Comparative Study of Index Fluctuation of Indian Stock Market (NSE) Index (Nifty) With World Indices

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Abstract - This study attempts analyze the different world indices with 'National Stock Exchange' (NSE) index (Nifty) of India, in terms of correlation and their relatedness and movements. By using daily data of India market, an effort has been made to investigate the possible volatility and price-discovery relationships between the NIFTY index and other world indices. Further it investigates the volatility impact with chart patterns of Nifty 50. By applying the correlation method and movements by chart patterns, the characteristics and performance of different indices with Nifty is analyzed. The results indicate many indices perform better with respect to Nifty in terms of price movements. Our study provides interesting insights to researchers and investors alike in the context of investment and portfolio construction based on the performance of stock indices of world with respect to India.

Keywords: Nifty, Correlation, Chart pattern, Investment, Portfolio, Indices.

INTRODUCTION

The study pertains to comparative analysis of the Indian Stock Market with respect to various international counterparts. Exchanges are now crossing national boundaries to extend their service areas and this has led to cross-border integration. Also, exchanges have begun to offer cross-border trading to facilitate overseas investment options for investors. This not only increased the appeal of the exchange for investors but also attracts more volume. Exchanges regularly solicit companies outside their home territory and encourage them to list on their exchange and global competition has put pressure on corporations to seek capital outside their home country. The Indian stock market is the world third largest stock market on the basis of investor base and has a collective pool of about 20 million investors. There are over 9,000 companies listed on the stock exchanges of the country. The Bombay Stock Exchange, established in 1875, is the oldest in Asia. National Stock Exchange, a more recent establishment which came into existence in 1992, is the largest and most advanced stock market in India is also the third biggest stock exchange in Asia in terms of transactions. It is among the 5 biggest stock exchanges in the world in terms of transactions volume.

On the global scale, the economic environment started taking paradigm shift with the 'dot com bubble burst', 9/11, and soaring oil prices. The slowdown in the US economy and interest rate tightening made the equation more complex. However after 2000 riding on a robust growth and a maturing economy and relaxed regulations, outside investors- institutional and others got more scope to operate. This opening up of the system led to increased integration with heightened cross-border flow of capital, with India emerging as an investment 'hot spot' resulting in our stock exchanges being impacted by global cues like never before.

Past Studies

Poshakwale, Sunil (2002) examined the random walk hypothesis in the emerging Indian stock market by testing for the nonlinear dependence using a large disaggregated daily data from the Indian stock market. The sample used was 38 actively traded stocks in the BSE National Index. He found that the daily returns from the Indian market do not conform to a random walk. Daily returns from most individual stocks and the equally weighted portfolio exhibit significant non-linear dependence. This is largely consistent with previous research that has shown evidence of non-linear dependence in returns from the stock market indexes and individual stocks in the US and the UK. Noor, Azuddin Yakob, Diana Beal and Delpachitra, Sarath (2006) studied the stock market seasonality in terms of day-of-the-week, month-of-theyear, monthly and holiday effects in ten Asian stock markets, namely, Australia, China, Hong Kong, Japan, India, Indonesia, Malaysia, Singapore, South Korea and Taiwan. He concluded that the existence of seasonality in stock markets and also suggested that this is a global phenomenon.Masih, M.M. Abul and Masih, Rumi (1997) examined the dynamic linkage patterns among national

stock exchange prices of four Asian newly industrializing countries - Taiwan, South Korea, Singapore and Hong Kong. The sample used comprised end-of-the-month closing share price indices of the four NIC stock markets from January 1982 to June 1994. They concluded that the study of these markets are not mutually exclusive of each other and significant shortrun linkages appear to run among them. Lau, S T and Diltz, J.D. (1994) studied the transfer of information among Tokyo and New York stock exchanges. Agarwal, R N (2000) examined the financial integration of capital markets in developing nations gave insight with regards to the methodology and the area of study followed. In a similar study by Bae, K, Cha, B, and Cheung, Y (1999) the researchers tried to show the information transmission mechanism that operates for stocks which are dually listed. This has helped in understanding the channel of transmission of information that makes the exchanges dependant on each other.

A comprehensive study on stock market integration carries a lot of importance in the present day situation when Asian economies are among fastest growing economies in the world. Present research considers a key issue that may interest investors, portfolio managers, corporate executives and policy makers. They are interested in understanding the intensity of stock market integration for diversification motives. Thus, it becomes essential to examine the interdependence between different Asian markets, including S&P CNX Nifty and its relation with other markets.

