Price Volatility of Selected Indices – A Study in NSE and BSE

***Dr. S. Chandra Bose**
****Mr. P. Pathamuthu**

*Associate Professor, Sri Kaliswari Institute of Management and Technology, Sivakasi, Tamilnadu, India
**Assistant Professor, Dept of Management Studies, Sourashtra College, Madurai, Tamilnadu, India

Abstract

Stock prices change every day in the market. Buyers and sellers cause prices to change as they decide how valuable each stock is. Basically, share prices change because of supply and demand. If more people want to buy a stock than sell it - the price moves up. Conversely, if more people want to sell a stock, there would be more supply (sellers) than demand (buyers) - the price would start to fall. Volatility is an important phenomenon in markets in general and security markets in particular. Modeling stock market volatility has been the subject of empirical and theoretical investigation by both academicians and practitioners. As a concept, volatility is simple and intuitive. It measures how for the current price of an asset deviates from its average past values. The study of volatility becomes more important due to the growing linkages of national markets in currency; commodity and stock with rest of the world markets and existence of common players have given volatility a new property- that of its speedy transmissibility across markets. Worldwide there are major stock exchanges which are more volatile. Indian stock markets are always volatile and it is also an unpredictable one. Hence it is a hard perspective for an investor to know which index is the best one to invest, what would be its risk and return, which exchange is the best one and which time period is suitable for the investor to invest. Investors in financial markets are primarily concerned about the uncertainty in receiving the expected returns as well as the variance in returns. From a survey it is denoted that only 18% of the population in India are aware about stock market. This study perceives, which indices has more volatile, which index gives less risk and more return and the best time period to invest.

Keywords: Stock market volatility, Indices, Efficient market, Attributable factors of volatility

Introduction

In the past few years the Indian Capital Market has undergone metamorphic reforms. Every Segment of the Indian Capital Market viz., Primary and Secondary Markets, Derivatives, Institutional Investment and market intermediation has experienced impact of these changes. In the recent past there have also been perceptions that volatility in the market prices. Stock prices change every day in the market. Buyers and sellers cause prices to change as they decide how valuable each stock is. Basically, share prices change because of supply and demand. If more people want to buy a stock than sell it - the price moves up. Conversely, if more people want to sell a stock, there would be more supply (sellers) than demand (buyers) - the price would start to fall. Volatility in the stock return is an integral part of stock market with the alternating bull and bear phases. In the bullish market, the share prices soar high and in the bearish market share prices fall down and these ups and downs determine the return and volatility of the stock market. An increase in stock market volatility brings large stock price changes of advances or declines. Investors interpret a raise in stock market volatility as an increase in the risk of equity investment and consequently they shift their funds to less risky assets. Equities are playing a major role in contribution of capital to the business from the beginning. Stock market in general has treated investors well over the past few years with no major setbacks. Our market, at present is being recognized as one of the most transparent, efficient and clean markets. Several techniques/ instruments are used by academicians, policy makers, practitioners and investors to test the extent of stock indices in India and compare them with some of the mature as well as emerging capital markets around the globe. SEBI undertook a comprehensive and deep analysis of volatility by using several statistical techniques to measure and analyze it. Indian stock market provides a very high rate of return and comparatively high volatility. In

the context of the stock market, volatility of the market refers to the variation in the indices of the securities within the market. When examining the issue of stock market volatility, it is relevant to measure percentage volatility of stock return. This reflects the percentage change in the value of the amount invested in the stock market. Hence it changes in the investor's wealth. Volatility may impair the smooth functioning of the financial system and adversely affect economic performance. Similarly, stock market volatility also has a number of negative implications. One of the ways in which it affects the economy is through its effect on consumer spending. The impact of stock market volatility on consumer spending is related via the wealth effect. Increased wealth will drive up consumer spending. A rise in stock market volatility can be interpreted as arise in risk of equity investment and thus a shift of funds to less risky assets. This move could lead to arise in cost of funds to firms and thus new firms might bear this effect as investors will turn to purchase of stock in larger, well known firms.

