A Study on Growth of Indian Stock Market: A Comparative Analysis between BSE Sensex and NSE Nifty

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Abstract

Stock market trading involves the acquisition and disposition of shares via a designated stock exchange. A Stock Exchange serves as the designated market location where investors trade shares of publicly traded companies listed corporations. Once an Indian corporation undergoes an initial public offering (IPO), it becomes eligible for inclusion in the roster of publicly traded entities on a stock exchange within the Indian stock market. Stock market volatility refers to the consistent swings in stock prices. The study compares the development paths of the Bombay Stock Exchange (BSE) Sensex and the National Stock Exchange (NSE) Nifty, two stock market indices that reflect the two major stock exchanges in India. The research presented here relies entirely on secondary sources and covers the period of time between the fiscal years of 2008-09 and 2022-23.

Keywords: The National Stock Exchange (NSE), Growth, the BSE Sensex, the NSE Nifty, the Bombay Stock Exchange (BSE), etc.

I INTRODUCTION

The inception of stock trading in India can be historically attributed to the East India Company, which pioneered the exchange of loan securities in the 18th century. In the 1830s, corporate share trading in Bombay was initiated, with a particular focus on the stocks of Cotton and Bank presses. The inception of stock exchanges in India may be traced back to the 1850s, when a group of 22 stockbrokers initiated informal trading activities near the Town Hall of Bombay, conducting transactions under the shade of a banyan tree. The Companies Act was enacted in 1850, subsequently leading to a heightened investor inclination for corporate securities. The notion of limited liability emerged during this period.

The number of brokers continued to increase as they relocated frequently until 1874, when they ultimately settled in the area that is now Dalal Street. The Native Share and Stockbrokers Association, which had been operating as an informal association prior to its formal incorporation as the Bombay Stock Exchange (BSE), commenced operations in 1875. The Securities Contract Regulation Act of 1956 granted enduring recognition to the BSE, making it the first stock exchange in Asia to do so. It is the earliest stock exchange in Asia.

The succession of stock exchanges

➢ Following the BSE in 1894 was the Ahmedabad Stock Exchange, which specialized in the trading of textile mill shares.
➢ The Calcutta Stock Exchange initiated the trading of shares of jute mills and plantations in 1908.
➢ Subsequently, in 1920, the Madras Stock Exchange was founded to replace the Calcutta Stock Exchange.

Post-independence scenario

Following independence, the BSE dominated trading volume. As a result of the lack of transparency and unreliable clearing and settlement systems, however, the requirement for a financial market regulator increased. In 1986,

the Sensex or Sensitive Index was introduced, and in 1989, the BSE National Index was introduced. The Securities and Exchange Board of India (SEBI) was established in 1988 as an independent body, not subject to parliamentary control. The SEBI Act gave SEBI legislative standing on January 30, 1992.

In 1994, the National Stock Exchange (NSE) was established. In order to address the demand for an additional stock exchange of sufficient size to rival the BSE and promote transparency within the stock market. In 1994, the NSE began conducting business in the Wholesale Debt Market (WDM). Then it moved on to the equity market in 1994 and the futures market in 2000.

In 1995, the Bombay Stock Exchange (BSE) underwent a transition from its conventional open-floor trading method to an electronic trading system. The Securities and Exchange Board of India and the Forward Markets Commission (FMC) amalgamated in 2015 with the aim of bolstering the commodities market's regulatory framework, enabling the involvement of both local and foreign institutional investors, and launching novel financial instruments.

Many people consider the Indian stock market to be among the wealthiest exchanges globally. The National Stock Exchange (NSE) is the world's second fastest growing stock exchange and the third largest in terms of equity transactions. When considering total market value, the Bombay Stock Exchange (BSE) ranks eleventh worldwide. Additionally, it is renowned for its exceptional performance in the trading of shares, earning it the reputation as one of the world's most successful stock markets. The increased prominence of the Indian stock market on the global stage can be attributed to the enhanced status of the bourses.

Live Stock Market Trading in India

Trading on the stock market entails the purchase and sale of assets via a stock exchange. A stock exchange is a marketplace where investors can buy and sell shares in publicly traded corporations. An Indian corporation is listed on a stock exchange of the Indian stock market once it has gone public. An organization can initiate the process of going public by extending an invitation to the general public to purchase its shares via an Follow-on Public Offer (FPO) or Initial Public Offering (IPO), thereby granting them the opportunity to acquire partial ownership in the organization. On the Indian stock market, an abundance of investment opportunities are available.

