm Size	-.048	.052	-.047	-.921	.374
	Asset Growth	.020	.021	.022	.948	.360
	Net Profit After tax	.091	.047	.108	1.945	.074**
	Return on Asset	.020	.073	.010	.274	.788

a. *Dependent Variable: Share price*

b. *The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 5: Coefficients (Year 2011)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
1　(Constant)	-.085	.059		-1.437	.173
Retained Earnings	-.018	.013	-.024	-1.329	.205
Net Asset Value per Share	.030	.024	.020	1.263	.227
Earnings Per Share	.983	.019	.967	51.201	.000*
Dividend Payout Ratio	.021	.017	.017	1.218	.244
Price Earnings Ratio	.981	.015	.710	67.390	.000*
Firm Size	.021	.020	.020	1.059	.307
Asset Growth	.003	.008	.003	.338	.740
Net Profit After tax	-.010	.021	-.014	-.502	.624
Return on Asset	.013	.026	.014	.491	.631

a.　*Dependent Variable: Share price*

b.　*The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 6: Coefficients (Year 2012)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
1　(Constant)	.020	.051		.384	.707
Retained Earnings	.006	.012	.009	.504	.622
Net Asset Value per Share	.001	.024	.001	.034	.973
Earnings Per Share	1.002	.018	1.236	54.803	.000*
Dividend Payout Ratio	-.008	.013	-.007	-.564	.582
Price Earnings Ratio	1.007	.018	.930	55.099	.000*
Firm Size	-.006	.019	-.006	-.299	.769
Asset Growth	-.006	.012	-.005	-.488	.633
Net Profit After tax	-.008	.019	-.014	-.407	.690
Return on Asset	.009	.016	.012	.565	.581

a.　*Dependent Variable: Share price*

b.　*The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 7: Coefficients (Year 2008-2012)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.592	1.029		1.547	.146
Retained Earnings	4.692E-5	.021	.000	.002	.998
Net Asset Value per Share	.012	.065	.007	.188	.854
Earnings Per Share	.566	.400	.442	1.416	.180
Dividend Per Share	.538	.426	.708	1.263	.229
Dividend Payout Ratio	-.757	.469	-.493	-1.614	.131
Price Earnings Ratio	1.007	.048	.570	21.042	.000*
Firm Size	-.188	.081	-.182	-2.316	.038
Asset Growth	.059	.052	.032	1.143	.274
Net Profit After tax	.234	.086	.272	2.720	.018*
Return on Asset	-.164	.085	-.080	-1.930	.076*

a. *Dependent Variable: Share price*

b. *The results are presented at different levels of significance (p<0.10** and p<0.05*)*

Table 8: Multiple Regression Analysis of the Institutional Determinants of Share market price

Multiple Regression Model: $SP_{i,t} = \alpha_{i,t} + \beta_1 LogRE + \beta_2 LogNAVPS + \beta_3 LogEPS + \beta_4 LogDPS + \beta_5 Log + \beta_6 LogPE + \beta_7 LogFSz + \beta_8 LogAstGr + \beta_9 LogNPAT + \beta_{10} LogROA + \epsilon_{i,t}$			
Year	R^2	*Sig*	*F*
2008	1.000	0.000*	4.707
2009	0.935	0.000*	18.724
2010	0.996	0.000*	308.184
2011	0.999	0.000*	2.184
2012	0.999	0.000*	2.176
2008 to 2012	0.996	0.000*	289.727

The results are presented at different levels of significance (p<0.10** and p<0.05*)

Table 9: Descriptive Statistics of Macro-economic Factors

Macro-economic factors	*FY 2008*	*FY 2009*	*FY 2010*	*FY 2011*	*FY 2012*
GDP (Billion Taka)	6933.231	7829.440	8993.303	10412.517	11880.711
Lending Interest Rate(%)	16.38	14.60	13.00	13.25	13.93
Inflation Rate(%)	8.90	5.40	8.10	10.70	8.70
Dollar Exchange Rate (Tk.)	68.60	69.04	69.65	74.15	81.86
M1	664.27	753.60	999.19	1079.56	1186.09
M2	2965.00	3281.92	3992.79	4754.97	5659.06
Total Money Supply	3629.27	4035.52	4991.98	5834.53	6845.15
Market Capitalization (Crore Tk.)	100143.3	227640.8	325879.77	117145.07	184545.2

Source:www.indexmundi.com/bangladesh/#Economy,www.worldbank.org/en/country/bangladesh,

Dhaka Stock Exchange (DSE)

Table 10: Multiple Regression Model Summary

$$SP_{i,t} = \alpha_{i,t} + \beta_1 LogGDP + \beta_2 LogINT + \beta_3 LogINF + \beta_4 LogDER + \beta_5 LogMS + \epsilon_{i,t}$$

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000a	1.000	.	.

a. Predictors: (Constant), Money Supply, Inflation Rate, Lending Interest Rate, Gross Domestic Product

Table 11:ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.176	4	.044	.	.a
	Residual	.000	0	.		
	Total	.176	4			

a. Predictors: (Constant), Money Supply, Inflation Rate, Lending Interest Rate, Gross Domestic Product

b. Dependent Variable: Share Price

Table 12:Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.897	.000		.	.
	Lending Interest Rate	-5.848	.000	-1.120	.	.
	Inflation Rate	0.599	.000	0.314	.	.
	Dollar Exchange Rate	0.228	.000	0.552	.	.
	Money Supply	-2.453	.000	-1.343	.	.

a. Dependent Variable: Share Price

Table 13:Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Gross Domestic Product	.a	.	.	.	.000

a. Predictors: (Constant), Money Supply, Inflation Rate, Lending Interest Rate, Dollar Exchange Rate

b. Dependent Variable: Share Price