
A TRANSITORY MAP OF STOCK MARKET VOLATILITY IN INDIA

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Abstract

Stock market is a place where shares of public listed companies are traded. The primary market is where companies float shares to the general public in an initial public offering (IPO) to raise capital. A stock exchange facilitates stock brokers to trade company stocks and other securities. This paper attempts to highlight the seventeen companies fluctuating trends in the stock market for a period of six months. It also suggests the investors to make wise decision before investing in stock markets.

KEYWORDS: Trading, Fluctuations, Share Price, Securities and Listing of Securities.

INTRODUCTION

Share market is the aggregation of buyers and sellers of stocks which represents ownership claims on business. These include securities listed on a public stock exchange as well as that traded privately. Stock market is one of the most important ways for companies to raise capital. Rising share prices for instance tends to be associated with increased business investment and vice versa. Share price is also affected the wealth of households and their consumption. Stock market crash is the dip in the share prices of the stocks listed on the stock exchanges the movement of the prices in the market or the section of the market are captured in price indices call stock market indices. Such indices are usually market capitalization rate with the weights reflecting the contribution of the stock to the index.

There are two leading stock exchanges in India namely Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). Bombay Stock Exchange is a brick and mortar company located at

the Dalal Street, Mumbai. It is the Asia's first stock exchange market and it seems to be one of the fastest stock exchange with median trade speed of 6 microseconds it is the world 11th largest stock exchange with overall capitalization of Rs.93 trillion as of March 2016 the market index of BSE is called as Sensex.

The National Stock Exchange of India Limited is the fastest growing stock exchange in India and is the decentralized electronic exchange in the country it has a total market capitalization of more than Rs.91.70 trillion making it the world's 12 largest the market index of NSE is called as Nifty.

REVIEW OF LITERATURE

Jyoti and Rupendra Bansal(2011) studied the views of common stock investors of selected cities regarding their interest in this market, frequency of investment, risk profile, preferences for various investment opportunities, etc.

Anoop Sasikumar and Bandi Kamaiah(2014) analyzed the dynamical structure of the Indian stock market by considering two major Indian stock market indices, namely, BSE-sensex and CNX Nifty. The results from this study are in line with the previous works that employed recurrence quantification analysis(RQA) to study equity markets. The dynamical nature of the market was confirmed through various measures. Further, transition of the market from one phase to another prior to an extreme event could be successfully captured.

Sumit Kaur and Dr. R. K. Pattnaik (2014) analyzed the macro-economic dependence, current liquidity, volatility, efficiency, and integration level of four key financial market segments—money, government securities, forex and equity. The results of this study show that the money, foreign exchange, government securities, and equity markets in India have developed into reasonably deep, resilient, and liquid markets over time. the integration of the financial markets has been helpful in the effective transmission of monetary policy through the interest rate channel, the credit channel, and the foreign exchange channel.

Vijeta Singh and Puja Padhi(2014) identified other factors that have been discouraging investors from investing in MFIs(Indian Microfinance). Particularly, since the accounting and reporting methods and the monitoring mechanism adopted by MFIs are quite different from conventional practices that the investors found it difficult to make meaningful comparisons to gauge the relative potential of MFIs as an asset class in terms of risk and return.

Bazaar Sakkara and Dr. Shridhar Kumar Dash (2013) calculated the cost of capital of the CNX Nifty 50 Stock Index. They explore the possibility of establishing a new benchmark, the cost of capital of stock index, in the context of capital markets. The weighted average cost of capital (WACC) of the Nifty 50 Stock Index is computed. The analysis showed how these lines fared during the

recessionary phase. Companies that fall under the different segments as classified in this paper exhibited different behavioural trends in terms of CoC, CoD, and CoE lines.

NEED FOR THE STUDY

- To identify and predict the likely movement of share prices.
- To study the movements of the stock values of select companies scrip.

OBJECTIVES OF THE STUDY

- To understand and create awareness about indices in the stock market.
- To analyze the fluctuations in the market prices of select companies scrip.