The company's shares can be traded online once they are listed. Shareholders who wish to sell their holdings can be approached by prospective investors looking to purchase firm shares.

Current status of stock trading in India

The BSE, presently positioned as the eleventh greatest stock exchange on a global scale, is approximated to have a market value of $1.7 trillion. Market capitalization estimates place the NSE at more than $1.65 trillion. The Nifty50 is the main benchmark index for the NSE, and the Sensex is the flagship index for the BSE. In terms of share trading volumes, the exchanges remain equal. These days, one can trade online while lounging in one's house. Features like live updates and zero brokerage Demat are accessible.

II LITERATURE REVIEW

Varadharajan P. and Vikkraman P. (2011) investigated the worldwide market integration that followed globalization. During the period from 2002 to 2011, this essay analyzes the resemblances, patterns, and trends in the movements and volatility of the Indian stock market. Both stock market and budget volatility and accompanying return changes are examined by the researcher. A further significant investigation that was conducted looked at the volatility of four main Indian indices over a ten-year period. The market capitalization of the NSE and BSE is also analyzed.

The study, carried out in 2012 by Nitin Sethi and Sonia Gupta, sought to ascertain the level of correlation between the Sensex and Nifty. The goal of this study report was to determine whether or not the Nifty and Sensex movement trends are related. The paper's research design was informal in character. The researcher collected and tracked the data for a full year. Information was gathered from many websites, periodicals, and journals. Consequently, the data analysis demonstrated that the Nifty and Sensex had a favorable association.

Gahan et al. (2012) analyze the NSE Nifty and BSE Sensex's volatilities before to and during the derivative period. They arrive at volatility estimates by separating volatility into its pre- and post-derivative eras and then examining the two in terms of their parallels and differences. They make use of the NSE Nifty and BSE Sensex daily closing indices for the duration 1992–2012 and 1995–2012, respectively. They discover that after derivatives were introduced, volatility

decreased. Additionally, they discover that compared to the pre-derivative era, recent news had a greater effect on volatility in the post-derivative era. Additionally, they discover that the asymmetric impact on volatility has increased as a result of the derivatives market.

Ali Intaz (2016) examined the Indian NSE and BSE stock markets during 2005–2006 and 2013–2014, looking at how volatility affected returns, whether volatility clustered, what effect leverage had, and how long its effects lasted. The study found that daily return volatility in both markets is persistent, asymmetric, and characterized by clustering.

The Indian stock market was the subject of a quick study by Andrade & Sheriff (2018). To do so, they analyzed the performance of the stock markets (BSE and NSE). According to the study's findings, the market was highly volatile for the time period covered by the research because it was persistent and moved in a random walk pattern.

Raju & Paldon (2019) looked studied how the Indian economy's stock market, specifically the BSE and NSE, was affected by the Economic Survey's analysis from 2015 to 2018. In light of the recent volatility in the Indian stock market, which has shown little regard for changes in the world economy, it is wise to consider one's options before investing, including bank and land FDs, or placing money in the trading market.

III. OBJECTIVES OF THE STUDY

➢ To highlight the role that stock exchanges have played in the growth of India's stock market.
➢ To compare and contrast the study period growth rates of the NSE Nifty and the BSE Sensex.
➢ To ascertain whether the growth rates of the NSE Nifty and BSE Sensex were consistently higher during the research period.

IV. METHODOLOGY OF THE STUDY

Data Collection and Study Duration
The reports from the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) that have been made public are the major secondary source used in this study. In this analysis, we look at how the BSE and NSE indices have evolved over the past fifteen years. The study will encompass the time frame from 2008-09 to 2022-23. The base year of analysis and evaluation was chosen as 2008-09, which is considered a standard year for this purpose.
The Study's Hypotheses
a. There is no statistically significant difference in the mean values of the BSE Sensex and NSE Nifty over the course of the study.
b. There is no consistency in the growth rates of the NSE Nifty and the BSE Sensex across the study period.
Tools of Analysis
A few statistical methods have been applied, including measures of central tendency and dispersion, as well as the one-way ANOVA and the t-test.

