



A Relationship between Market Capitalization with Market Turnover to Find the Probable Cause and Signs for Debacles in Bangladesh

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ARTICLE INFO	ABSTRACT
<p>Received date: April 22, 2021 Accepted date: Dec. 04, 2021</p>	<p>Bangladesh's capital markets are largely regulated by the Government of Bangladesh. The goals of this study are to identify the root causes of the crash and failure including overview of the capital market, its structure, functioning, and relevance; to learn about the current state of Bangladesh's capital market, to resolve the difficulties that our capital market presents to provide some feasible remedies to these issues. Also reviewing the market trend after the crash and by an ANOVA analysis, the causes and effects of the crash was demonstrated. By running the regression and ANOVA model, we came to know that both market capitalization and Market Turnover move with each other and have a significant relationship with each other. Also, most of our investors do not invest understanding the market but in other people's opinions. As a result, they miss these signs and become the victims of terrible debacles like 1996 or 2010. Through an in depth causes and effect analysis, the reasons became clear for these crashes. Gambling, issuance of right share, omnibus account, suspicious transactions from top level and ignorance from the regularity authority which caused sufferings for small and general investors. In this perspective, a relationship has been developed between market capitalization with market turnover to find the probable cause and signs for debacles in Bangladesh.</p>

Keywords: Bubble, Capitalization, Crash, Debacle, DSE, Economic development, Trickster

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1. INTRODUCTION

The capital market is an important component of the financial market as well as the lifeblood of business and industry. It serves as the primary means of raising funds. It gives long-term capital to industry and expands investment opportunities for the general public. Every country's capital market plays a significant part in its commercial and economic markets, and consequently in its overall economic

development. Though Bangladesh's capital market was formed many years before, it really acquired traction in the late 1980s and early 1990s. After overcoming the crisis of 1996, the stock market began to function normally again, but has recently become nonsensical. Since a few years, more ordinary people have been investing in the stock market, anticipating a reasonable return in recent years. There were only three lac BO (Beneficiary Owner) account holders in 1996, but there are now over 35 lac. Ninety percent of

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current investors are small investors, and a substantial number of investors, as well as their families, rely on the market's ups and downs for the majority of their income (Wahab & Faruq, 2012). The market index has increased in the last two years, rising from 2,795 points in December 2008 to 8,290 points at the end of 2010. The index dropped 600 points on January 9 and 600 points the next day. The following day, the index increased by about 1,000 points. Such ups and downs are unusual and unexpected. As a result, share prices escalated, putting common investors at risk. The majority of stock market investors are novices. They are simply trading depending on what other individuals are doing. As a result, without knowing a company's saturation threshold, money is invested and lost. And our government has amended a slew of local stock market laws and regulations, as well as enacted a slew of debt and other facility restrictions. The bellow diagram depicts the problem tree relating to Bangladesh's two big financial meltdowns.

We were familiar with the current literature because of the study's objectives. A capital market is a place where firms and governments can raise long-term funds by selling debt and equity instruments. It is characterized as a market where money is found for longer lengths of time than a year (Hubbard, 1997). The primary market is where the initial public offering (IPO) of securities (stocks and bonds) takes place, while the secondary market is where they are exchanged (Goldstein et al., 2019). A stock market bubble is an economic bubble where market players push share prices above their intrinsic value in comparison to the inventory appraisal of some exchange systems (Penman, 2002). Possible reasons of the bubble include the central bank's low interest rate policies (Cauwels & Sornette, 2015). A stock market collapse is a sudden and drastic decrease in stock values at a critical crossroads in a capital market, resulting in a significant loss of documented assets. Market bubbles are frequently followed by speculative stocks. Stock market shocks are social phenomena in which external economic events are linked with crowd behavior and psychology (Fernando et al., 2008). Following the recent capital market collapse in Bangladesh, the People's Government Republic of Bangladesh appointed a high-powered committee in 2011 to investigate the situation and present a report to the government within two months. Mr. Khondoker Ibrahim Khaled, the former Deputy Governor of the Bangladesh Bank, chaired the commission, which was known as "Ibrahim Khaled's stock market investigative Committee." The committee released an undisclosed report to the public. The main issues were irresponsible behavior in a variety of sectors; Support and legalization of large investors' immoral behavior; regulatory efforts are inconsistent; abuse of the method for creating IPO books and circular trade in the secondary market; trade Block Irregularities in the areas of Right Shares, Preference Shares, and Repeat IPOs; Recommendation of a stock dividend for unrealized gains by companies and a regulatory blunder (Rashid & Rahman, 2008). The term "random walk" refers to the unpredictability of stock prices (Duperne, 2007). Many studies are being conducted around the world to determine the causes of the