Statement of the Problem

Stock market volatility is all about uncertainty. How macroeconomic events and trends will affect the future profitability (dividends, cash flows) of listed companies and hence what would be their market valuations. Typical examples of such variables in the current environment are Geo- political Tensions, Energy prices, Inflation expectations, Interest rate policies, Instability of exchange rates, P-Notes, RBI and Government policies, Subprime crisis, and Investors sentiment etc., Worldwide, there are major stock exchanges which are more volatile. Indian stock markets are always volatile and it is also an unpredictable one. Hence it is a hard perspective for an investor to know which index is the best one to invest, what would be its risk and return, which exchange is the best one and which time period is suitable for the investor to invest. Hence this study perceives, which indices has more volatile, which index gives less risk and more return and the best time period to invest. From a survey it is denoted that only 18% of the population in India are aware about stock market and only the investors get advice from the stock brokers. Hence this study is undertaken.

Review of Literature

Antoniou and Holmes, 1995 argues about speculators and the impact of futures on spot price volatility suggests that increased volatility is undesirable. This is, however, misleading as it fails to recognize the link between the information and the volatility. Prices depend on the information currently available in the market.

Bekaert and Harvey 1995 examined emerging equity market volatility. It was examined the emerging equity market characteristics in relation to developed markets. Emerging markets found to have four distinguishing features average returns were higher, correlations with developed markets returns were low, returns were more predictable and volatility is higher. They argued that modeling volatility is difficult in emerging markets, especially in segmented markets. In fully integrated markets volatility is strongly influenced by world factors whereas in segmented markets it is strongly influenced by local factors.

P.Gahan,J.K. Mantri,J.K. Parida and P.K. Sanyal argues that financial derivatives like options and futures have been introduced in the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) of India. The volatility in the spot market becomes moderate. It is found that there is difference between the volatility pattern of BSE Sensitive Index (Sensex) and NSE Nifty (Nifty) during the post derivative period. Conditional volatility determined under all the models for Sensex and Nifty are found to be less in post derivative period than that of the post derivative period.

Raju and Karande 2003 argued GARCH model has been used to empirically evaluate the effects on volatility of the Indian spot market and to see that what extent the change (if any) could be attributed to the of introduction of index futures. They use BSE-200 and Nifty Junior as surrogate indices to capture and study the market wide factors contributing to the changes in spot market volatility. Finally, the studies in the Indian context have evaluated the trends in NSE and not on the Stock Exchange, Mumbai (BSE) for the reason that the turnover in NSE captures an overwhelmingly large part of the derivatives market.

Snehal Bandivadekar and Saurabh Ghosh 2003 debated Derivative products like futures and options on Indian stock markets have become important instruments of price discovery, portfolio diversification and risk hedging in recent times. Their paper studied the impact of introduction of index futures on spot market volatility on both S&P CNX Nifty and BSE Sensex using ARCH/GARCH technique. The empirical analysis points towards a decline in spot market volatility after the introduction of index futures due to increased impact of recent news and reduced effect of uncertainty originating from the old news.

Hammoudeh and Li 2008 examined the sudden changes in volatility in emerging markets i.e. five Gulf area Arab stock markets. The study has identified large shifts in and found that most of the Gulf Arab stock markets were more sensitive to global events compared to local or regional events. This finding is in sharp contrast to the study of Aggarwal et al. (1999), which found dominance of local events in causing large shifts in volatility.

Research Objectives

Following are the objectives of the present study.

1. To study the degree of change in price volatility of selected indices of BSE and NSE.
2. To identify the attributable factors of BSE and NSE.

Scope of the Study

The main focus of the study is that seeking price volatility of the selected indices and seeing the common attributable factors of NSE and BSE and its result would be which index is the best for the investor to invest.

Period of Study

The period of study for Degree of Change and Price Volatility of selected indices and attributable factors of BSE and NSE from 2003 to 2013 this is a period of 11 years.

