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The Indian stock market performance since 2015: A case study of NSE

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Abstract
The National Stock Exchange (NSE) is the leading stock exchange of India. Today, the stock market uses state-of-art information technology in order to provide an efficient and transparent trading, clearing and settlement mechanism and has witnessed several innovations in products and services *viz*. stock exchange governance, screen based trading, electronic transfer of securities, securities lending and borrowing, risk management systems, emergence of clearing corporations to assume counter party risks, market of debt and derivative instruments and intensive use of information technology. The NSE is one of the few exchanges in the world trading all types of securities on a single platform, which is divided in to capital market, wholesale debt market and futures & options market. The present study tries to assess the performance of top five sectoral indices of NSE i.e. Nifty Bank, Nifty Auto, Nifty FMCG, Nifty IT and Nifty Pharma since 2015 which is based on secondary data extracted from NSE publications. The data consider for the study covers a period ranging from 2015-16 to 2021-22. The statistical tools such as descriptive statistics, correlation and Mean Return were used in this study to examine the performance of sample sectoral indices during the study period. The analyzed information shows that the overall performance of top five sectoral indices of NSE is growing in consistent manner. Further, it indicated that the selected sectoral indices were related with each other.

Keywords: stock market, performance, sectoral index, investment

Introduction

National Stock Exchange (NSE) is one of the major stock exchanges in the country which deals with various issues related with shares, stocks and securities. In India prior to establishment of NSE there were many authorities and bodies that were dealing in stock. BSE is the principal national stock exchange along with 23 regional stock exchanges in India. The need of NSE is realized due to requirement of national listing body which is having latest technique and technology. NSE is required in order to integrate other financial services to various agencies at national and international level. NSE has more broad services and facilities which deal in both primary and secondary market. With the liberalization of the Indian economy, it was found inevitable to lift the Indian stock market trading system on par with the international standards. On the basis of the recommendations of high-powered Pherwani Committee, Industrial Development Bank of India, Industrial Credit and Investment Corporation of India, Industrial Finance Corporation of India, all Insurance Corporations, selected commercial banks and others incorporated the National Stock Exchange in 1992. Trading at NSE can be classified mainly under two broad categories *viz*. wholesale debt market and capital market (Chakrapani, 2011) [5].

Wholesale debt market operations are similar to money market operations institutions and corporate bodies enter into high value transactions in financial instruments such as government securities, treasury bills, public sector unit bonds, commercial paper, certificate of deposit, etc (Avadhani, 2001) [1]. There are two kinds of players in NSE i.e. trading members and participants. Recognized members of NSE are called trading members who trade on behalf of themselves and their clients. Participants include trading members and large players like banks who take direct settlement responsibility. Trading at NSE takes place through a fully automated screen-based trading mechanism, which adopts the principle of an order-driven market. Trading members can stay at their offices and execute the trading, since they are linked through a communication network. The prices at which the buyer and seller are willing to transact will appear on the screen. When the prices match the transaction will be completed and a confirmation slip will be printed at the office of the trading member (Jaleel, *et al*, 2009) [11].

An important recent development has been the entry of Foreign Institutional Investors as participants in the primary and secondary markets for industrial securities. In the past several years, investments in developing countries have increased remarkably. Among the developing countries India has received considerable capital inflows in recent years. The liberalization policy of the Government of India has now started yielding results and the country is poised for a big leap in the industrial and economic growth (Khan, 2009). The Economy of the country is mainly based on the development of the corporate sectors. Funds may be raised through securities market for financing corporate growth. Generally, the security prices reflect the performance of a company. Both economic and non-economic factors invariably affect stock return behavior (Kaur, 2014).

Statement of Problem

National Stock Exchange plays a significant role in the capital market of India. The present study has focused on how the National Stock Exchange has performed financially, how financial performance has been through the years since 2015, how equity trading has grown, what are the trends of growth in Capital Market segment of NSE and

what is the performance of top five sectoral indices of NSE. The tool for financial performance analysis is Time-Series analysis by calculating various sectoral indices and stock return with the help of SPSS software. The study also evaluates the growth pattern of equity trading at National Stock Exchange. Along with this researcher has also analyzed the market trend of equity. The researcher has also analyzed the performance of top five sectoral indices of National Stock Exchange.

Review of Literature

There are number of studies have been conducted on the performance of Stock Market of India. The available literature on the stock market performance is being presented in the following paragraphs:

Kaur (2004) [12] investigates the nature and characteristics of stock market volatility in India. The volatility in the Indian stock market exhibits characteristics similar to those found earlier in many of the major developed and emerging stock markets. Various volatility estimators and diagnostic tests indicate volatility clustering, i.e., shocks to the volatility process persist and the response to news arrival is asymmetrical, meaning that the impact of good and bad news is not the same. Singh & Kaur (2011) [26] presented Growth & performance of turnover in capital market segment at National Stock Exchange on the basis of turnover of stock exchange, relative share of listed and permitted services and average daily turnover of NSE & BSE. It was related that capital market segment of NSE has been continuously growing during the period.