stock market crash but no comprehensive inquiry has been conducted. The stakeholder community in Bangladesh's stock market, as well as the emerging stock market, is particularly interested in this topic. However, there has been very little analysis done to provide comparative information on the two crashes. As a result, the study aims to investigate the circumstances that led to the "Bull Run Trend" in both times at the Bangladesh stock market, as well as the underlying aspects that contributed to the debacles. It also looks into the role of the DSE, CSE, and SEC as market regulators during the inception and bust of the bubbles. Furthermore, the study aims to give stockholders with information about the stock market. Consequently, those investors and other stakeholders in the Bangladesh are aware of the same type of crash. The objective of this study is to look into every aspect of Bangladesh's capital market and determine its many benefits and drawbacks, as well as make some ideas for overcoming the current scenario including a relationship is to develop between market capitalization with market turnover to find the probable cause and signs for debacles in Bangladesh.

2. MATERIALS AND METHODS

2.1. Research Design

In the present study, three elements were used to assess the current state of Bangladesh's capital market.

- (i) Documentary research and media polls.
- (ii) Dialogues and seminars.
- (iii) Focused group discussion and key informant interviews.

2.2. Statistical Tools and Data Analysis Techniques

To test the following hypothesis and use a regression model: Three different types of contact tactics are to gather data for the study. Individual, direct face-to-face interaction methods, as well as internet questionnaires are used by me.

2.2.1. Hypothesis for the study

H₀₁: Market Capitalization has no significant relationship with the Turnover of the market.

H_{a1}: Market Capitalization has a significant relationship with the Turnover of the market.

We can say "How much the Market Capitalization is described by the ups and downs of the turnover of the market" through a regression analysis.

A numerical data collection from the personal archive of the Dhaka Stock Exchange has been taken and a Confidence of Determination commonly known as a Regression analysis with ANOVA is done in the thesis to find out whether the market capitalization is somehow connected with the total turnover of the market. To run the Regression model and apply the 'r' formula through find the value of 'R²' and also the Slandered Error to know if the hypothesis can be accepted or rejected. The 'r' calculation formula is:

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}}$$

Table 1 DSE Index (2018)

Particulars	2007	2008	2009	2010	2011	2012
Listed Securities	515	529	546	559	560	563
DSE Broad Index (DSEX)						
Opening Index		4,055.91	4,266.55	4,864.96	4,629.64	5,036.05
Closing Index		4,266.55	4,864.96	4,629.64	5,036.05	5,656.05
% of change		5.19	14.03	(4.84)	8.78	12.31
Highest Index		4,439.60	5,334.04	4,969.73	5,036.05	5,777.12
Lowest Index		3,438.90	4,286.15	3,959.74	4,171.41	5,083.89
DGEN	4,055.91	4,266.55	4,864.96	4,629.64	5,036.05	5,656.05
Market Turnover						
Total Turnover in Tk. Mm	1,001,084.90	952,742.08	1,188,521.54	1,031,398.64	1,191,571.27	1,131,393.78

Data analysis apply form excel to determine the Linear Regression of Market Capitalization and the ANOVA model to testify the results. Again, Google form applies to make questionnaires to reach up to a vast number of investors and members attached directly or indirectly with the capital market.