Methodology

The present study is an analytical one and based on secondary data only which are available in the BSE and NSE Websites. BSE and NSE are the major exchanges in terms of trade volume and value. Eight indices were selected on the basis of the listed and traded companies which are both in BSE and NSE from the total indices of 72, and hence the eight indices are common in both NSE & BSE.

Sample Design

Simple Random Sampling method is used for the study. For studying the Degree of Change and Price Volatility the following indices from BSE and NSE are selected.

TABLE 1 SAMPLE

S. No.	BSE INDICES	NSE INDICES
1	BSE Sensex	CNX Nifty
2	BSE 100	CNX 100
3	BSE 200	CNX 200
4	BSE 500	CNX 500
5	BSE Small Cap	CNX Small Cap
6	BSE Mid Cap	CNX Mid Cap
7	BSE Auto	CNX Auto
8	BSE Bank	CNX Bank

Framework of Analysis

Rate of return

The rate of return is the change in price during the period, divided by the price of the investment at the beginning of the period. The rate of change in the return may be calculated as

Return is calculated using logarithmic method as follows.

$$rt = (\log pt - \log pt\text{-}1)*100$$

rt= Market return at the period t Pt= Price index at day t

Pt-1= Price index at day t–1 and log = Natural log

Close to close volatility

For computing close to close volatility, the closing values of the Nifty and Sensex are taken. Close to close volatility (standard estimation volatility) is measured with the following formula

$$\text{Standard Deviation} = \sqrt{(1/n\text{-}1\sum(rt\text{-}\bar{r})^2}$$

n = the number of trading days rt = Close to close return (in natural log)

Open to open volatility

Open to open volatility is considered necessary for many market participants because opening prices of shares and the index value reflect any positive or negative information that arrives after the close of the market and before the start of the next day's trading .The following formula is used to calculate open-to-open volatility

$$\text{Standard Deviation} = \sqrt{(1/n\text{-}1\sum(rt\text{-}\bar{r})^2}$$

n = the number of trading days rt = Open to open return (in natural log)

r = Average of the open to open return

Inter–day volatility takes into account only close to close and open to open index value and it is Measured by standard deviation of returns.

Parkinson Model

High–low volatility is calculated with the following formula

$$\text{Standard Deviation} = K\sqrt{1/n \sum \log(Ht/Lt)^2}$$

σ = High–Low volatility k = 0.601

Ht = High price on the day Lt = Low price on the day

n = Number of trading days

Garman and Klass Model

The Garman and Klass model is used to calculate the open–close volatility. The formula for Garman and Klass model (1980) takes the following form.

$$\text{Standard Deviation} = \sqrt{1/n \sum (1/2)[\log(Ht/Lt)]^2 - [2\log(2)-1][\log(Ct/Ot)]^2}$$

Where

Ht = High price on the day Lt = Low price on the day

Ct = Closing price on the day Ot = Opening price on the day

n = Number of trading days σ = Intra-day volatility for the period

For identifying the attributable factors IN BSE and NSE

Fisher and Jordan (1993) suggested the easy way of estimation of volatility for the securities by using past data is as follows

Volatility= (High-Low) / ½ (High + Low)

Results and Discussion

The analysis part of this article includes the degree of change and price volatility of the indices and also the measurement of price volatility by applying Fisher and Jordan model. The attributable factors are taken to find out which exchange is best one for the investors to invest and gain more return.

The Overall Change of NSE And BSE Indices

The overall change of NSE and BSE Indices during the period from 2003-2013 is compared and presented in the first part and the second part consists of daily average returns of an investor during the bull phase, bear phase, and oscillating phase which are calculated in a stipulated time period using Close to Close Volatility, Open to Open Volatility, Parkinson Model and Garman and Klass.