NEED AND IMPORTANCE.

This project identifies the best index related with Nifty. The purpose is to compare the Nifty with the other world indices and to evaluate the performance of the indices, using correlation and graphical representations. The analysis of the correlation between the indices helps in finding out the best related indices with Nifty. While choosing the indices its better to choose the index which has good correlation with Nifty. Hence the fund managers can easily opt for better indices.

OBJECTIVES OF THE STUDY

- Primary objective:-The primary objective of the study is to identify the correlation between the Nifty with the other World indices
- Secondary Objective

1. Identify which world index is having more relation with the Nifty.

2. Evaluating the performance of the each world index with Nifty through graphical representation.

3. To compare the performance of Indian index with each world indices.

RESEARCH METHODOLOGY

Types of research

Here the type of research used for the study is Ex-post facto research (fact finding)

Data collection Method:

The study is based on secondary data, which covers the recent period using daily closing figure from 01/01/2005 to 31/12/2014. The data consists of the world indices prices and Indian stock market indices (Nifty)

The indices selected for the study

Sl.No	INDICES	COUNTRY
1	NIFTY	INDIA
2	CAC 40	FRANCE
3	DAX 30	GERMAN
4	DJIA	USA
5	FTSE 100	UK
6	HANGSENG	HONGKONG
7	KOSPI	KOREA
8	NASDAQ	USA
9	NIKKEI	JAPAN

Period of the study: 01-01-2005 to 31-12-2014

Research Analysis tools

Statistical Tools

1. Correlation:- Here relationship between Nifty on one side as variable X with other world indices on other side as Y

$$\text{Correlation Coefficient, } r = \frac{n\Sigma(xy) - \Sigma x.\Sigma y}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2].\sqrt{[n\Sigma y^2 - (\Sigma y)^2]}}}$$

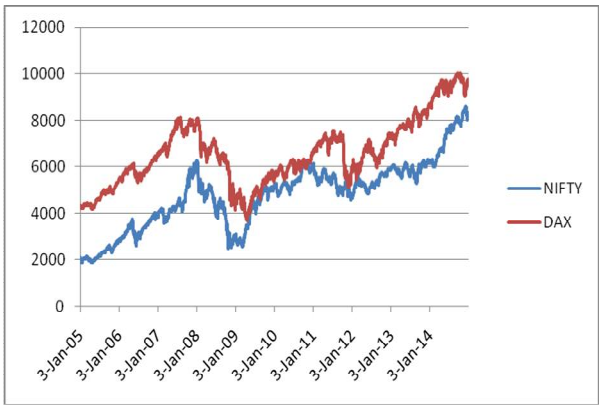
2. Line Chart:- Here relationship between Nifty on one side as variable X with other world indices on other side as Y.

ANALYSIS AND INTERPRETATION

CHART-01 NIFTY v/s CAC

Interpretation: From the chart it is clear that NIFTY and CAC are moving in the same direction throughout the period especially from 2005 to 13.

CHART-02 NIFTY v/s DAX

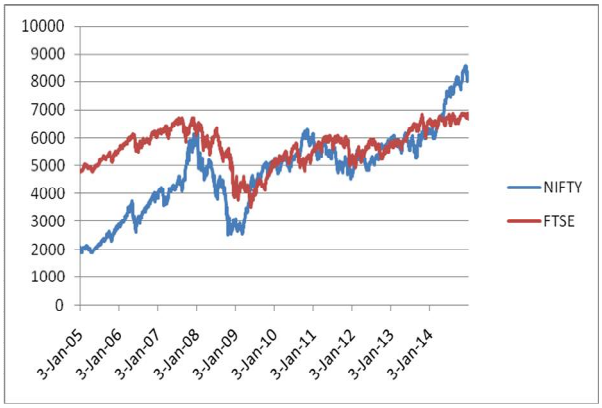


Interpretation: From the chart it is clear that NIFTY and DAX are moving in the same direction in the period 2005-14 except in the period 2011-12

CHART-03 NIFTY v/s DJIA

Interpretation: From the chart it is clear that NIFTY and DJIA are moving in the same direction throughout the period.