For this study, data will be gathered from two separate sources: primary and secondary sources. The self-administered questionnaire will be given to workers from three different brokerage firms and several general investors for the primary data. There are three closed and seven open questions in the survey. Secondary research will be conducted using theories developed by academics, economists, and authors. Secondary sources will include textbooks, inquiry reports, past study on the issue, journals, newspapers, indices data, and electronic sources.

2.2.2. Data analysis

The research is based on facts. The information was gathered from both primary and secondary sources. Secondary data was gathered from a variety of sources, including recent BSEC capital market development directives, Monthly Review of the Dhaka Stock Exchange (DSE), Quarterly Review of the SEC and the CSE, Publications of Bangladesh Banks and Credit Rating Agencies, Bangladesh Economic Review, Statistical Year Book of Bangladesh, National & International Dailies, Market Pulse (Monthly Market Review) of Website of DSE SEC & LBSL of Bangladesh. 100 respondents who were investors on the Chittagong Stock Exchange (CSE) and the Dhaka Stock Exchange (DSE) as well as employees of Lanka Bangla Securities Limited provided primary data using open-ended and closed-ended questionnaire surveys. The study employed the expedient sampling method. The survey's findings show that the population size based on the number of B/O accounts is 2,384,364 (as of November 20, 2013), with a confidence level of 95%.

3. RESULTS

3.1. Analysis of the Models

The following table shows the market is growing abnormally from 2007 to 2012.(2018).

Table 2 Market capitalization and turnover

Year	Market Capitalization (Tk)	Turnover
2007	2,403,555.62	1,001,084.90
2008	2,647,790.83	952,742.08
2009	3,259,246.76	1,188,521.54
2010	3,159,757.75	1,031,398.64
2011	3,412,441.49	1,191,571.27
2012	3,801,000.96	1,131,393.78
Sum	18,683,793.41	6,496,712.21
Average	5,338,226.69	1,856,203.49

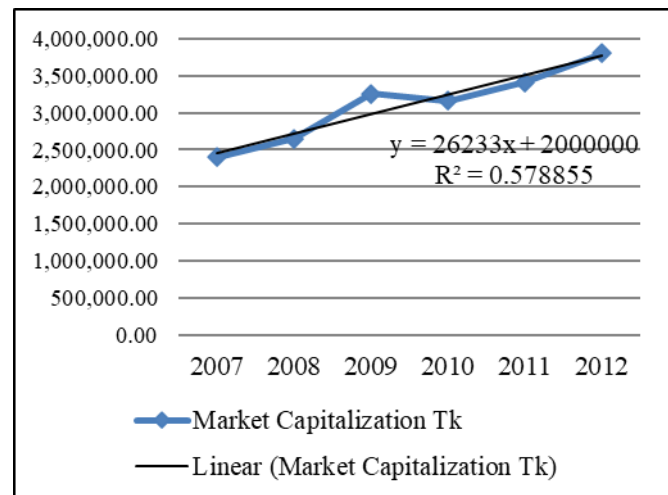


Fig. 2 R Square calculation.

3.2. Interpretation of R Square

It is the coefficient of determination. If the independent variable is changed by some units, then the dependent variables also became changed and how much change is done by the independent variables, is shown by R square. Here the value of R square comes 0.578855 meaning that 57.9% changes in the dependent variable are happening for the changes of the independent variables. And the least part $(1 - 0.578855) = 0.421145$ is changed by other factors that are not considered.

Table 3 ANOVA calculation

Regression Statistics

Multiple R	0.760825
R Square	0.578855
Adjusted R Square	0.473569
Standard Error	73710.28

ANOVA (Observation 6)

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	29871285819	29871285819	5.497912	0.078966
Residual	4	21732821481	5433205370		
Total	5	51604107300			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	611897.4	203067.4442	3.013271751	0.039423	48091.78	1175703
X Variable 1	0.151218	0.064491859	2.344762707	0.078966	-0.02784	0.330276

Here we used Market Capitalization data to calculate the R Square.