TABLE 2

CHANGE IN NSE NIFTY AND BSE SENSEX

S. No	Year	NSE Nifty	% Change	BSE Sensex	%Change
1	2003	1879.75	71.90	5838.96	72.89
2	2004	2080.50	10.68	6602.69	13.08
3	2005	2836.55	36.34	9397.93	42.33
4	2006	3966.40	39.83	13786.91	46.70
5	2007	6138.60	54.77	20286.99	47.15
6	2008	2959.15	-51.79	9647.31	-52.45
7	2009	5201.05	75.76	17464.81	81.03
8	2010	6134.50	17.95	20509.09	17.43
9	2011	4624.30	-24.62	15454.92	-24.64
10	2012	5905.10	27.70	19426.71	25.70
11	2013	6304.00	6.76	21170.68	8.98
	MEAN	2984.09		9900.77	
	SD	2098.31		7044.05	

(Source NSE and BSE Historical Data)

Table 2 shows that the price volatility is the highest in both NSE Nifty & BSE Sensex in the year 2009 and the values are 75.76 and 81.03, the lowest price volatility is -24.62 and - 24.64 in the year 2011. The Standard deviation and Mean calculated reveals that the price fluctuates high in BSE Sensex in comparison to NSE Nifty.

TABLE 3
THE CHANGE IN NSE NIFTY AND OTHER NIFTY INDICES

S. No	Period	Indices	Mean	Standard Deviation
1	2003 – 2013	NSE NIFTY	2984.09	2098.31
	2003 – 2013	BSE SENSEX	9900.77	7044.05
2	2003 – 2013	NSE NIFTY	2984.09	2098.31
	2003 – 2013	NSE 100	2273.13	1192.54
3	2003 – 2013	NSE NIFTY	2984.09	2204.24
	2003 – 2013	NSE 200	2098.31	1896.73
4	2003 – 2013	NSE NIFTY	2984.09	3511.50
	2003 – 2013	NSE 500	2098.31	2759.88
5	2003 – 2013	NSE NIFTY	2984.09	5650.42
	2003 – 2013	NSE MIDCAP	2098.31	2263.50
6	2003 – 2013	NSE NIFTY	2984.09	6655.51
	2003 – 2013	NSE SMALL CAP	2098.31	3100.29
7	2003 – 2013	NSE NIFTY	2984.09	5103.17
	2003 – 2013	NSE AUTO	2098.31	3977.77
8	2003 – 2013	NSE NIFTY	2984.09	8067.88
	2003 – 2013	NSE BANK	2098.31	4439.53

The Mean and Standard Deviation calculated reveals that the price fluctuates high in BSE Sensex, NSE 100, NSE 500, NSE Midcap, NSE Smallcap, NSE Auto and NSE Bank in comparison to NSE Nifty.

TABLE 4

THE CHANGE IN BSE SENSEX AND OTHER BSE INDICES

S. No	Period	Indices	Mean	Standard Deviation
1	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE 100	4278.22	1695.99
2	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE 200	2973.13	2192.54
3	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE 500	1204.24	896.73
4	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE SMALLCAP	4511.50	2759.88
5	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE MIDCAP	5650.42	2263.50
6	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE AUTO	6655.51	3100.29
7	2003 – 2013	BSE SENSEX	9900.77	7044.05
	2003 – 2013	BSE BANK	8067.88	4439.53

The Mean and Standard Deviation calculated reveals that the price fluctuates high in BSE SENSEX in comparison to all other BSE indices.

Returns in Bull Phase and Bear Phase

In Stock Market Bull Phase means it is the time where the prices rise and it a time for the investor to sell the shares in profit, Bearish phase means it is the time where the price falls and it is the time for the investor to buy the shares at a lesser price. The oscillating phase means the price may rise or fall at any time, the investor wants to reduce the risk he may sell the shares at minimum cost or in a breakeven point, which would be no profit or no loss point to reduce his risk. The returns in bull phase, bear phase and oscillating time periods for an individual investor are calculated with the help of Open to Open volatility, Close to Close volatility, Parkinson Model, Garman and Klass Model and presented below.

