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A Study on Comparative Analysis of Risk and Return with Reference to Stocks of Bank Nifty

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ABSTRACT

India is developing country having significant developments in the stock markets. Investments in banking sector will have high risk which cannot be controlled. Such risks affect the overall market and the economy. The study analyzes the risk and return in the banking sector taking bank nifty index as a benchmark. This study compares the performance of 12 banks under the bank nifty index in the NSE. Indian Banking Industry plays a prominent role in economic growth of the country and prevents the economic disasters in the country. Risk is the concept that the probability of getting less returns from the expected returns from the investments. Banking Industry stocks are highly volatile in nature which some of them have high risk proposition. The study evaluates the performance of the banking sector stocks and returns of the stocks and the risk of a stocks prevailing in the market.

KEYWORDS: *Bank nifty, risk, return, Benchmark, volatility, Beta*

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INTRODUCTION

Indian Banking Industry plays a positive role in the growth of the economy and prevents economic disasters of the country. Risk is the concept that the probability of getting less returns from the expected returns from the investments. Equity markets all over the world are volatile in nature but Equity market in India is highly volatile in nature. Risk is a concept of decrease in the stock price due to change in the value of the market risk indicators. Stock value is directly related to market value of the investments. The market value of those investments will fluctuate based on the performance of the issuers and political, economical, tax, market factors.

The role of banks in supporting the economic growth of the country is prominent in nature and has proved to be more volatile than the other diversified equity investments. Banking industry is under the supervision of Reserve Bank of India. RBI uses the banks as a tool for controlling the external problems like supply of money, inflation, interest rates etc. The study evaluates the performance of the banking sector stocks and returns of the stocks and the risk of a stocks prevailing in the market.

Bank Nifty index constitutes 12 large capitalized and liquid stocks of the banking sector traded in the national stock exchange. Bank nifty index provides the investor and market intermediaries a benchmark Index that realize the capital market performance of the Indian banking industry. The 12 banks considered for the study is;

- Axis Bank
- Bank of Baroda
- Federal Bank
- HDFC Bank
- ICICI Bank
- IDFC First Bank
- IndusInd Bank
- Kotak Mahindra Bank
- Punjab National Bank
- Ratnakar Bank Limited
- State Bank of India
- Yes Bank

Need of the study:

The study was conducted to evaluate the performance of the banking industry stocks mainly to identify the return and risk of the particular stocks based on the various risk elements in the market and to analyze the bank nifty movements with reference to stocks of the bank nifty.

Scope of the study:

The scope of the study is limited to 12 banks listed under the bank nifty index in the National Stock Exchange and for the period of one year only i.e.from January 2019 to December 2019.

Objectives of the study:

- To compare the performance of banks with their bank nifty index.
- To analyze the risk and return of the 12 banks listed in Bank Nifty index.
- To study volatility of banks in comparison with the market.

Research methodology:

The study is based on the secondary data collected from the internet, books, www.nseindia.com.

Limitations of the study;

The present study is limited to 12 bank stocks from the bank nifty index.

The study includes data of one year only i.e. January 2019 to December 2019.

Measurements:

1. The rate of return on any stock is calculated as,

$$r_t = \frac{p_t - p_{t-1}}{P_{t-1}}$$

Whereas;
r_t = Rate of return at t time.
P_t = Asset price at 't' time.
P_{t-1}= Asset price at 't-1' time.

2. Beta is calculated by using slope function in the MS-excel. The slope function returns the slope of the regression line based on the stock returns of the banks and the index returns.

Formula:
= SLOPE (stock returns, index returns)

3. Correlation analysis is done by using Pearson's correlation. The formula is

$$r = \frac{(n(\sum xy)-(\sum x)(\sum y))}{\sqrt{([n\sum x2-(\sum x)2]\ [n\sum y2-(\sum y)2])}}$$