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}}$$

$$y = 26233x + 2000000$$

$$R^2 = 0.578855$$

3.3. ANOVA Analysis

Analysis of variance (ANOVA) is a statistical method used to test the differences between two or more means. It may seem strange that the technique is called "analysis of variance" instead of "means analysis". As we can see, the name is suitable because inferences concerning means are completed by analyzing variance. Here the Market cap & Turnover is given for the last 6 years of the Dhaka Stock Exchange. We use the Excel Data Analysis tools for this ANOVA calculation. The data & the ANOVA calculation are given in Table 3.

Accordingly, the above-mentioned summary that the significance of F is 0.078966 which reflects a very significant relationship with the dependent and independent variable. It indicates that both the market capitalization and the turnover move alongside each other. Also, the R^2 is 0.578855 which means that Turnover reflects 57.89% of the Market capitalization. Again, the Standard Error for variable X is 0.0645 which is very small and that means the Regression line is a good fit. It also indicates that both variables move with each other and have a significant relationship with each other. Consequently, it is clear that Null Hypothesis is rejected. By running this model, we can see that if the investors can have an eye on the turnover of the market or can follow up with the turnover amount, they can have a clear view of the market capitalization. Most of our investors do not invest understanding the market but in other people's opinions. As a result, they miss these signs and become the victims of terrible debacles like 1996 or 2010.

4. DISCUSSION

The capital market can be regarded as the engine of capital growth that speeds up the process of industrialization and privatization. In other words, the capital market refers to the country's stock and bond markets. It's a long-term investment market.

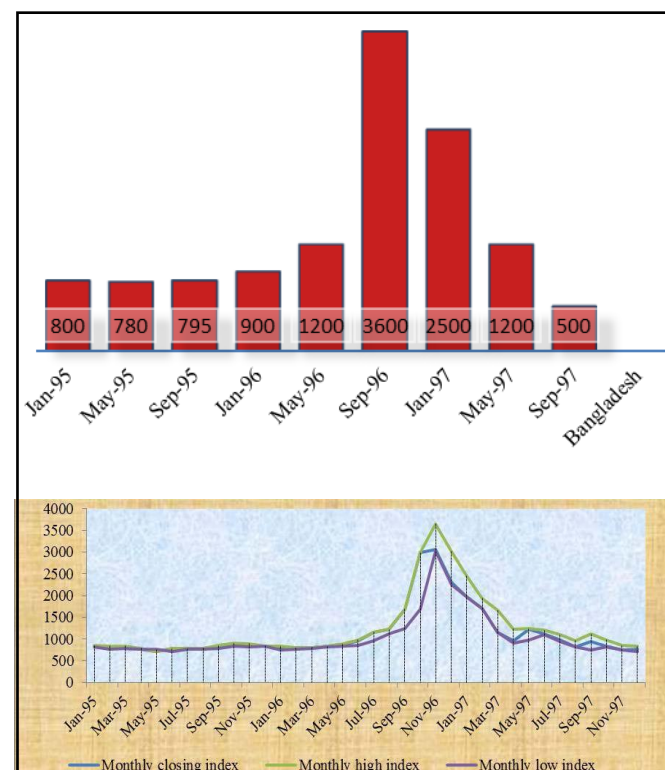


Fig. 3 Capital market crash in 1996 (Saha, 2012).

