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Technological Relationship Between Banknifty and Other Selected Sectorial Indices of NSE

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Abstract: ***Financial market of a country signifies the monetary strength of its economy. Smart monetary health of a rustic helps in enhancing the money flows and creates capital, that contributes to the event of the country. Post economic process innovate India he monetary market has entered into a replacement phase of worldwide integration and alleviation with variety of recent and innovative monetary instruments. The objective of the is to find the nature and extent of technical relationship between Nifty Bank on other selected sectorial indices of National Stock Exchange and to examine the risk and return factors of the sectorial indices. The major use of stock market indices are as a forecasting tool. Studying the historical performance of the stock market indices, you can forecast trends in the market. All the sectors of NSE are not considered in this study. Only five sectors other than bank nifty are considered. Six different sectors are compared individually with the Nifty Bank by the tools called correlation and Regression. Correlation and regression between the indices has been used to identify the relationship and extent of impact between Nifty Bank and other selected sectorial indices. From the results and findings of this study, one can understand that there is a significant relationship between Bank Nifty and other selected sectors (Energy, FMCG, IT, Media, Pharma) except Infrastructure. It is showing a poor relationship with Bank Nifty.***

Keywords **: *Banknifty, NSE, BSE, correlation, FMCG.***

I. INTRODUCTION:

Financial market of a country signifies the monetary strength of its economy. Smart monetary health of a rustic helps in enhancing the money flows and creates capital, that contributes to the event of the country. Post economic process innovate India, the monetary market has entered into a replacement phase of worldwide integration and alleviation with variety of recent and innovative monetary instruments. The exchange is unpredictable because the stock costs modification quite oftentimes. within the year 2001, the government of India launched Derivatives that minimize the danger in fluctuation of stock costs. The thought behind asserting derivatives commercialism in Indiawas to own an effect over the fluctuations within the share and goods costs. It conjointly facilitates a rise within the commercialism volume of share market and money flows in India.

A monetary market may be a place that provides an area for investment and helps in enhancing the financial gain in terms of come. The most aim of economic market is to form income withinthe market, so people will take investment call with none concern. Each capitalist would really like to urge the desired rate of come with minimum risk. to achieve the target of high come with minimum risk, varied instruments, practices and methods are devised and developed within the recent past. When privatization and economic process, monetary market has entered into a replacement section of worldwide integration and alleviation. On the one hand integration of the national capital market with international market open the boundaries for investment for everybody, that conjointly helps in increasing the income, on the opposite hand, there has raised in monetary risk because the frequent changes within the interest rates, currency charge per unit and stock costs. To attenuate the danger thanks to the fluctuations in share value there's a demand to renovate and initiate,new monetary instruments, that helps in managing and minimizing the danger up to some level. To handle the matter of unsteady value a replacement instrument within the sort of derivatives immerse, throughout the twentieth century, in India.

Normally performance of banking sector stocks can influence the performance of different sectoral stocks. All the sectoral indices reflects the behavior and performance of various sector's stocks. Correlation between the various sectoral connected with market movement in either direction has been exhausted several previous researches. The study finds that the sectoral correlation is higher within the face movement of market. The study found that there was constant reflection on the costs of 1 sector betting on the data of other sector. Industrial sector is found to be the foremost integrated with the impact on one another thanks flow and also the finance sector might keep alone or indifferent to the sectors information. Analysis on eighty one sectoral indices of the United States market is finished. And had found that there has been massive correlation between the surplus movement within the sectoral indices and there's significance between one another within the movement in an exceedingly single direction. it had been found that there has been lower relation within the sectoral returns within the long-standing time. but there was vital impact of the banking sector on the opposite sector indices come and variance.

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This analysis paper advised that the changes and knowledge of the banking sector might be employed in order to predict the returns of the opposite sectoral indices briefly term. A study is finished to know the performance of sectoral indices with performance of Sensex, and it had been found that there's a high vary of correlational statistics between the Sensex and also the six elect sectoral indices of mad cow disease. a shot was created to know the movement of sectoral returns and their contributions towards the Sensex returns. The study might notice that the Sensex returns might be explained with the assistance of elect sectoral index returns solely and there's vital relationship between the various sectors' contribution to the ultimate Sensex returns.

