PERFORMANCE ANALYSIS OF SELECTED INDICES IN NATIONAL STOCK EXCHANGE

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ABSTRACT

The study entitled "Performance Analysis Of Selected Indices In National Stock Exchange"was carried out with the objective to examine the performance of thematic index in NSE. For the purpose of this study sample indices such as NIFTY 50, NIFTY 100 ESG, NIFTY Energy, NIFTY Shariah and NIFTY 500 Shariah were considered. The daily return data of the selected sample indices for the period from 1st January, 2016 to 31st December, 2020 were taken for the purpose of analysis. The statistical tools such as descriptive statistics, chart, correlation and Mean Return were used in this study to examine the performance of sample indices during the study period. From the result of analysis, it is found that the there was the sample indices have faced ups and downs based on their return and explained the volatile of the indices. Further, it indicated that the selected thematic indices were related with each other. From the findings of this study, it is 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 indices such as Nifty 100 ESG, Nifty 500 Shariah, Nifty 50 Shariah and Nifty energy provided good platform for the investors. In order to make better portfolio the investors should consider the thematic indices for their investment.

Keywords: *Stock Market, Performance, Thematic Index, Investment*

1. INTRODUCTION

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. 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. As Cootner (1964) says that "the prices of securities are typically very sensitive, responsive to all events, both real and imagined". Again a major factor responsible for stock return fluctuations is speculative purchase and sale by foreign institutional investors. Indians financial institutions also play a major role in equity market leading to stock return fluctuations.

2. OBJECTIVES

The main objective of the study is to performance analysis of selected indices in national stock exchange. More specifically, the objectives of the study are as follows.

1. To analyze the importance of NSE thematic indices in the stock market.
2. To calculate the performance of thematic indices in NSE.
3. To estimate the returns of thematic Indices in National Stock Exchange.
4. To measure the relationship between the thematic Indices and NIFTY 50

3. REVIEW OF LITERATURE

Ms.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.J and Velmurugan (2015) Unlike holidays exist in a year that cause 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.

Jenifer wakelym (2018) in his study entitle " a new thematic index to the international journal of infant observation and it applications". This led to the preparation of a thematic index, in preparing the index ,I have aimed to include key topics and stages in observations and to make connections between child development research and psychoanalytic theory. infant and child development research, I the hope that this will assist with cross referencing.

4. RESEARCH METHODOLOGY

Sample Selection

The present study tests the behavior of thematic indices listed in NSE. As on 01st, January 2016 to 31st December 2020, there were 5 index were indexed in NSE thematic indices. Based on its turnover value in the market, it is decided to consider top 5 indices from NSE thematic indices. The details of sample indices and sample companies listed in those sample indices and

value of Turnover.

Sources of Data

The study was mainly based on secondary data i.e, daily returns of NSE thematic 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 websites, books and journals.

The experts in the field of Finance and Stock Market and the officials of companies were contacted by the Researcher. Their views and valuable information helped the Researcher to validate the findings. The consultations with the experts helped the Researcher to fine tune the model formulation. Some of the suggestions offered were based on the interaction with the experts.

5.FINDINGS

(a) 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.

i) Mean

Meanis 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.

The mean is calculated by using the following formula.

$$\text{Mean } (\bar{x}) = \frac{\sum xi}{n}$$

Where,

$\bar{x}$ = represents the mean,

$\sum$ = Symbol of Summation

Xi =Value of the i^{th} item x, i= 1, 2, 3 ….n,

n=total number of items

ii) 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. A large standard deviation means just the opposite. The standard deviation of a random variable *X* is defined as:

$$\sigma = \sqrt{E((X - E(X))^2)} = \sqrt{E(X^2) - (E(X))^2}$$
$$= \sqrt{Var(X)}$$

Where,

$E(X)$ is the expected variable of *X*

$Var(X)$ is the variance of *X*.

Result of Descriptive Statistics for Thematic Indices During The Period From 01st January 2020 To 31st December 2020

	NIFTY 100 ESG	NIFTY 50	NIFTY 500 SHARIAH	NIFTY 50 SHARIAH	NIFTY ENERGY
Mean	0.000748	0.000451	0.001131	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	0.017979	0.020639

Source: Data Collected From www.nseindia.com And Computer Using E-views

The results of descriptive statistics for sample thematic indices during the study period from 01-01-2020 to 31-12-2020. Summary statistics, namely, mean, minimum, maximum, and standard deviation (SD) were used to analyses the sample indices return during the study period.

