

Relationships between Inflation Rate and Market Value per Share of Commercial Banks: Evidence from Bangladesh

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ABSTRACT

The market value per share of financial institutions depends on a range of internal and macroeconomic variables. Inflation rate of a country is one of the macroeconomic variables that substantially influence the market price of share of the financial organizations. This study aimed at determining the relationship between inflation and market value per share of commercial banks in Bangladesh. Researchers used market value per share of 10 commercial banks and inflation rate for the period 2011 to 2015 as secondary data. A number of statistical tools (average, percentage change, median, maximum, minimum, standard deviation, coefficient of correlation and coefficient of determination) were used to find out the results. It was found that inflation of a country had significant positive effect on the market value per share of the selected commercial banks.

Key Words: Commercial banks, inflation, market value per share, coefficient of determination, coefficient of correlation

JEL Classification Code: G 21

INTRODUCTION

Financial institutions experience fluctuation in the market value per share now and then. This situation takes place due to some internal and macroeconomic variables. This study was conducted to determine the relation that existed between the inflation of the economy and the market price per share. Bernholz (2003) stated that inflation presupposes the existence of money, which engaged as an unplanned social institution by a number of interventions and innovations. He added that inflation was mainly used for an increase of the price level extending over a longer period which was measured by one or more price indices. Shubiri (2010) conducted an empirical study on the commercial banks in Jordan to analyze the determinants of market price of stock movement during the period 2005-2008. His analysis ended up with a result that was macroeconomic variables such as net asset

value per share, market price of stock dividend percentage, gross domestic product had positive relationship with market price of stock. On the other hand inflation and lending interest rate negatively affect the stock market price. Oleka et al. (2015) investigated 18 commercial banks listed in the Nigerian Stock Exchange for the year from 2000 to 2014 to estimate the relationship between inflation and the performance of the firms. Their investigations resulted that a negative relationship between inflation and performance of the selected banks for the study. Maswere and Kaberuka (2013) argued that money supply, inflation, interest rate and exchange rate had significant influence on the stock market price of Uganda Securities Exchange (USE). They added that inflation was negatively related to the market value per share in the short run. Hosseini et al. (2011) investigated the stock exchanges in China and India to find out the role of macroeconomic variables on stock market index. The examination revealed that the effect of increase in inflation rate on the economy had positive consequences on the market price of stock in both countries. Ouma and Muriu (2014) studied on stock market in Kenya to analyze the impact of macroeconomic variables on stock market return. According to their findings money supply and inflation were significant determinants of stock market returns at Nairobi Securities Exchange (NSE). Lakmali and madhusanka (2015) argued that inflation rate did not have a strong prediction of movements of stock prices in Colombo Stock Exchange.

Objective of the Study

The objective of the study is to find out the relationship between inflation rate and market value per share of commercial banks in Bangladesh.

MATERIALS AND METHODS

Researchers mainly used secondary data from annual reports of the banks, journals, books and websites. Two variables, inflation and market value per share were the focus of this study. Researchers used market value per share of 10 commercial banks from the year 2011 to 2015 and inflation rate of Bangladesh for this period has been analyzed. Researchers analyzed data by calculating percentage of change from one year to the next, various descriptive statistics, coefficient of correlation (r) and the coefficient of determination (r^2). The data was analyzed by SPSS Software 16.

RESULTS AND DISCUSSION

Market value per share of the selected commercial banks during the period 2011-2015 was figured out in table 1 and table 2 presented the minimum, maximum, SD, variance, and CV of the market value per share.

According to these two tables Figure 1, 2 and 3 have been drawn to get a clearer image of the changes about the values and the percentages to compare the Banks with each other in different years easily. In Figure 1, the market value per share in Bangladeshi Taka (BDT) for the all ten selected banks for the year of 2011 to 2015 has been presented to get a general idea about the selected banks in Bangladesh. Figure 2 shows the percentage changes in the market value per share for each bank and a comparison is showed between the banks. Figure 3 summarizes the minimum and maximum market value of shares from 2011 to 2015 for the selected banks. It also shows the standard deviation (SD), variance, coefficient of variation of the market value per share.