LITERATURE REVIEW

DR.G.SHANMUGASUNDRAM (2013) examined risk factors in sectoral indices and CNX corking index and conjointly to visualize the chance relationship in several time intervals. The indices selected for the study area unit CNX corking index, CNX motor vehicle index, CNX Bank index, CNXFMCG index, CNX Infrastructure index and CNX data Technology index for the amount from 01/01/2004 to 30/04/2012. The data used for the study has daily closing values of the stock indices covering a amount of eight years. Closing values of the stock indices covering a amount of eight years.

S.Akhila and Mrs. K. Neeraja(2018) thought of 5 sectors of NSE wherever the sector-wise returns and risk area unit calculated and compared with corking fifty. For this, automobile sector, FMCG sector, banking sector, pharmaceutical sector and media sector area unit thought of and quarterly values for five years area unit thought of. For that they calculated variance and Beta values. once it involves the returns, three sectors area unit activity well than the market returns. they're automobile, banking and media sector. They are having higher returns. once it involves variance, all the five sectors area unit having a better risk than market risk. It suggests that the market is activity thus well to attenuate the chance. Beta values area unit wont to analyze the systematic risk and solely two sectors area unit having a lesser risk. they're drug company and FMCG sectors. Once it involves correlation three sectors area unit having correlation worth larger than zero.5 they're automobile, banking and media sectors.

DR.S.RAJAMOHAN (2014) examined the grasp the character and extent of influence by banking sector with alternative sectors throughout the bull and securities industry part. Pearson correlation technique is applied to seek out the character and extent of influence by banking sector with alternative sectors and it had been found that there's a correlation between banking indicant and most of the opposite sectoral stock indices.

R. Chakrapani, P. Kannaiah, G. MallaRedddy (2011) examined the performance of selected indices and importance of sectoral analysis available investment. 2 indices that area unit thought of for this study area unit Bank corking and Infrastructure corking. From the study it determined that the bank corking shows a moderate performance. It started slow however raised to a highest shut of the month thanks to the worldwide impact, and success of assorted banking sectors. The index below has seen several up's and downs.

Dr. Prema Chandran (2016) analyzed the chance and returns of selected sectoral indices. Risk of the indices is measured variance of the returns and by shrewd beta values of the arenaal indices to indicate the sensitivity of the sector returns. the analysis shows that each the chance and also the returns are on the upper aspect for the holding, Metal, Bank, and money services industries. Whereas the smallest amount returns have return from the FMCG, Pharma, IT, Media and motor vehicle sectors with their risks conjointly remaining comparatively lower over the 10 year amount of the study.

II. NEED OF THE STUDY:

Previous studies examined the risk and returns from the selected sectorial indices of NSE. Few studies explained about the performance and also importance of sectorial analysis in stock investment. This study deals with the relationship between Bank Nifty and other selected sectorial indices from the last ten years.

III. OBJECTIVES OF THE STUDY:

1. To find the nature and extent of technical relationship between Nifty Bank on other selected sectorial indices of National Stock Exchange.
2. To examine the risk and return factors of the sectorial indices.

IV. HYPOTHESIS OF STUDY:

Ho : There is no significant impact of bank nifty on other selected sectorial indices of NSE.

H1 : There is significant impact of bank nifty and other sectorial indices of NSE.

V. SCOPE OF THE STUDY:

Traditionally, indices have been used as information sources. By looking at an index we know how the market is faring. This information aspect also figures in myriad applications of stock market indices in economic research. This is particularly valuable when an index reflects highly up to date information (a central issue which is discussed in detail ahead) and the portfolio of an investor contains illiquid securities, in this case, the index is a lead indicator of how the overall portfolio will fare. The benefit of stock market indices is that they provide a yardstick with which investors can compare the performance of their individual stock portfolios. Individual investors with professionally managed portfolios can use the indices to determine how well their managers are doing in managing their money. The major use of stock market indices are as a forecasting tool. Studying the historical performance of the stock market indices, you can forecast trends in the market.