There are increasingly more regular needs for financing as infrastructure development initiatives, as well as the establishment of new industries for business endeavors, become more prevalent (Shah, 2016). The smooth flow of cash from savers to investors can be ensured by the operation of a well-functioning capital market. When the

banking system is unable to cover the market economy's complete funding needs, the capital market steps in to help. To summarize, the increased need for cash in the corporate sector has produced a huge demand for an effective and efficient capital market. It enables the efficient transfer of resources from savers to investors and serves as a conduit for investment funds to flow from investors to borrowers. At least two essential needs must be met by the capital market: a) Through the mobilization of savings, the deployment of investment funds, and the transformation of maturities, it must assist industrialisation, and (b) Must fulfill the aforementioned function in a safe and efficient manner (Hasan & Howlader, 2020). It is divided into two sections: securities and non-securities. The capital market is where long-term loans and equity capital are exchanged. The capital market, which mobilizes surplus funds to the deficit group, is seen as the fuel for future prosperity by developing countries. As a lower-cost source of money, an efficient capital market can be an alternative to many other kinds of funding. Especially in a country like ours, where savings are scarce, the capital market can't help but be a profitable source of funds. The securities market connects savings and preferred investments across business entities and other economic units, particularly general households, which make up the surplus savings units in aggregate. (Hassan et al., 2020)

In 1996, there were only 300,000 BO account holders, the majority of whom were new to the market. During the 1996 financial crisis, paper shares were traded against the DSE, making it difficult for investors to distinguish between phony and real shares. There was no automated trading system, insufficient oversight, no circuit breakers, and no international protection. The DGEN price index (General DSE Index) increased by 139.3 percent from 1991 to 1995, reaching 834 points. However, in 1996, the market saw a significant shift, with the price index increasing by 337 percent. Since July, the DGEN index has increased significantly, reaching 3,648.7 points, or 280.5 percent, on November 5, 1996 (Fig. 3). Furthermore, the Chittagong Stock Exchange underwent the similar transformation and increased by 258 percent (Rahman et al., 2017). Within a year, the Chittagong stock index surged from 409 to 1,157 points.

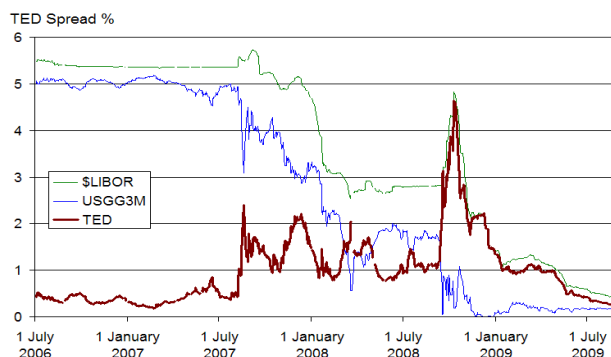


Fig. 4 TED spread % in 2010.

However, the government's efforts have failed. On November 6, 1996, the index dropped by over 233 points. The DGEN index plummeted to its lowest position after the bubble collapse, stopping at 957 in April 1997. It came to a halt at the exact location it had been 10 months before, and General DSE was diagnosed. From its peak in November 1996, the price index has dropped over 70%. As a result, the index fell for the next seven years, until April 2004. During this time, the DGEN index only reached 1000 points a few times.