SCOPE OF THE STUDY

- The study is mainly for investors, stock market experts, stock brokers and general public to understand about the behaviour of the volatility of the stocks available in the stock market.

PERIOD OF STUDY

The period of the study was from 1st April 2016 to 30th September 2016 only.

METHODOLOGY

Research design: The present study is a scenario based on the statistical average of various factors used in the stock exchange. The factors influencing the share price movements such open, close, high and low were obtained and the mean was calculated and analysed.

Data collection: The study based on secondary data collected from Bombay Stock Exchange. The data on monthly market price of the companies in different sectors listed in BSE have been collected. In addition the other sources were also used for data collecting like newspaper, Journals, books and internet.

Sample Size: Seventeen companies were taken randomly from various sectors, and an analysis was done on stock price movements.

Tools: Mean refers to the number obtained by summing up a given set of numbers and then divide the sum by the total number in the set.

$$\text{mean} = \frac{\text{sum of elements in set}}{\text{number of elements in set}}$$

LIMITATIONS:

- The study is based on the published data.
- Only 6 months of data was taken for analysis.
- The data before and after the period of study were not considered.
- Only seventeen companies under various sectors were considered for the study.

INTERPRETATIONS AND ANALYSIS

The secondary data was collected from Moneycontrol.com, which is one of India's leading financial information sources. The data consists of 17 companies chosen randomly from various sectors, which is listed by Bombay Stock Exchange (BSE). The data considered here was from 1st April-2016 to 30th September-2016. The list of companies selected for the study are as follows -

1. Bajaj Auto Ltd (BSE:BAJAJ-AUTO/ BAJAJ-AUTO)
2. Bharat Heavy Electricals Limited (BHEL)
3. Cipla Ltd (BSE:CIPLA/ CIPLA)
4. Coal India Ltd (BSE:COALINDIA/ COALINDIA)
5. Dr. Reddy's Laboratories Ltd (BSE:DRREDDY/ DRREDDY)
6. GAIL (BSE:GAIL/ GAIL)
7. HDFC Bank (BSE:HDFCBANK/ HDFCBANK)
8. Hindustan Unilever Limited (BSE:HINDUNILVR/ HINDUNILVR)
9. Infosys (BSE:INFY/ INFY)
10. ITC (BSE:ITC/ ITC)
11. Larsen (BSE:LT/ LT)
12. Reliance Industries Ltd (BSE:RELIANCE/ RELIANCE)
13. State Bank of India (BSE:SBIN/ SBIN)
14. Sterlite Technologies Ltd.
15. Sun Pharmaceutical Industries Ltd (BSE:SUNPHARMA/ SUNPHARMA)
16. Tata Motors Ltd (BSE:TATAMOTORS/ TATAMOTORS)
17. Tata Steel Ltd (BSE:TATASTEEL/ TATASTEEL)

The analysis and interpretations were performed by the use of descriptive statistics. Mean was used in this analysis. Descriptive statistics are used to describe the basic features of the data in the study. They provide an inference about the data given in much simpler form. It is used to present quantitative descriptions in a manageable form. Mean or average is defined as the method of describing central tendency. Mean is calculated by adding all the elements in the set and dividing the resultant with the number of elements in the set. The values in the table were rounded off to two decimal points.

The following table has the calculated mean values of all the listed seventeen companies for their opening and closing price values along with the total number of days above the average value and total number days that was below the average value was calculated for each month separately.

of days below the average. Looking into the month of May, there was a sharp decrease in the opening value of the stock prices of Dr.Reddy's Labs and Reliance Industries. The stock values of six companies was below the statistical average of their opening value and considering the closing values there were seven companies that had a fall. This clearly indicates that the stock prices where crashing to a great extent. In the month of June Infosys and GAIL, their opening prices remained predominantly low. The stock market price has been continually dropping drastically since June. There was a gain in the market momentum and overall optimism was recorded as there was a steady growth in the stock prices in July. On the whole the market remained positive throughout August but Dr.Reddys' Labs incurred a huge loss with a decrease of twelve percent in the opening value.