V DATA ANALYSIS

Table - 1
Annual growth rates of the BSE Sensex and the NSE Nifty

(Figures in %)

Year	BSE Sensex	NSE Nifty
2008-09	-61.14	-56.72
2009-10	44.61	42.45
2010-11	9.86	10.02
2011-12	-11.73	-10.16
2012-13	7.60	6.81
2013-14	15.86	15.24
2014-15	19.93	21.04
2015-16	-10.32	-9.73
2016-17	14.44	15.65

2017-18	10.16	9.29
2018-19	14.75	12.99
2019-20	-31.23	-35.20
2020-21	40.48	41.47
2021-22	15.47	15.88
2022-23	0.72	-0.60
Average	**5.30**	**5.23**
Standard Deviation	**26.37**	**25.83**
Co-efficient of Variance	**4.98**	**4.94**

(Source: Calculation based on web information)

Over the course of 15 years, Table 1 compares the yearly growth rates of the NSE Nifty and the BSE Sensex. For all years, the BSE Sensex growth rates fluctuated. The growth rate was high at 44.61 in 2009-10 and low at -61.14 in 2008-09. Except in four years i.e. 2008-09, 2011-12, 2015-16 and 2019-20 remaining eleven years BSE Sensex growth was positive. For NSE Nifty growth rates, there was a fluctuation for all years. The growth was high in 2009-10 at 42.45 and lowest at -56.72 in 2008-09. Except in five years i.e. 2008-09, 2011-12, 2015-16, 2019-20 and 2022-23, remaining ten years NSE Nifty growth was positive.

Table - 2
Descriptive Statistics of the BSE Sensex and the NSE Nifty

	BSE Sensex	NSE Nifty
Mean	5.30	5.23
Standard Error	6.81	6.67
Median	10.16	10.02
Standard Deviation	26.37	25.83
Sample Variance	695.58	667.14
Range	105.75	99.17
Minimum	-61.14	-56.72
Maximum	44.61	42.45
Sum	79.46	78.43
Count	15	15

The statistical central tendency of the BSE Sensex and NSE Nifty growth rates is shown in Table 2. The BSE Sensex growth rate can range between 44.61 and -61.14 percent every year, with a standard deviation of 26.37 percent. The BSE Sensex has a 5.30 average growth rate, a 10.16 median growth rate, and a range of 105.75. The variance of the BSE Sensex growth rates is 695.58. The maximum growth rate of the NSE Nifty is 42.45, while the minimum growth rate is -56.72. The resulting standard deviation is 25.83. The NSE Nifty's average growth rate is 5.23 percent, the median rate is 10.02 percent, and the range is 99.17 percent. The variance of the NSE Nifty growth rates is 667.14.

T-Test

H0: During the study period, there is no statistically significant difference between the mean values of the BSE Sensex and the NSE Nifty.

H1: During the study period, there is a statistically significant difference between the mean values of the BSE Sensex and the NSE Nifty.

Level of Significance: A 5% level of significance is appropriate.

Table 3

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. error mean
BSE Sensex	5.2973	15	26.37386	6.80970
NSE Nifty	5.2287	15	25.82910	6.66904

Paired Samples Correlations		
BSE Sensex & NSE Nifty	N	Correlation
	15	0.997

Paired Samples Test								
	Paired Differences					t cal value	df	t table value
BSE Sensex & NSE Nifty	Mean	Std. deviation	Std. error mean	95% difference confidence interval				
				lower	upper			
	0.06867	1.94900	0.50323	-1.01066	1.14799	0.136	14	2.145

We can conclude that |t cal| is smaller than t table. Therefore, we agree with H0. Therefore, we conclude that the mean values of the BSE Sensex and NSE Nifty over the study period do not differ significantly from one another.

One-way ANOVA

H0: The BSE Sensex and NSE Nifty both grew at roughly the same rate over the course of the research.
H1: The rate of increase of the BSE Sensex and the NSE Nifty do not follow a similar pattern throughout the study period. The 5% significance level is a reasonable choice.

Table 4
One-way ANOVA

Source of variation	Sum of squares (SS)	Degrees of freedom (Df)	Mean square (MS)	F calculated Value	F table Value
Between Groups	0.035363	1	0.035363	0.0000519	4.195972
Within Groups	19078.12	28	681.3615		
Total	19078.16	29			

Table 4 shows a one-way examination of the variation of the BSE Sensex and NSE Nifty growth rates. In this instance, the hypothesis is examined with a significance level of 5%. In this case, tabulated value is more important than calculated value. As a result, H0 is approved. It may be stated that the growth rates of the BSE Sensex and NSE Nifty were consistent during the study period.

VI CONCLUSION

In summary, it can be observed that during the duration of the study, there was a notable rise in the yearly mean values of both the BSE Sensex and NSE Nifty indices. Both indicators exhibited identical growth patterns for the duration of the study period. Based on the outcomes of the two hypothesis tests conducted, it can be concluded that the growth

rates of the BSE Sensex and NSE Nifty exhibit homogeneity. Furthermore, there is no statistically significant disparity observed in their mean values throughout the duration of the research period.

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