The abrupt collapse of the capital market in 2011 aroused outrage among investors. It was the greatest one-day drop in the 55-year history of the Bangladesh stock market. The steep drop in share prices is reported to have wiped out the assets of over 3.5 million (35 lac) investors, many of whom were small-scale individual investors. A share market crash occurs when the market loses more than 10% of its value in a short period of time. A stock market crash differs from a stock market correction in that the loss is less than 10%. Stock market crash is a keen and unexpected decline of the market prices for a very short period, usually accompanied by the decrease of many other assets' prices. Investors and speculators suffer significant capital losses as a result. Market participants become scared, resulting in further losses (Choudhury, 2013). The Bangladesh stock market fraud of 2010-12 is part of the ongoing stock market instability on the Dhaka Stock Exchange and the Chittagong Stock Exchange. The accident is being viewed as a con, exacerbated by the government's insolvency. For much of 2009, the stock market has been volatile, and the extended positive trend is beginning to look grim. This was the largest drop since the dark days of 1996, when the market had a rapid spike and fall (Wahab & Faruq, 2012). The market volatility began with Grameen Phone's debut into the stock market on November 16, 2009, when the index jumped 22 percent in a single day. Stock prices continued to vary, reaching an annual high in mid-2009 before plummeting in late 2009, prompting a starvation strike by small investors. Throughout 2010, the market remained volatile, with the DSE experiencing its all-time high revenue and the largest single-day decline since the 1996 market crash in only one month. From October to December 2010, the DSE General index (GENx) reached new highs, culminating at 8,918 points on December 5, 2010. The DSE index peaked at 4568.40 on January 3, 2010, and has since risen by 4,350 points, or 95.23 percent! The DSE was shut down on January 10, 2011, after it dropped 660 points, or 9.25 percent, in less than an hour, the largest one-day drop in the bourse's 55-year history. The same fate befell CSE. Investors have erupted in rage as the stock market has plummeted. As investors became aware of the current liquidity issue in banking and non-financial entities, stock prices began to decrease on January 3, 2011. The market witnessed the largest decrease in stock prices from January 2 to 5, 2011, followed by a market decline from January 6 to 10, 2011. On January 9, 2011, the total DSE index fell 600 points, and all indices fell by about 7.75 percent (Hossain, 2014). The Dhaka General Stock Market Index fell 660 points, or 9%,

on January 10, 2011, and the Chittagong Select Stock Market Index fell 914 points, or 6.8%, in 50 minutes of trading. An estimated three million people, many of them small individual investors, have lost money due to precipitous price participation. He had 80% in 2010, but since the beginning of December 2010 he had lost 27% " (Ahsan & Sarkar, 2013).

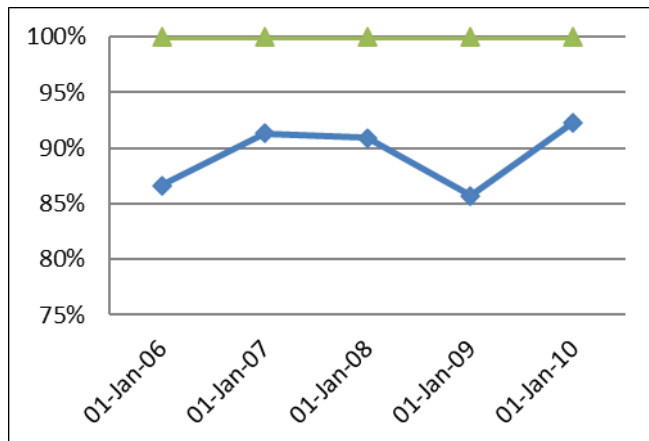


Fig. 5 Market Movement from 2006 to 2010.

The capital market's watchdog is guilty of double standards. According to identical SEC guidelines, if a shareholder buys shares with an earnings ratio of more than 40, he will be unable to obtain loans from commercial banks. However, the recent IPOs allowed by the SEC through book building belie its prudence. Book building is a method of confirming a stock's pricing. A company's shares and purchases are auctioned off to a small group of investors. This price becomes the share's nominal value. Companies who have gone public or are in the process of going public have indicative prices (the price they got from the book construction process) that are significantly above 40. This suggests the SEC considers them all to be overpriced. The book building was also tampered with. A cartel with ties to the company in question bids at a higher price on purpose, so that the stock has a higher face value in the market. Due to the loss of investors, many of these shares have since lost a significant amount of value. And for the benefit of manipulators, many of them have increased even more. Another ruse used by corporations to deceive investors was the "Direct listing," in which the SEC played a dubious role. The SEC first implemented this method for government-owned enterprises that went public, but it was later expanded to allow private companies to raise capital in the same way. As a result, a share had a lower fixed price and an infinite upper price. As a result, the manipulators formed a cartel to offer the shares at exorbitantly high prices in order to entice naïve investors. Surprisingly, the same SEC that authorized direct listing for public businesses later prohibited it for private companies as prices soared. However, for unclear reasons, it authorized two companies to apply for a direct listing (Hasan & Islam, 2012). Another ruse is the issuance of preferred shares (Hossain, 2020). A corporation would