TABLE 5

RETURNS IN BULL PHASE AND BEAR PHASE

Phase	Indices	Period	Minimum	Maximum	Daily Avg. Return
BEAR -A	NIFTY	21-04-2003 -03-12-2003	808.7	1212.75	-0.2290
	SENSEX	21-04-2003 -03-12-2003	2764.16	4280.96	-0.2556
BULL – I	NIFTY	4 - 12-2003 -21-02-2004	828.75	1756.00	0.2585
	SENSEX	4 - 12-2003 -21-02-2004	2849.82	5933.56	0.2587
BEAR - B	NIFTY	22-02-2004 -21-09-2005	854.2	1739.05	-0.1533
	SENSEX	22-02-2005 -21-09-2006	2600.12	5810.17	-0.1778
OSCILLATING	NIFTY	24-09-2006 -25-04-2009	869.05	1193.05	0.0218
	SENSEX	24-09-2006 -25-04-2009	2617.35	3712.74	0.0315
BULL –II	NIFTY	28-04-2009 -14-01-2010	929.5	1982.15	0.4211
	SENSEX	28-04-2009 -14-01-2010	2936.71	6194.11	0.4205
BEAR – C	NIFTY	15-01-2010 -17-05-2010	1388.75	1944.45	-0.3819
	SENSEX	15-01-2010 -17-05-2010	4505.16	6064.10	-0.3432
BULL - III	NIFTY	18-05-2010 -31-03-2013	1446.1	6287.85	0.1138
	SENSEX	18-05-2010 -31-03-2013	4644	20873.0	0.1183

(Source NSE and BSE Historical Data)

The durations of the bull and the bear phases are more or less similar for the stocks of the Nifty and Sensex. In the bear phase–A, they had negative return of –0.22900 per cent and –0.25564 per cent respectively. Nuclear tests conducted in May, 2003 and imposition of economic sanctions by the US, Japan and other industrialized countries resulted in

uncertainty in the Indian stock market. In the bear phase, the FIIs net investment was negative and they were net sellers except in July and September 2003.

The growth in macro economic factors like GDP, industrial sector and manufacturing sector turned out to be positive with good corporate results. FIIs average monthly investment was Rs.52.41 crore in the bull phase. This moved the Nifty and Sensex to newer peaks.

The bear phase–B lasted for more than one and a half year due to economic and financial turmoil. FIIs average monthly investment during the phase was Rs 43.15 crore which was very low compared to the investment in the previous bull period. National and international events like fall in the growth of GDP, the earth quake in Gujarat, KetanParek scam, UTI's ban on repurchase facility under US 64 scheme, the proposal to increase the tax on distribution of dividend by companies and MFs from 10 per cent to 20 per cent set the bear phase in motion.

Then the Nifty and the Sensex index oscillated back and forth from 869.05 to 1193.05 from September, 2006 to April, 2009 and 2600.12 to 3712.74 from September, 2006 to March 2009 respectively. The net inflows of FIIs declined from Rs.87552 mn in 2001–2002 to Rs.26889 mn in 2002 – 2003. FIIs were net sellers in the month of June and October, 2005.

The Nifty and Sensex experienced a steady upward movement from April 2007 to January 2008. About 83 per cent of the NSE stocks were up in the bull phase. In the mid 2007, India was one of the preferred FIIs destinations in Asia compared to Korea and Taiwan. Liberalization in EXIM policy, monetary policy and mini–budget, rapid growth in the economy, superior return on equity (ROE), low volatility in ROE, a strong financial system, a robust corporate performance and the strong risk adjusted return of the Indian market attracted many foreign investors to India.

The busy bull market turned into bear market for a very short duration. All the indices saw continuous and substantial fall from January, 2010 to May, 2010. Many reasons can be cited for this fall. The ban on Participatory Notes made FIIs to sell and the banks that did margin funding against shares also started selling. Retail investors and HNIs transferred some portion of their holdings in equities to bullion market because the price of gold increased to Rs.6360 per 10 gm on 7th January, 2010 and the silver increased to Rs10, 610 a kg on 2nd March, 2010.