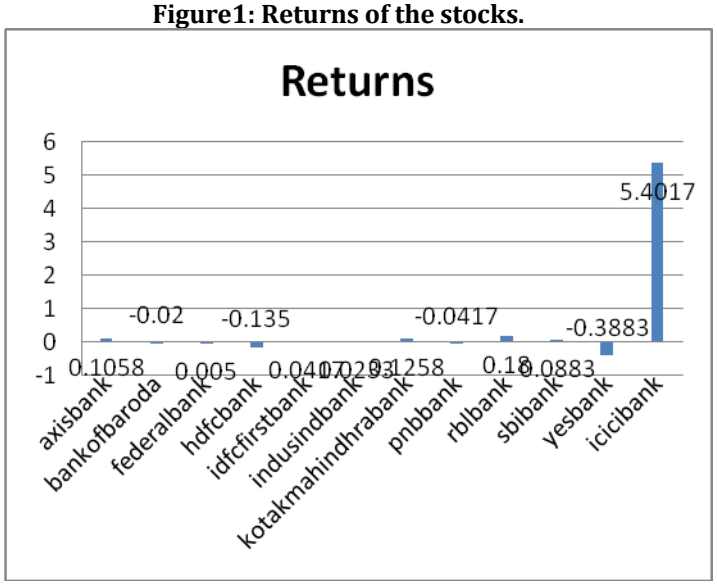
Where;
x = returns of individual stocks.
y = returns of the bank nifty index.

Data Analysis and Interpretation:

Table 1: Showing mean, std. deviation of 12 banks.

Banks	Mean	Standard deviation
Axis bank	0.1058	0.37198
Bank of Baroda	-0.0200	0.60254
Federal Bank	0.0050	0.46623
HDFC Bank	-0.1350	0.65763
IDFC First Bank	0.0417	0.48189
Indusind Bank	0.0233	0.49844
Kotak Mahindra Bank	0.1258	0.31474
PNB Bank	-0.0417	0.54808
RBL Bank	0.1800	0.66706
SBI Bank	0.0883	0.28126
Yes Bank	-0.3883	1.61154
ICICI Bank	5.4017	16.46713

Figure1: Returns of the stocks.



The above descriptive statistics shows the returns and standard deviation of individual banks. Among all, ICICI bank is highly risky due to high standard deviation.

Compared to all, ICICI Bank has earned handsome returns in the market comparing with the risk.

Hypothesis 1:

Ho= There is no significant relationship between the bank returns with their index returns. i.e. correlation is equal to zero.

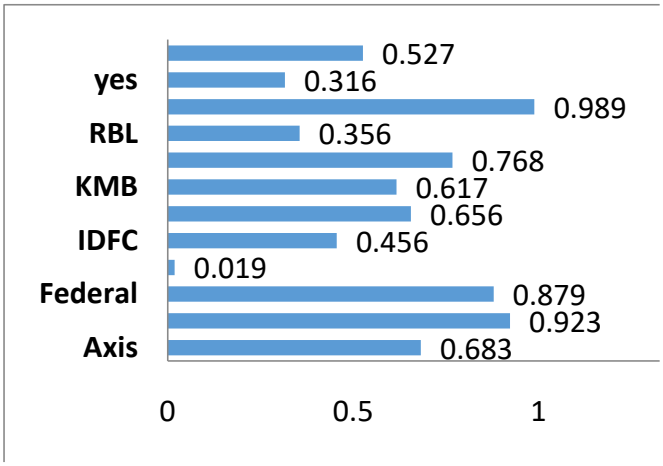
H1= There is significant relationship between the bank returns with their index returns. i.e. correlation is not equal to zero.

Correlation analysis is a technique used to find out the relationship between individual bank stocks and the bank nifty index. The Pearson correlation is done in the SPPS software. The bivariate correlation is done in SPSS and the output is show below;

Table 2: showing the correlation of the stocks.

Banks	Correlation
Axis bank	0.683
Bank of Baroda	0.923
Federal Bank	0.879
HDFC Bank	0.019
IDFC First Bank	0.456
Indusind Bank	0.656
Kotak Mahindra Bank	0.617
PNB Bank	0.768
RBL Bank	0.356
SBI Bank	0.989
Yes Bank	0.316
ICICI Bank	0.527

Figure 2: correlation of the stocks.



The above analysis shows that most of the individual banks are moderately correlated with the bank nifty index. Among all, SBI is highly correlated with the coefficient value of 0.989. And HDFC Bank shows very less correlation with 0.019.

Since the correlation exists between the individual banks with their bank index, the null hypothesis is rejected and alternative hypothesis is accepted.