The subsequent table has calculated mean values of all the listed seventeen companies for their highest and lowest price values along with the total number of days above the average value and total number days that was below the average value was calculated for each month individually.

Table 2

The average values of High and Low factors

Company Name	ITC	HDFC Bank	Reliance Industries	Infinays	Coal India	Hindustan Unilever	SBI	Tata Motor	Sun Pham	Larsen and Turbo	BHEL	Cipla	Tata Steel	Sterlite Techno	Dr.Reddy's Lab	GAIL	Bajaj Auto		
April	High	220.89	1052.34	1043.70	1226.83	288.13	888.49	154.10	402.89	824.23	1251.39	127.07	624.59	342.55	92.17	3100.58	383.30	2508.17	
	Above	9.00	8.00	11.00	10.00	9.00	9.00	10.00	10.00	8.00	11.00	11.00	9.00	8.00	9.00	10.00	11.00	9.00	
	Below	9.00	10.00	7.00	8.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	9.00	10.00	10.00	8.00	8.00	7.00	9.00
	Low	215.42	1074.11	1024.25	1189.21	280.29	888.13	188.24	397.35	810.6194	1223.88	122.38	613.86	331.05	88.13	3049.41	351.79	2449.06	
	Above	10.00	8.00	10.00	11.00	8.00	8.00	10.00	10.00	7.00	9.00	12.00	8.00	8.00	10.00	10.00	10.00	10.00	
	Below	8.00	10.00	8.00	7.00	10.00	10.00	9.00	8.00	8.00	9.00	8.00	10.00	10.00	10.00	8.00	8.00	8.00	
May	High	224.91	1155.32	974.32	1218.25	294.98	882.48	185.91	402.53	80.55	1328.02	125.37	620.77	333.68	88.39	3027.56	383.03	2519.63	
	Above	8.00	7.00	14.00	7.00	8.00	14.00	10.00	7.00	10.00	14.00	11.00	14.00	9.00	10.00	12.00	13.00	11.00	
	Below	14.00	15.00	8.00	15.00	14.00	8.00	12.00	15.00	2.00	16.00	11.00	8.00	13.00	12.00	10.00	9.00	11.00	
	Low	218.74	1137.13	980.45	1198.20	280.22	835.40	179.74	390.72	789.88	1295.18	121.38	510.08	324.23	88.30	2970.75	372.39	2497.15	
	Above	8.00	8.00	14.00	8.00	9.00	12.00	11.00	8.00	13.00	6.00	9.00	14.00	10.00	12.00	12.00	11.00	9.00	
	Below	14.00	16.00	8.00	14.00	13.00	10.00	11.00	14.00	9.00	16.00	13.00	8.00	12.00	10.00	10.00	11.00	3.00	
June	High	240.88	1174.58	974.40	1217.12	312.11	883.11	212.95	484.20	758.79	1495.17	122.58	485.14	333.46	88.72	3169.05	381.54	2839.70	
	Above	8.00	11.00	12.00	7.00	12.00	10.00	11.00	10.00	11.00	12.00	11.00	11.00	12.00	12.00	11.00	9.00	12.00	
	Below	14.00	11.00	10.00	15.00	10.00	12.00	11.00	12.00	11.00	10.00	11.00	11.00	10.00	10.00	10.00	13.00	10.00	
	Low	236.26	1174.38	980.55	1194.82	308.51	885.98	208.83	482.23	741.35	1485.26	119.44	475.00	324.78	85.40	3119.21	372.49	2591.92	