It is clear from the Table that during the study period, the index of nifty 50 shariah earned high mean value of 0.001227, followed by Nifty 500 shariah with a value of 0.001131. The mean returns of sample indices i.e.nifty 100 ESG (0.000748), nifty energy (0.000451) , nifty 50 (0.000451), during the study period. In terms of market unpredictability, as measured by the standard deviation of daily returns, nifty energythe highest risk value (0.020639), followed by. nifty 50 (0.020158), nifty 100 ECG (0.019408),Nifty 50 shariah (0.017979), and nifty 500 shariah (0.016231). This indicates the fact that high risk useful for speculators but the investorsmay carefully study the market risk and carefully take investment decision of portfolio diversification.

iii) 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. The skewness is calculated as follows.

$$\gamma_1 = \frac{\mu_3}{\sigma^3}$$

Where,

μ_3 is the third movement about the mean

σ is the standard deviation

iv) 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. A negative kurtosis value implies a platykurtic distribution and a positive kurtosis value implies a leptokurtic distribution. The kurtosis is defined as.

$$\gamma_1 = \frac{\mu_4}{\sigma^4}$$

Where,

μ_4 is the fourth movement about the mean

σ is the standard deviation

Result of Normal Distribution for Thematic Indices During The Period From 01st January 2020 To 31st December 2020

	NIFTY 100 ESG	NIFTY 50	NIFTY 500 SHARIAH	NIFTY 50 SHARIAH	NIFTY ENERGY
Skewness	-1.68157	-1.72653	-1.6237	-0.61813	-0.65189
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 Computer Using Eviews

The results of normal distribution for sample thematic indices duringthe study period from 01-01-2020 to 31-12-2020. Skewness, kurtosis and the Jarque- Bera were used to analyse the sample indices return during the study period.

The analysis of skewness shows that values for all sample indices, nifty 100 ESG(-168157), nifty 50 (-1.72653), nifty 500 shariah (-1.6237), nifty 50 shariah (-0.61813) and nifty energy (-0.65189) were negative. It is significant to note from the Table that all sample thematic indices earned values of kurtosis larger than three. Besides, the Jarque-Bera (JB) values of the sample indices implied that all the sample indices were normally distributed.

(b) 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.

Thesign of the coefficient can be positive or negative. It is positive when the slope of the line is positive and it is negative when the slope of the line is negative.

The Coefficient of Correlation (r)

$$r = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{n\sum X^2 - (\sum X)^2}\ \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

Result of Correlation for Thematic Indices During The Period from 01st January 2020 To 31st December 2020