VI. LIMITATIONS:

- All the sectors of NSE are not considered in this study. Only five sectors other than bank nifty are considered.

- There was a time limitation for carrying out analysis of various other indices.

VII. METHODOLOGY

RESEARCH DESIGN:

Six different sectors are compared individually with the Nifty Bank by the tools called correlation and Regression. Secondary data is collected that shows the quarterly prices. Ten years data is collected i.e. from 1st Jan 2008 to 30th April 2018.

SAMPLING DESIGN:

Following sectorial indices are considered for the analysis FMCG, Infrastructure, IT, Media, Pharma, Energy.

DATA COLLECTION:

Secondary data comprises information obtained from reports, files. And some important documents maintained by NSE. Secondary data is collected from NSE India & other websites.

VIII. DATA ANALYSIS:

In order to provide more updated results, this study used quarterly based stock indices covering a period of ten years, from 1st Jan 2008 to 30th April 2018. Correlation and regression between the indices has been used to identify the relationship and extent of impact between Nifty Bank and other selected sectorial indices.

A correlation coefficient is a statistical measure of the degree to which changes to the value of one variable predict change to the value of another. A positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increases as the other decreases.

Correlation between two variables can be known by two methods; Pearson correlation and Spearman's rank correlation. A Pearson correlation is a number between -1 and 1 that indicates the extent to which two variables are linearly related. The Pearson correlation is also known as the "product moment correlation coefficient" (PMCC) or simply "correlation". Spearman's rank correlation is a nonparametric measure of rank correlation (statistical dependence between the rankings of two variables).

Regression is a technique for determining the statistical relationship between two or more variables where a change in a dependent variable is associated with, and depends on, a change in one or more independent variables.

Table1: Comparison between bank nifty and Nifty energy:

Regression Statistics	
Multiple R	0.76967136
R Square	0.592394002
Adjusted R Square	0.581942566
Standard Error	3618.202894
Observations	41

Interpretation:

From the above table, beta value (Risk) of 2.483 indicates that one unit change in bank Nifty index will cause a 2.483 change in energy sector. This shows stock is more volatile compared to Bank Nifty. Alpha value 8.953 of Energy for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 59 percent of the points fall on regression line. This shows the moderate relationship of the Nifty Energy with the Bank Nifty. Correlation coefficient multiple R is 0.76 which shows a uphill leaner linear relationship between Bank Nifty and Nifty Energy.

Table 2: Comparison of Bank Nifty and FMCG Nifty:

Regression Statistics	
Multiple R	0.938804979
R Square	0.881354789
Adjusted R Square	0.878312604
Standard Error	1952.080573
Observations	41

Interpretation:

From the above table, beta value (Risk) of 0.77 indicates that one unit change in bank Nifty index will cause a 0.77 change in FMCG sector. This shows stock is less volatile compared to Bank Nifty. Alpha value 19.85 of FMCG for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 88 percent of the points fall on regression line. This shows the good relationship of the Nifty FMCG with the Bank Nifty. Correlation coefficient multiple R is 0.93 which shows a perfect uphill leaner linear relationship between Bank Nifty and Nifty FMCG.

Comparison of Bank Nifty and Infrastructure Nifty:

Regression Statistics	
Multiple R	0.084750589
R Square	0.007182662
Adjusted R Square	-0.018274193
Standard Error	5646.863761
Observations	41

Interpretation:

From the above table, beta value (Risk) of 0.845 indicates that one unit change in bank Nifty index will cause a 0.845 change in Infrastructure sector. This shows stock is less volatile compared to Bank Nifty. Alpha value 10.66 of Infrastructure for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 0.71 percent of the points fall on regression line. This shows the poor relationship of the Nifty Infrastructure with the Bank Nifty. Correlation coefficient multiple R is 0.084 which shows a poor linear relationship between Bank Nifty and Nifty Infrastructure.