Table 1. Market value per share of the Banks

BDT except Percentage

No.	Name of Banks	2011	2012	2013	2014	2015	Average
1	Bank Asia Ltd.	38.2	21.5	23	16.7	16.5	23.18
	Change %		-43.7173	6.976744	-27.3913	-1.1976	-16.3324
2	Eastern Bank Ltd.	65.8	31.7	29.1	27.2	28.6	36.48
	Change %		-51.8237	-8.20189	-6.52921	5.147059	-15.3519
3	IFIC Bank Ltd.	67.6	36.2	34.3	26.1	21.2	37.08
	Change %		-46.4497	-5.24862	-23.9067	-18.7739	-23.5947
4	Mutual Trust Bank Ltd.	33.3	21.9	16.3	19.8	19.5	22.16
	Change %		-34.2342	-25.5708	21.47239	-1.51515	-9.96194
5	NCC Bank Ltd.	30.4	18.2	13.1	11.2	9.1	16.4
	Change %		-40.1316	-28.022	-14.5038	-18.75	-25.3518
6	AB Bank Ltd.	68.3	33.7	26.2	29.9	20.9	35.8
	Change %		-50.6589	-22.2552	14.12214	-30.1003	-22.2231
7	Dhaka Bank Ltd.	45	25	18.8	18.3	19.7	25.36
	Change %		-44.4444	-24.8	-2.65957	7.650273	-16.0634
8	Mercantile Bank Ltd.	34.8	19.1	16.7	13.7	10.7	19
	Change %		-45.1149	-12.5654	-17.9641	-21.8978	-24.3856
9	Prime Bank Ltd.	44.5	37	25.9	19.6	18.1	29.02
	Change %		-16.8539	-30	-24.3243	-7.65306	-19.7078
10	Jamuna Bank Ltd.	26.69	21.69	16.29	12.1	12.09	17.772
	Change %		-18.7336	-24.8963	-25.7213	-0.08264	-17.3585

Source: Annual reports (2011-2015) of selected banks

Table 2: Minimum, maximum, standard deviation, variance and coefficient of variation of market value per share

No.	Name of Banks	Minimum	Maximum	SD	Variance	CV %
1	Bank Asia Ltd.	16.50	38.20	8.88	78.77	38.29
2	Eastern Bank Ltd.	27.20	65.80	16.47	271.30	45.15
3	IFIC Bank Ltd.	21.20	67.60	18.12	328.18	48.86
4	Mutual Trust Bank Ltd.	16.30	33.30	6.54	42.79	29.52
5	NCC Bank Ltd.	9.10	30.40	8.52	72.62	51.96
6	AB Bank Ltd.	20.90	68.30	18.77	352.41	52.44
7	Dhaka Bank Ltd.	18.30	45.00	11.30	127.69	44.56
8	Mercantile Bank Ltd.	10.70	34.80	9.38	87.98	49.37
9	Prime Bank Ltd.	18.10	44.50	11.41	130.26	39.33
10	Jamuna Bank Ltd.	12.09	26.69	6.35	40.38	35.74

Source: Calculated by authors using the data from annual reports (2011-2015) of selected banks