CHART-04 NIFTY v/s FTSE

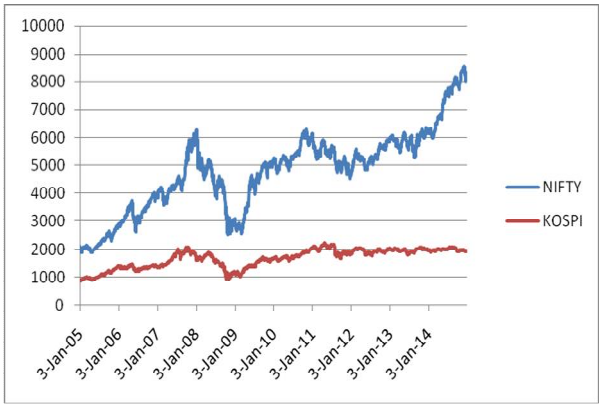


Interpretation: From the chart it is clear that NIFTY and FTSE are moving in the same direction throughout the period especially from 2005 to 13.

CHART-05 NIFTY v/s HANGSENG

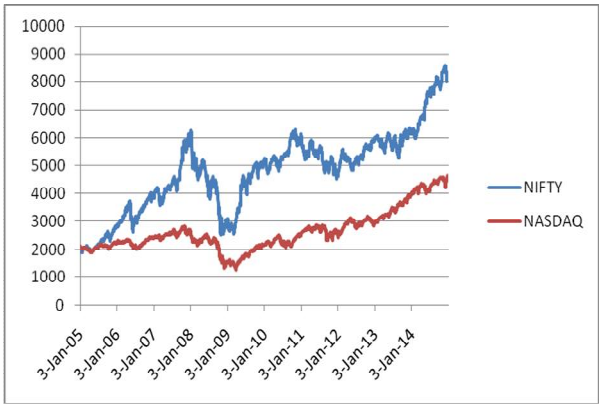
Interpretation: From the chart it is clear that NIFTY and HANGSENG are moving in the same direction throughout the period.

CHART-06 NIFTY v/s KOSPI



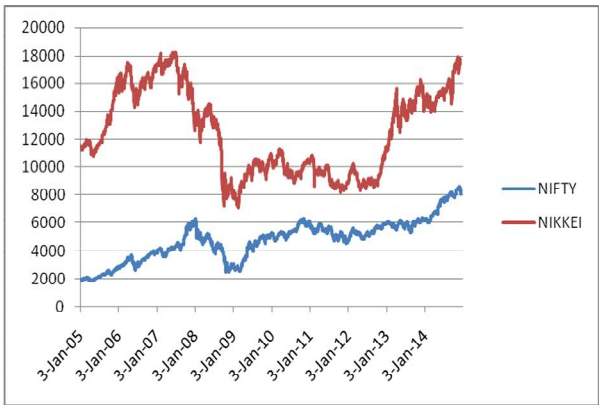
Interpretation: From the chart it is clear that NIFTY and KOSPI are moving in the same direction throughout the period especially from 2005 to 13.

CHART-07 NIFTY v/s NASDAQ



Interpretation: From the chart it is clear that NIFTY and NASDAQ are moving in the same direction throughout the period.

CHART-08 NIFTY v/s NIKKEI



Interpretation: From the chart it is clear that NIFTY and NIKKEI are moving in the same direction throughout the period except in 2006-07.

CORRELATION COEFFICIENT BETWEEN NIFTY WITH OTHER WORLD INDICES			
Sl.No	Variable (X)	Variable (Y)	Correlation Coefficient (r)
1	NIFTY	CAC	-0.1385
2	NIFTY	DAX	0.8231
3	NIFTY	DJIA	0.7172
4	NIFTY	FTSE	0.5231
5	NIFTY	HANGSENG	0.8059
6	NIFTY	KOSPI	0.8851
7	NIFTY	NASDAQ	0.8011
8	NIFTY	NIKKEI	0.0566

Interpretation: From the table it is clear that NIFTY is having highest correlation with KOSPI (0.8851).

CONCLUSION

The study is a continuation of research on the issue of growing interdependency among the stock markets and indices. Interdependency among global stock markets is studied primarily through correlation of returns, It is seen that correlation between Nifty with DAX, DJIA, HANGSENG, KOSPI & NASDAQ are very high. It indicates that the Korean index KOSPI is having very high correlation among these that means they are moving almost in a same pace. It is also observed that CAC of FRANCE is having negative correlation between them that means they are in the opposite direction.

With that of the domestic markets so as to exploit the gains of diversification as well as before policy makers because these growing interdependencies will infuse crisis in the domestic economy from other economies. Therefore, it is hoped that the results of the present paper would be useful for individual and institutional investors for the management of their assets portfolios and policy makers.

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