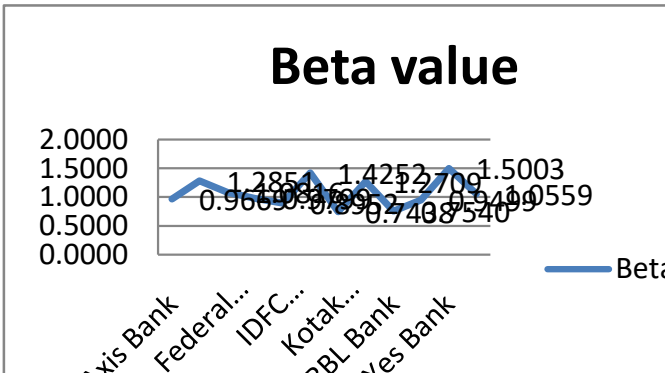
Hypothesis 2:
Ho= The Beta value of the individual banks is equal to zero.
H1= The Beta value of the individual banks is not equal to zero.

Beta Calculations shows the relationship between the individual stock returns and the index returns. It is used to study the volatility of the stocks i.e. the movement of stocks.

Table 3: showing the beta value of the stocks.

Banks	Beta value
Axis bank	0.9669
Bank of Baroda	1.2851
Federal Bank	1.0816
HDFC Bank	0.9799
IDFC First Bank	0.8952
Indusind Bank	1.4252
Kotak Mahindra Bank	0.7438
PNB Bank	1.2709
RBL Bank	0.7540
SBI Bank	0.9499
Yes Bank	1.5003
ICICI Bank	1.0559

Figure 3: Beta value of the stocks.



The above analysis shows the volatility of banks with the market. Compared to all, yes bank is highly volatile with 1.5003 and Kotak Mahindra Bank is less volatile with 0.7438. Since the Beta value of individual banks is not equal to zero, Null Hypothesis is rejected and Alternative Hypothesis is accepted.

Overall comparison table:

Company	Beta	Mean	S.D.	Correlation
Axis Bank	0.9669	0.1058	0.3719	0.683
Bank of Baroda	1.2851	-0.020	0.6025	0.923
Federal Bank	1.0816	0.0050	0.4662	0.879
HDFC Bank	0.9799	-0.135	0.6576	0.019
IDFC First Bank	0.8952	0.0417	0.4819	0.456
IndusInd Bank	1.4252	0.0233	0.4984	0.656
Kotak Mahindra	0.7438	0.1258	0.3147	0.617
PNB	1.2709	-0.042	0.5481	0.768
RBL	0.7540	0.1800	0.6671	0.356
SBI	0.9499	0.0883	0.28126	0.989
Yes Bank	1.5003	-0.388	1.6115	0.316
ICICI Bank	1.0559	5.4017	16.467	0.527

Overall interpretation & Findings:
All the banks have a positive beta values according to which the stocks values move as per the movement of the market index.

The stocks of Kotak Mahindra Bank, RBL Bank, IDFC First Bank are less volatile in nature. This is mainly because their beta values are comparatively lesser than the markets beta value.

The stocks of Axis Bank, HDFC Bank, SBI Bank are moderately volatile in nature. This is because their values are comparatively closer to the market beta value.

The stocks of Bank of Baroda, IndusInd bank, PNB Bank, Yes Bank, Federal Bank, ICICI Bank have high volatility. This is because of the fact that their beta values are more than the market beta values.

All the stocks have earned positive returns except Bank of Baroda, HDFC Bank, Yes Bank and PNB Bank.

The less volatile stocks have earned proportional returns.

The high volatile stocks have negative returns except Indusind bank, Federal bank, ICICI bank.

The moderate volatile stocks have earned positive returns except HDFC Bank.

Suggestions:
If the investor wants to invest in the stocks with lower risk and positive returns, he is suggested to invest in those securities whose Beta is less than +1.00. Stocks having a Beta of less than +1.00 would be considered as more conservative investments.

From the study it is suggested that investment in Axis Bank, IDFC First Bank, IndusindBank, Kotak Mahindra Bank, RBL Bank, SBI Bank, ICICI Bank would be feasible because they have positive returns compared to others who have negative returns.

Conclusion:

Stock market is highly volatile in nature which is based upon the investor's usage of the market to get original investment and returns. The investor should analyze the available investment options and thus minimize the risk and maximize the returns. Beta is a technique use to compare the risk of various stocks. In general sense the higher the risk the higher the returns. The investor should compare the stocks with reference to risk and return prospective.

From the calculations, The investors should continuous monitor the markets to pick the right stocks to invest their funds.

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