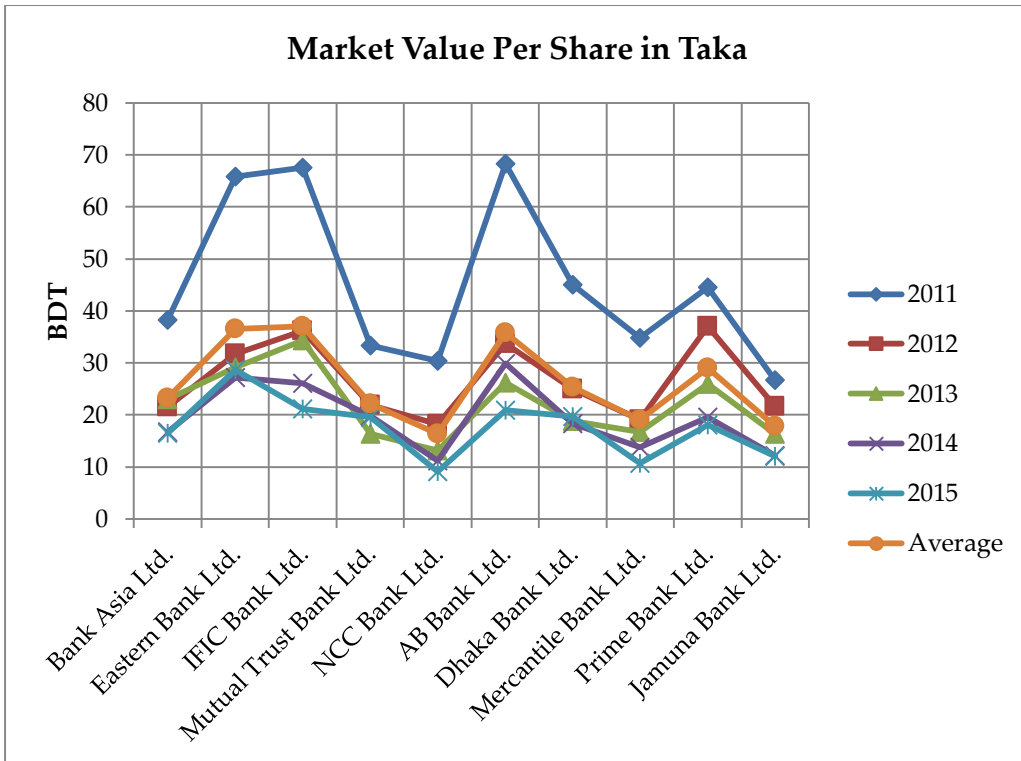


Figure 1: Market value per share (2011-2015) for the selected banks

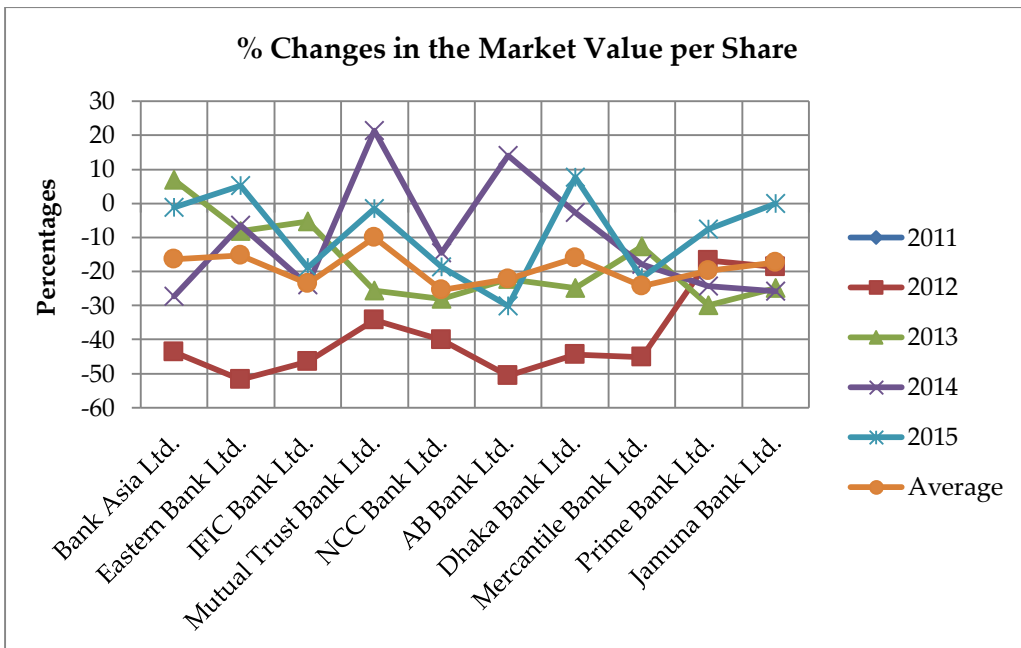


Figure 2: Percentage changes in the Market value per share (2011-2015) for the banks