offer certificates to an investor for a set amount of time with the guarantee that the investor would earn a particular interest rate on the money paid for the certificate at the end of that period. After that, you'll be able to convert a portion of the certificate into primary shares at the average market price for the previous three months. The plan was for the corporation to artificially keep its share price high through its union, then sell the preferred shares at a higher price. The share split exploited ordinary investors' psychological fragility by encouraging them to acquire lower-value equities, which had a significant impact on the stock market. The circuit breaker on the share price movement was influenced by the share split. The SEC's lack of interest in the market. The regulator's weakness has been exposed by rapid changes in SEC decisions, which the manipulators have exploited. Regarding the right share, the study stated that it is legal to issue right shares to meet regulatory obligations or to obtain funds for business expansion. The earnings per share of a corporation are diluted when the number of shares issued increases with the issuance of the appropriate shares. Although share prices are expected to fall in the future, the Bangladesh capital market is experiencing the reverse. Following the issuance of the right shares, the prices rise.

Table 4 Comparison between the 2 debacle years

2011	1996
The trading process was fully automated.	The trading process was not automated.
Surveillance was extensive.	Surveillance was ineffective.
There were circuit breakers in place, as well as international safeguards.	The circuit breakers and protections for international circuits were not correctly installed.
Counterfeit stocks and the brake market were not exchanged because the system was automated.	Counterfeit stocks and the brake market were not traded since they were not mechanized.
In the market, there were also bus accounts.	In the market, there were no bus accounts.
The BO account had a value of 35 lacs.	In comparison to the previous 3 lacs,
The occurrence in 2011 was a housing bubble.	Prior to 1996, the incident was caused by a speculative bubble.
In 2011, it dropped by up to 660 points, or about 10%. In 2011, it dropped by up to 660 points, or about 10%.	In the end, the index dropped 232 points in 1996.

The stock market is a gambling floor. It's similar to gambling. What happens in the market will result in some winners and others losers in gambling. There is always a loss when there is gambling. In comparison to other markets based on genuine output, the gambling market is always shifting in nature. The graph below depicts market swings in

previous years (Algaed, 2021). The market's nosedive after 2010 reveals the market's gambling mentality to its investors (Fig. 5).

The major cause of this catastrophe is capitalist economic freedom. Capitalists seek to increase their fortune in any way possible. They have complete power over a country's economy and investments. They invest in this bubble economy instead of the genuine production-based economy to increase their wealth in a short period of time. Finally, they take money from the market (Sultana et al., 2016). Another reason of the problem is the bourgeois-controlled political system. In the financial sector, the bourgeoisie is leveraging its political influence. They are engaging in unethical behavior in the capital market by forming a syndicate to exploit small investors. The government's is in difference to the financial markets. The government tries its hardest to tackle the problems, but the system is manipulated by responsible people. The government's decision is not in good working order.

4. CONCLUSION

Capitalism is the main source of this market calamity and crisis, its economic system and financial market. According to our research, the country's primary stock exchange's main indicators are becoming more volatile over time, and authorities are not doing enough to protect this volatility. In a growing country like Bangladesh, however, the importance of a healthy market development cannot be overstated. Although the SEC has attempted to ensure a constant flow in the market, its position frequently serves broader economic goals. To reduce market volatility, the SEC can be reinforced, both in terms of its size and the quality of the professionals participating, with a focus on independent research, the monitoring mechanism, and the speed with which decisions are made. To guide and restore individual investors' confidence in the capital market, the regulator must take the appropriate steps to encourage corporate governance ratings among publicly-traded businesses, allowing investors to distinguish between companies with strong governance from others, and so be able to assign a higher value to these businesses as well. It will be difficult to recruit good scripts at the appropriate level without increasing market governance and removing the possibilities of manipulation. Regulators must adapt to changing economic conditions and globalization pressures as part of this effort.

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