The net investment of FIIs in January was around (Rs.38693 mn) which was very low compared to the investment (Rs.63819 mn) in December, 2003. On 14th May 2011 the value of the Nifty plunged deeply from 1582.4 to 1388.75 on 17th May 2011, and the circuit breaker was applied on the Nifty for the first time. Continuous GDP growth, sustained industrial growth and heavy FII's inflows strengthen the stock market in its peak with its ups and downs.

Attributable Factors of BSE and NSE

The price volatility is measured through Fisher and Jordan Model for finding out the major attributable factors such as Daily traded price, Number of volumes traded, Number of transactions made in a year, Market capitalization and the Turnover made in year. From these factors the values are taken from the relevant websites and analyzed through Fisher and Jordan models. The attributable factors are taken to find out which exchange is best one for the investors to invest and gain more return.

TABLE 6

DAILY PRICE TRADED IN NSE AND BSE

		NSE			BSE		
S. No	**YEAR**	**HIGH**	**LOW**	**VOLATILITY**	**HIGH**	**LOW**	**VOLATILITY**
1	2003	1145	886	0.26	1588	4022	0.87
2	2004	1023	88	1.68	1630	3957	0.83
3	2005	898	417	0.73	1092	2544	0.80
4	2006	804	636	0.23	622	2394	1.18
5	2007	751	603	0.22	1122	2868	0.88
6	2008	1387	464	1.30	757	2079	0.93
7	2009	445	420	0.64	90	1717	1.80
8	2010	976	965	0.87	1096	2188	0.67
9	2011	1533	1494	0.95	1270	2297	0.58
10	2012	428	127	0.74	542	1094	1.12
11	2013	977	432	0.31	651	2321	1.42

(Source NSE and BSE Historical Data)

The table interprets that volatility is high in BSE which is 1.42 in the year 2013, where it could be found out in way where the volatility is more in various situations; the prices have changed drastically in the stipulated time period. There volatility that has happened in the upcoming years is not much in NSE but it considers a good change in BSE. Hence the daily traded prices are considerably good in BSE.

TABLE 7

VOLUMES OF TRADE IN NSE AND BSE

S. No.		**NSE**			**BSE**		
	YEAR	**HIGH**	**LOW**	**VOLA**	**HIGH**	**LOW**	**VOLA**
1	2003	92743575	11902055	1.55	14180157	69143641	1.32
2	2004	129340266	11434020	1.68	9463754	104142273	1.67
3	2005	161907709	38056521	1.24	26150175	140653463	1.37
4	2006	282002526	775745	1.99	24782046	228851064	1.61
5	2007	216437757	3134703	1.94	688407	140080913	1.98
6	2008	277677113	41535438	1.48	24941842	206914501	1.57
7	2009	649247895	96030125	1.48	51414097	396332003	1.54
8	2010	705643897	62134893	1.29	42948574	402938483	1.49
9	2011	758623465	42563529	1.45	48274633	428461934	1.30
10	2012	774562975	63439732	1.22	41947393	492359836	1.63
11	2013	834529975	76342293	1.86	58476439	548371638	1.84

(Source NSE and BSE Historical Data)

Table 7 denotes the traded volumes have drastically high in BSE in the year 2003 which is 1.55, where in the same year in NSE it has volatility of 1.32. The lowest transaction happened in the year 1.22 which is in the year 2012. So considerably the values of volatility are both in NSE and BSE. But the movement that happens during every

year doesn't have many changes. Hence the investors can make note and predict the market conditions easily.