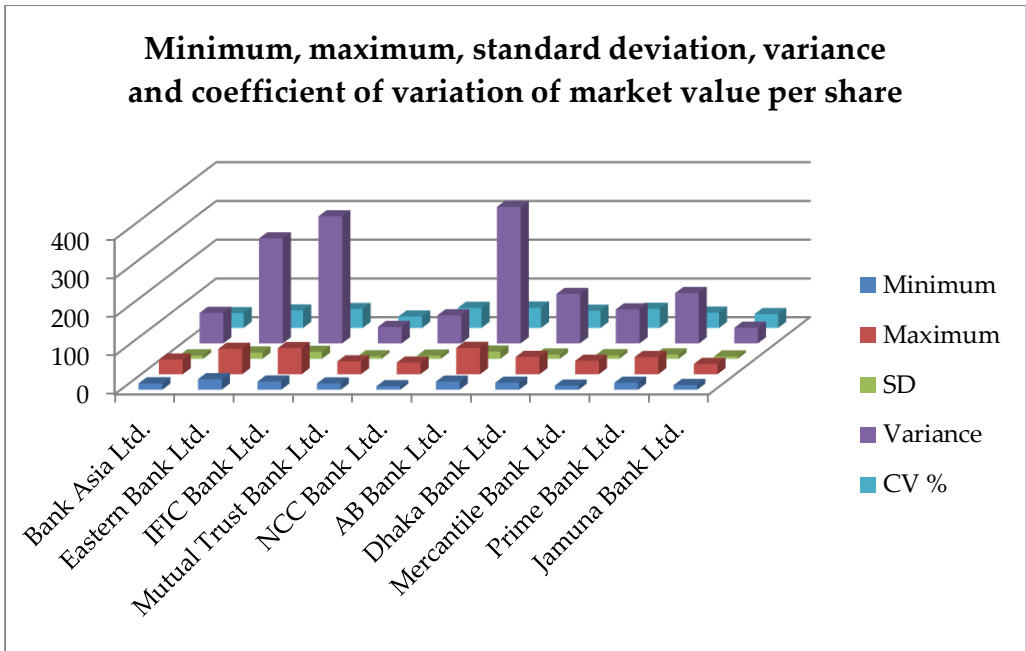


Figure 3: Minimum, maximum, SD, variance and CV of market value per share of the banks

According to the above figures 1, 2 and 3, it is clearly observed that all the selected banks experienced a decline in the market value per share during the period without some exceptions. The maximum value per share of all the banks was in 2011 whereas Bank Asia Limited, IFIC Bank Limited, NCC Bank Limited, AB Bank Limited, Mercantile Bank Limited, Prime Bank Limited and Jamuna Bank Limited had minimum market price per share in 2015. On the other hand the minimum market price per share of Eastern Bank Limited and Dhaka Bank Limited was recorded in 2014 and of Mutual Trust Bank Limited was in 2013. The variation of results which was measured by SD that was highest in AB Bank Limited and lowest in Jamuna Bank Limited. That is the AB Bank Limited was least consistent Bank and Jamuna Bank Limited was most consistent bank in terms of market value per share.

Table 3: Inflation rate of Bangladesh

Year	Inflation	Change %	Average	SD	Minimum	Maximum	Variance
2011	10.7		7.53	1.86	6.19	10.70	3.46
2012	6.22	- 41.87					
2013	7.53	21.06					
2014	6.99	- 7.17					
2015	6.19	- 11.44					

Source: <http://www.indexmundi.com/facts/bangladesh/inflation>

The inflation rates of Bangladesh during 2011-2015 have been seen in table 3. During that period the inflations were decreased except in 2013. The average inflation rate of this country was 7.53% with 1.86% variation in result. The table also shows that the minimum inflation rate is 6.19 whereas the maximum inflation rate during 2011 to 2015 is 10.70 and the variance is 3.46.

Table 4: Coefficient of correlation (r) and coefficient of determination (r^2) between inflation and market value per share on five years (2011-2015) of each bank

No.	Name of Banks	r	r^2	Significance
1	Bank Asia Ltd.	0.943	0.89	0.016
2	Eastern Bank Ltd.	0.943	0.872	0.02
3	IFIC Bank Ltd.	0.93	0.864	0.022
4	Mutual Trust Bank Ltd.	0.829	0.688	0.083
5	NCC Bank Ltd.	0.864	0.746	0.059
6	AB Bank Ltd.	0.924	0.854	0.025
7	Dhaka Bank Ltd.	0.88	0.774	0.049
8	Mercantile Bank Ltd.	0.918	0.843	0.028
9	Prime Bank Ltd.	0.692	0.479	0.195
10	Jamuna Bank Ltd.	0.719	0.517	0.171

Source: Authors

Table 4 represents the r and r^2 between inflation rates and market value per share of all the banks individually. Six banks out of ten commercial banks experienced significant positive correlation between the variables. The correlation of determination (r^2) of Bank Asia Limited, Eastern Bank Limited, IFIC Bank Limited, AB Bank Limited, Dhaka Bank Limited and Mercantile Bank Limited were 94%, 93%, 93%, 92%, 88% and 92% successively. The results suggested that increase in inflation causes rising market value per share of the banks.

Table 5: Coefficient of correlation (r) and coefficient of determination (r^2) between inflation and market value per share of all the selected banks together

R	0.902
r^2	0.814
Significance	0.360
Standard Error of the Estimate	56.170

Source: Authors

The coefficient of correlation (r) and r^2 of all the banks together are summarized in table 5. The findings from the table showed that the r^2 was 81% which indicates that the variation of market value per share of commercial banks was explained by corresponding inflation rate existed in the country during the period.

CONCLUSION

Share market price is a reflection of various internal and external factors. This study was attempted to determine the influence of inflation on the market price per share of the selected commercial banks in Bangladesh. This study investigated the variables through various statistical tests. The analysis revealed that the market price of share was fluctuating and was declining with the decrease in inflation rate of the country in most of the cases. The correlation between inflation and market value per share of six banks was significantly positive. When the correlation was tested all the banks together, the result also indicated that there was a strong positive relationship between inflation rate existed in the economy and market value per share of the commercial banks.

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