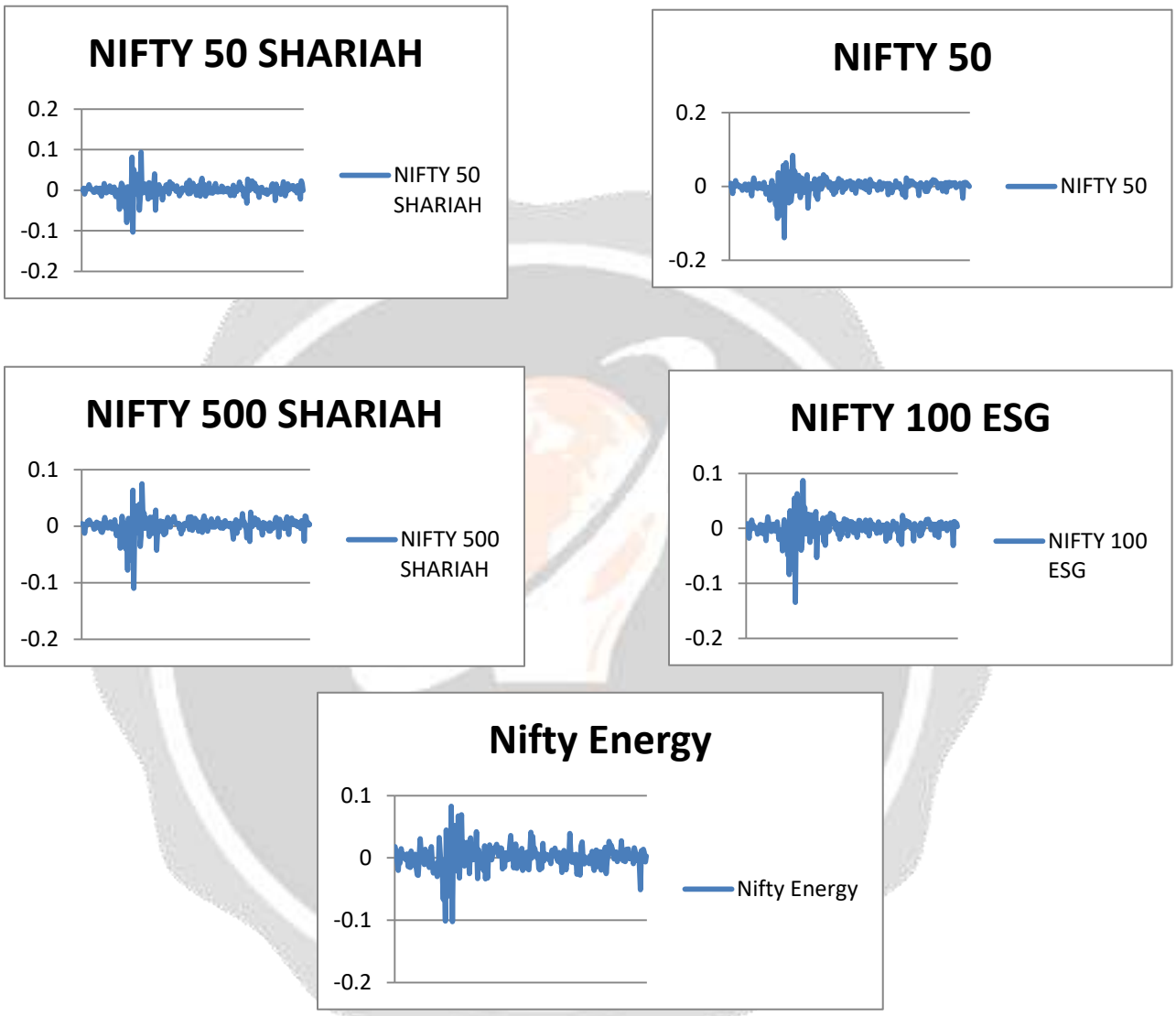
	NIFTY 100 ESG	NIFTY 50	NIFTY 500 SHARIAH	NIFTY 50 SHARIAH	NIFTY ENERGY
NIFTY 100 ESG	1				
NIFTY 50	0.8749	1.0000			
NIFTY 500 SHARIAH	0.8281	0.9165	1.0000		
NIFTY 50 SHARIAH	0.7887	0.8665	0.9736	1.0000	
NIFTY ENERGY	0.7475	0.8646	0.8192	0.7643	1.0000

Source: Data Collected From www.nseindia.com And Computer Using Eviews

The results of correlation among the sample thematic indices in NSE . According to the results of the Table, the values of correlation ranged from 0.8749 (nifty 100 ESG-nifty 50) to 0.8281 (nifty 100 ESG - nifty 500 shariah) , 0.9165 (nifty 50- nifty 500 shariah), 0.7887 (nifty 100 ESG-nifty 50 shariah), 0.8665 (nifty 50- nifty 50 shariah), 0.9736 (nifty 500 shariha-nifty 50 shariah), 0.7475 (nifty 100 ESG-nifty energy),0.8646 (nifty 50- nifty energy),0.6290 (nifty 500 shariah- nifty energy),0.0190 (nifty 50- nifty energy), 0.8192 (nifty 500 shariah- nifty

energy), 0.7643 (nifty 50 shariah- nifty energy). Hence the Null Hypothesis (NH3), there is no co - relation between the thematic Indices was rejected.

Movement of Thematic Indices During The Period
1st January 2020 to 31st December 2020



Source: Data Collected From www.nseindia.com and Computer Using MS Excel

The movements of thematic indices (nifty energy, nifty 50, nifty 500 shariah, nifty 50 shariah, nifty 100 ESG) during the study period from 01st January 2020 to 31st December 2020. It is clear from the Figure that selected indices were fluctuating highly during the above period.

6.SUGGESTIONS

From the findings of this study, it is 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 indices such as Nifty 100 ESG, Nifty 500 Shariah, Nifty 50 Shariah and Nifty energy provided good platform for the investors. In order to make better portfolio the investors should consider the thematic indices for their investment.

7. CONCLUSION

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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