Chakrapani *et al* (2011) [5] analysed indices of NSE like S&P CNX Nifty, Bank Nifty & CNX Infrastructure for the solution of some problem. The study argued that Indices has seen many up's and down. Anjubala (2013) is the mitigation of risk through the spreading of investments across multiple entities, which is achieved by the pooling of a number of small investments into a large bucket. Stock Market is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost. Madhvi (2014) found stock market very volatile and fluctuating with respect to risk and return relationship. In stock market incomplete information leads to bad return whereas perfection and alertness leads to good and stable return. It was found that higher the risk higher the return and vice versa. LPG and steps taken by the government, RBI has surely given the direction as well as motivation to investor to invest more and more in capital market which has definitely improved the growth of Indian economy. There are a lot of risk management alternatives available to the investors with which help risk can be minimized and return can be increase. Future of stock market is found very bright in upcoming years due to competitive strength. Sundravel *et al* (2015) in their study state that unlike holidays exist in a year that causes market closure and increase the non-trading days in a year. Investors usually sell more before the holiday and they buy more after the holidays. This behavior increases the pre-holiday returns more than the returns observed for the post holidays. The Stock Returns in Indian stock market were not entirely random and may not efficient. SEBI as a regulator of Indian Stock market should take necessary steps to increase efficiency of Indian stock market.

Objectives of the Study

- To analyze the trends of stock return of sectoral indices of NSE.
- To calculate the performance of sectoral indices in NSE.
- To estimate the returns of Indices in National Stock Exchange.
- To measure the relationship between the selected sectoral Indices.

Research Methodology

The present study is based on the secondary data. The data has been collected from the website of NSE and other relevant publications. The data relates to the period from 2015-16 to 2021-22. The research is analytical in nature in which fact, figures and information from secondary sources are used to make an evaluation to explain the performance of NSE using parameters like stock price, return of selected sectoral indices of NSE have been taken.

Sample Selection

The present study analyzes the behavior of sectoral indices listed in NSE. Based on its turnover value in the market, it is decided to consider top five indices from NSE sectoral indices. The details of sample indices and sample companies listed in those sample indices. The sectorial indices considered for the analysis are Nifty Bank, Nifty Auto, Nifty FMCG, Nifty IT and Nifty Pharma.

Sources of Data

The study was mainly based on secondary data i.e, daily returns of NSE sectoral indices. The details regarding sample indices were collected from NSE while the daily returns of sample indices. The other required data were collected from various magazines, newspapers, books, journals as well as internet sources.

Results and Discussion

Descriptive Statistics

Descriptive Statistics was used to identify the measure of average return and risk. Measures of central tendency include the mean while measures of variability include standard deviation, skewness and kurtosis. Descriptive Statistics provided a useful summary of security returns and the historical account of return behavior. Although past information is useful in any analysis, one should always consider the expectations of future events.

Mean

Mean is the average value of the series, obtained by adding up the series and dividing by the number of observations. It is the most common measure of central tendency.

Standard Deviation

Standard Deviation is the square root of the mean of the squared deviation from the arithmetic mean. It measures the absolute dispersion, greater the standard deviation, greater will be the magnitude of the deviation of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series.

Table 1: Descriptive Statistics for Indices From 01st April 2015 To 31st March 2022

	Nifty Bank	Nifty Auto	Nifty FMCG	Nifty IT	Nifty Pharma
Mean	0.000841	0.000536	0.002534	0.001227	0.000231
Median	0.002603	0.002294	0.002551	0.001636	0.001116
Maximum	0.086997	0.084003	0.074852	0.093818	0.082818
Minimum	-0.13447	-0.13904	-0.11025	-0.10348	-0.10217
Std. Dev.	0.019408	0.020158	0.016231	0.019853	0.019181

Source: Data collected from www.nseindia.com and calculated using SPSS

Table 1 shows the results of descriptive statistics for sample sectoral indices during the study period from 01.04.2015 to 31.03.2022. Summary statistics, namely, mean, minimum, maximum, and standard deviation (SD) were used to analyses the sample indices return during the study period. The mean returns of sample indices i.e. Nifty Bank (0.000841), Nifty Auto (0.000536), Nifty FMCG (0.002534), during the study period. In terms of market unpredictability, as measured by the standard deviation of daily returns, Nifty Pharma the highest risk value (0.019181), followed by. Nifty Auto (0.020158), Nifty Bank (0.019408), Nifty IT (0.019853), and Nifty FMCG (0.016231). This indicates the fact that high risk useful for speculators but the investors may carefully study the market risk and carefully take investment decision of portfolio diversification.