	Above	10.00	13.00	11.00	7.00	12.00	12.00	13.00	10.00	10.00	11.00	13.00	9.00	11.00	11.00	11.00	11.00	12.00	
	Below	12.00	9.00	11.00	15.00	10.00	10.00	9.00	12.00	12.00	11.00	9.00	13.00	11.00	10.00	11.00	11.00	10.00	
July	High	252.39	1218.77	1013.99	1155.97	326.51	919.16	229.09	493.85	793.89	1632.30	144.08	521.24	358.00	90.72	3605.12	394.28	2710.43	
	Above	9.00	11.00	13.00	10.00	9.00	9.00	11.00	11.00	9.00	9.00	11.00	10.00	13.00	10.00	15.00	11.00	10.00	
	Below	11.00	9.00	7.00	10.00	11.00	11.00	9.00	9.00	11.00	11.00	9.00	10.00	7.00	10.00	5.00	9.00	10.00	
	Low	246.54	1203.08	986.97	1112.92	319.61	902.98	224.42	482.87	781.06	1653.68	139.47	511.23	346.78	87.75	3426.71	384.52	2600.81	
	Above	11.00	10.00	11.00	9.00	8.00	8.00	9.00	10.00	9.00	10.00	9.00	11.00	12.00	12.00	14.00	11.00	9.00	
	Below	9.00	10.00	9.00	11.00	12.00	10.00	11.00	10.00	11.00	10.00	11.00	9.00	8.00	8.00	8.00	9.00	11.00	
August	High	255.82	1255.53	1030.63	1084.28	338.81	928.43	245.09	516.72	809.14	1602.98	141.29	552.33	381.15	88.03	3036.74	378.47	2895.70	
	Above	7.00	10.00	8.00	10.00	12.00	11.00	13.00	9.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	11.00	13.00	
	Below	15.00	12.00	14.00	12.00	10.00	11.00	9.00	13.00	11.00	11.00	11.00	10.00	11.00	11.00	11.00	11.00	9.00	
	Low	250.66	1238.92	1011.85	1044.04	330.41	913.73	239.00	502.78	790.83	1470.98	138.95	538.72	371.18	88.41	3998.88	371.29	2335.37	
	Above	11.00	11.00	9.00	11.00	12.00	10.00	12.00	9.00	13.00	13.00	11.00	11.00	11.00	12.00	11.00	11.00	14.00	
	Below	11.00	11.00	13.00	11.00	10.00	12.00	10.00	10.00	13.00	9.00	11.00	11.00	11.00	10.00	11.00	11.00	8.00	
September	High	258.00	1295.25	1077.65	1051.97	332.69	920.69	258.95	561.87	787.01	1493.43	148.29	598.31	380.88	88.82	3180.87	378.47	2990.80	
	Above	10.00	11.00	11.00	10.00	10.00	11.00	5.00	8.00	10.00	11.00	10.00	10.00	7.00	11.00	10.00	11.00	10.00	
	Below	10.00	9.00	9.00	10.00	10.00	9.00	15.00	12.00	10.00	9.00	10.00	10.00	13.00	9.00	10.00	11.00	10.00	
	Low	253.18	1282.81	1054.27	1038.04	328.49	903.39	253.31	541.56	772.01	1472.81	142.08	584.98	389.87	83.73	3132.41	381.99	2920.45	
	Above	11.00	12.00	11.00	9.00	13.00	11.00	9.00	10.00	13.00	8.00	12.00	10.00	8.00	15.00	13.00	15.00	11.00	
	Below	9.00	8.00	9.00	9.00	7.00	9.00	11.00	10.00	10.00	12.00	8.00	10.00	12.00	6.00	7.00	6.00	9.00	