TABLE 8
NUMBER IN TRANSACTIONS TRADED IN NSE AND BSE

S. No.		NSE			BSE		
	YEAR	HIGH	LOW	VOLATALITY	HIGH	LOW	VOLATALITY
1	2003	6799968	134527	1.42	659657	97098	1.49
2	2004	1378379	5498	1.98	1066457	147194	1.51
3	2005	1257601	35646	1.89	779110	36801	1.98
4	2006	1396840	298567	1.30	783755	170725	1.28
5	2007	2224148	477109	1.29	1289970	271472	1.30
6	2008	1498469	242704	1.53	1573832	78293	1.43
7	2009	1426354	165327	1.02	1739779	182729	1.09
8	2010	2215530	111853	1.22	2598237	283933	1.67
9	2011	1616978	101956	1.35	2830048	159391	1.33
10	2012	2810893	123673	1.72	3028747	392837	1.92
11	2013	3086753	117655	1.38	3983731	293738	1.62

(Source NSE and BSE Historical Data)

It is clear from the above table that both the exchanges have given a good result where it starts with 1.42 in the year 2003 for NSE and 2004 for BSE. From this it is found that BSE has touched greater extend before NSE.

TABLE 9
MARKET CAPITALISATION AT NSE AND BSE

S. No.		NSE		BSE	
	YEAR	MARKET CAPITALISATION	VOLATALITY	MARKET CAPITALISATION	VOLATALITY
1	2003	7398448	44.11	7224801	59.54
2	2004	10661885	96.23	11526163	33.76
3	2005	2813201	85.00	15829302	20.23
4	2006	3367350	34.86	19286273	13.76
5	2007	4858122	29.88	22937754	45.28
6	2008	2896194	19.24	27392837	9.67
7	2009	6009173	52.41	30847658	19.42
8	2010	6702616	41.30	38289473	26.73
9	2011	6096518	-6.88	42848727	-6.88
10	2012	6490373	43.39	46947392	38.57
11	2013	6518227	39.27	49837493	18.49

(Source NSE and BSE Historical Data)

The Market Capitalization is denoted more in the year 2004 for NSE at the same time BSE is low as compared to it. And the lowest % change has occurred in the year 2011. The investors can make note of the yearly changes that happens and predict the market.

TABLE 10

TURNOVER IN NSE AND BSE

S. No		NSE		BSE	
	YEAR	TURN OVER	VOLATALITY	TURN OVER	VOLATALITY
1	2003	414474	11.96	50054	-24.80
2	2004	839050	102.44	124284	148.25
3	2005	2413510	187.65	196848	58.38
4	2006	513167	-78.73	312000	58.49
5	2007	617988	20.43	685032	119.56
6	2008	1099533	77.92	1000030	45.98
7	2009	1454355	43.28	304898	-69.51
8	2010	16382391	-21.31	313584	2.85
9	2011	1977376	25.37	503290	87.73
10	2012	2977465	67.54	333476	-24.56
11	2013	3297474	78.29	351429	15.34

(Source NSE and BSE Historical Data)

The turnover is an important factor which denotes which exchange is better to invest for the investors, which gives high return to the investors also. The least negative change has happened in the year 2006 which is -78.73 in NSE. In BSE the highest change occurred is 119.56 which is in the year 2007 but in the same year, NSE had recorded a very low volatility of 20.43. The investors can make note of the yearly changes that happens and predict the market.

Conclusion

The expectations and foresight of investor as well as speculators determine the magnitude of price fluctuations to a larger extent. If market participants anticipate changes in either fundamental factors or any other factors or any other factors correctly, and if the change or the anticipated change comes about gradually, the prices move in a smooth fashion from one point of equilibrium to another. On the contrary, when the anticipations prove to be either too optimistic or pessimistic, or the changes in these factors or anticipations about them, undergo a sudden change, the prices move erratically, rather than move in a smooth fashion resulting in greater Volatility. The study is focused on the investors, because people in India are not aware of stock market. The study gives basic idea for an investor to select a particular index for investment. The study can be extended to equity market, commodity market, and also currency market. The present study says the basis for further studies in commodity market and currency market also.

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