Skewness

Measures of skewness tell us the direction and the extent of skewness. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution of data set is symmetric if it looks the same to the left and right of the centre point. The skewness for a normal distribution is zero and any symmetric data should have skewness near zero. Negative values for the skewness indicate that data are skewed left and positive values for the skewness indicate that data are skewed right.

Kurtosis

Kurtosis measures the amount of peakedness of distribution. A flatter distribution than normal distribution is called Platykurtic. A more peaked distribution than the normal distribution is referred to as Leptokurtic. Between these two types of distribution, there is a distribution which is normal in shape, referred to as a mesokurtic Distribution.

Table 2: Normal Distribution for Sectoral Indices From 01st April 2015 To 31st March 2022

	Nifty Bank	Nifty Auto	Nifty FMCG	Nifty IT	Nifty Pharma
Skewness	-1.51452	-1.81425	-1.6085	-0.66813	-0.69189
Kurtosis	15.81839	15.19612	16.38029	13.50481	8.962946
Jarque-Bera	1807.442	1653.55	1951.072	1151.426	383.4319
Probability	0	0	0	0	0

Source: Data collected from www.nseindia.com and calculated using SPSS

Table 2 highlights the results of normal distribution for sample sectoral indices of NSE during the study period from 01.04.2015 to 31.03.2022. Skewness, kurtosis and the Jarque- Bera were used to analyses the sample indices return during the study period. The analysis of skewness shows that values for all sample indices, Nifty Bank (-1.51452), Nifty Auto (-1.81425), Nifty FMCG (-1. 6085), Nifty IT (-0.66813) and Nifty Pharma (-0.69189) were negative. It is significant to note from the Table that all sample thematic indices earned values of kurtosis larger than three.

Correlation

Correlation analysis helps to determine the strength of the linear relationship between the two variables X and Y, in other words, as to how strongly are these two variables correlated. Karl Pearson, in 1896, developed an Index or Coefficient of this association in cases where the relationship is a linear one, i.e. where the trend of the relationship can be described by a straight line. The Pearson's coefficient of correlation is designated by r. The coefficient of correlation r can be designed as a measure of strength of the linear relationship between the two variables X and Y.

Table 3: Correlation for Sectoral Indices from 01st April 2015 To 31st March 2022

	Nifty Bank	Nifty Auto	Nifty FMCG	Nifty IT	Nifty Pharma
Nifty Bank	1.000				
Nifty Auto	0.9149	1.0000			
Nifty FMCG	0.7981	0.9065	1.0000		
Nifty IT	0.7887	0.8665	0.9736	1.000	
Nifty Pharma	0.7475	0.8646	0.8192	0.6290	1.000

Source: Data collected from www.nseindia.com and calculated using SPSS

Table 3 highlighted the results of correlation among the sample thematic indices in NSE from 01.04.2015 to 31.03.2022. According to the results of the Table, the values of correlation ranged from 0. 9149 (Nifty Auto - Nifty Bank) to 0.7981 (Nifty FMCG - Nifty Bank), 0.9065 (Nifty FMCG - Nifty Auto), 0.7887 (Nifty IT - Nifty Bank), 0.8665 (Nifty IT – Nifty Auto), 0.9736 (Nifty IT – Nifty FMCG), 0.7475 (Nifty Pharma – Nifty Bank), 0.8646 (Nifty Pharma - Nifty Auto), 0.6290 (Nifty Pharma - Nifty IT), 0.8192 (Nifty Pharma - Nifty FMCG). Hence, it is cleared that there is a correlation exist among the sample sectoral Indices of NSE.

Concluding Remarks

It is usually observed that economic growth and capital accumulation has a significant correlation and addition to the stock of capital can inflame faster rate of growth. A high rate of capital formation results in rapid growth in the production and income. Capital occupies a position so dominant to the economic theory of production and distribution that it is natural to assume, it occupies a very important place in the contribution of economic growth. The stock exchange is important constituents of capital market. The establishment of NSE and BSE has been the turning point in the working of Capital Market. These institutions performs a very crucial role in the economic life of a country, acting as a free market for securities where prices are determine by the forces of supply and demand. Stock exchange is a vital organ in a modern society, without a stock exchange a modern democratic economy cannot exist. For this reason, NSE was incorporated in 1992.

The results of the study suggested that the investors may invest their money for their better return. It is observed that

the thematic indices were performed well during the study period. Further, it is suggested that sectoral indices such as Nifty Bank, Nifty Auto, Nifty FMCG, Nifty IT and Nifty Pharma provided good platform for the investors. In order to make better portfolio the investors should consider the thematic indices for their investment. The Indian economy as a whole has grown by leaps and bounds over the past decade. The economics worldwide are integrated with each other more than ever before. An event in a certain country has immediate and long lasting repercussions elsewhere. Hence, it is imperative to study the performance of the Indian Capital Market in the light of changed circumstances to understand, introspect and anticipate the growth trend. The development of financial markets has an important for the growth of economy. The regulators and policy makers should pay attention to the market performance of Indian stock market.

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