Source: moneycontrol.com

Table-2 indicates that Bajaj Auto and Dr.Reddy's Lab, in the month of April had the highest difference in the highest and lowest prices and also there were notable fluctuations in the market price. During May, Dr.Reddy's Lab had a huge price difference between its high and low prices. As a result there were more deviations in the stock prices. Also in June, Dr.Reddys' Labs and Bajaj Auto was showing a significant volatility but in June, the prices of Bajaj auto were more stable

when compared to the previous two months of the study. Once again in July Dr.Reddy’s Lab was recorded to be the highest deviations as compared to all the 6 months. Companies like Infosys and Larsen and Turbo stock prices were also very unstable during this period. At the end of September, Dr.Reddy’s Lab was the most zig-zag compared to its other month’s stock price movements. Larsen and Turbo were also recorded to have unstable oscillations in this particular month.

The below table has the calculated mean values of the listed seventeen companies for their opening and closing as well as the highest and lowest price values along with the total number of days above the average value and total number days for all the six months all together.

Table 3
Companies with average values of Open, Close, High and Low factors

Company Name	Open			Close			High			Low		
	Average	Above	Below	Average	Above	Below	Average	Above	Below	Average	Above	Below
ITC	239.7073	70	54	239.5539	73	51	242.2237	69	55	237.0509	68	56
HDFC Bank	1193.199	56	68	1192.922	57	67	1200.823	57	67	1183.736	57	67
Reliance Industries	1008.675	65	59	1007.863	65	59	1017.567	65	59	999.8698	65	59
Infosys	1142.888	72	52	1140.587	71	53	1151.858	72	52	1130.455	71	53
Coal India	310.748	69	55	310.6835	71	53	313.55	71	53	307.6153	71	53
Hindustan Unilever	890.2125	67	57	889.952	67	57	898.7944	66	58	881.6444	67	57
SBI	218.2371	63	61	218.148	63	61	221.1427	61	63	215.3823	65	59
Tata Motors	468.2347	61	63	467.7392	62	62	474.1173	62	62	461.9121	64	60
Sun Pharma	790.1593	58	66	786.8617	59	65	795.7411	59	65	780.119	61	63
Larsen and Turbo	1431.552	87	37	1431.088	87	37	1446.017	87	37	1416.213	85	39
BHEL	132.3722	63	61	132.3057	64	60	134.6609	64	60	130.1952	62	62
Cipla	527.9185	55	65	527.2077	53	71	533.1827	58	6	521.7532	54	70
Tata Steel	349.1625	60	64	349.5133	61	63	354.5633	62	62	344.4008	61	63
Sterlite Techno	88.00524	66	58	87.68548	64	60	89.40605	66	58	86.38992	71	53
Dr.Reddys Lab	3138.498	42	82	3137.432	45	79	3166.467	46	78	3111.534	45	78
GAIL	377.9504	63	61	376.8395	65	59	382.4427	68	56	372.7258	65	59
Bajaj Auto	2683.343	51	73	2682.922	51	73	2712.761	52	72	2656.338	52	72

Source: moneycontrol.com

From Table-3 it could be clearly seen that Larsen and Turbo had enjoyed a very positive outcome and recorded a maximum of eighty seven days which was above the statistical average among the 17 companies taken in the measures of open, close and high. Sterlite techno observed the lowest closing average which was valued at Rs.87.8. The number of days above the closing price ranges from eighty seven days for L&T to forty five days for Dr.Reddy’s Lab. Also it could be discovered that Dr.Reddy’s Lab, opening price mean value was standing as the highest among all the companies considering in all six months but at the same time it had the least number of days above the average. As a result there was a maximum fluctuations experienced by the company.

FINDINGS

The very purpose of establishing business unit is to maximize its profit with a good service to the stakeholders. A stock market, equity market or share market is the aggregation of buyers and sellers of stocks which represent ownership claims on business. This may include securities listed on public stock exchange as well as those traded privately. Stock lists shares of common equity and other security types.

- In the study, BHEL accomplished itself very well when compared to all the select companies. Dr.Reddys' Labs and Reliance Industries stock prices were low.
- In the month of July-2016, it was found that almost all the select companies share prices started moving in the upward direction.
- Dr.Reddys' Labs and Bajaj Auto had a high swing in the average values of high and low factors during the period of study.
- Infosys and Larsen and Turbo was observed with a very unreliable situation in the month of July-2016
- Larsen and Turbo were recorded to be the highest among all the select companies.
- Dr.Reddys' Labs was the lowest performing company among all the select companies.

CONCLUSIONS

Volatility is a statistical measure of the dispersion of returns for a given security or stock market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security. Commonly, the higher the volatility, the riskier is the security. There is a motto in the stock market from the investor's point of view that is "Buy when the prices of the scripts are low, and Sell when the prices of the scripts are high". This study also supports the stock market the motto. Investors should be very careful before making investments in stocks. It is better they can go for portfolio i.e., investment in combination of securities are the most preferable options.

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