Comparison of Bank Nifty and IT Nifty:

Regression Statistics	
Multiple R	0.898055687
R Square	0.806504017
Adjusted R Square	0.801542581
Standard Error	2492.921543
Observations	41

Interpretation:

From the above table, beta value (Risk) of 1.69 indicates that one unit change in bank Nifty index will cause a 1.69 change in IT sector. This shows stock is more volatile compared to Bank Nifty. Alpha value 22.44 of IT sector for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 80 percent of the points fall on regression line. This shows the good relationship of the Nifty Energy with the Bank Nifty. Correlation coefficient multiple R is 0.89 which shows a good uphill linear relationship between Bank Nifty and Nifty IT.

Table 5: Comparison of Bank Nifty and Media Nifty:

Regression Statistics	
Multiple R	0.915454795
R Square	0.838057482
Adjusted R Square	0.83390511
Standard Error	2280.620781
Observations	41

Interpretation:

From the above table, beta value (Risk) of 7.71 indicates that one unit change in bank Nifty index will cause a 7.71 change in Media sector. This shows stock is much more volatile compared to Bank Nifty. Alpha value 16.20 of Media for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 83 percent of the points fall on regression line. This shows the good relationship of the Nifty Media with the Bank Nifty. Correlation coefficient multiple R is 0.91 which shows a perfect uphill leaner linear relationship between Bank Nifty and Nifty Media.

Table 6: Comparison of Bank Nifty and Pharma Nifty:

Regression Statistics	
Multiple R	0.842557811
R Square	0.709903664
Adjusted R Square	0.702465297
Standard Error	3052.416236
Observations	41

Interpretation:

From the above table, beta value (Risk) of 1.40 indicates that one unit change in bank Nifty index will cause a 1.40 change in Pharma sector. This shows stock is more volatile compared to Bank Nifty. Alpha value 34.45 of Pharma for 10 years period is indicating that overall return and performance of stock is good. The R^2 indicates that 70 percent of the points fall on regression line. This shows the good relationship of the Nifty Pharma with the Bank Nifty. Correlation coefficient multiple R is 0.84 which shows a uphill leaner linear relationship between Bank Nifty and Nifty Pharma.

IX. CONCLUSION

From the results and findings of this study, one can understand that there is a significant relationship between Bank Nifty and other selected sectors (Energy, FMCG, IT, Media, Pharma) except Infrastructure. It is showing a poor relationship with Bank Nifty. And in the case of return factor Pharma, FMCG, IT and Media are performing well and when risk is considered Media is having higher risk rate when compared to that of other sectors. The Beta values also tells that Media is showing more volatility than other sectors.

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Dr Ch. Balaji, Working as an Assistant Professor in K L Business School, K L E F, Vadeswaram had 13 years of teaching in India & Abroad. He authored one book in Management and published 30 research papers in International and national journals. His areas of interest are Finance, Banking & Insurance. He attended and acted as a resources person in various conferences, workshops and guest lectures. He got best teacher award from Vidyasree Foundation in 2006, received outstanding research paper from University of Mumbai in 2017 & best paper presentation award from Acharaya Nagarjuna University in 2017.

Dr.P.Venkata Durga Rao working as an Assistant Professor in K L Business School, K LEF, Vaddeswaram. had 15 years of teaching experience in India and Ethiopia (Foreign). He qualified NET (National Eligibility Test) and awarded UGC-JRF in the year 2011. He awarded M.Phil., in the year 2008 and Ph.D. in the year 2014. He published more than 15 articles in International and National journals. His areas of interest are Accounting and Finance. He presented and participated in various national and international conferences, workshops and guest lectures.

Dr. Y.Chitra Rekha working as Asst.Professor in KL Business School, KLEF vaddeswaram had 14 years of teaching in various institutions. She authored one book in Management and published more than 22 research papers in International and National Journals.Attended more than 22 national and 6 International conferences. Act as a resource person in various colleges and also member of BOS.