"Risk Return Analysis - A Study of Some Select Private Sector Banks in India"

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Abstract: *Stock exchange is a place where securities are traded. Stock market is volatile in nature because of various factors uh as economic, industry and company factors impacting the performance of companies that leads to variations in share prices of stocks. Generally, investors are hesitating to invest in equity stocks specifically compared to other financial instruments because of high uncertainty regarding the future performance of stocks. There are various approaches to analyse the securities such as fundamental analysis, technical analysis or combination of both. Hence it is becomes absolute necessary for investors to analyse the securities before investing in capital market. In this direction, this study is an attempt to analyse the securities by calculating risk return ofsome select banking stocks during 1st January 2014 to 31st December 2018. The results show that ICICI, Axis, Kotak Mahindra and Yes Bank are significant towards the sensex return except HDFC Bank.*

Key words: *Risk, Return, Stock market, Investment, Capital market, Sensex.*

Introduction: Stock exchange plays a significant role in enhancing the growth of the economy by providing a platform to the companies to raise money and expand their business as well as to investors (individual or institutional) to invest their savings into various investment avenues with an objective of wealth maximization. Stock exchange is the backbone to a modern nation's economic infrastructure in building the strong financial system by channelizing the savings into investment activity by transferring the financial resources from surplus spending units to deficit spending units. Robert G. King, Ross Levine (1994) says that there is strong correlation between the investment rate and the growth rate in the international cross section. Stock exchange is a place where securities are traded in the stock market. Stock market is volatile in nature by various economic, industry and company factors. Investing in stock market is a challenging task to investors because of the uncertainty regarding the future performance of companies. So it is pre requisite to analyse the securities before investing in stock market. There are various approaches to analyse the securities are fundamental or technical analysis. Fundamental analysis is to find the intrinsic or true worth of a security by analysing the economic, industry and company factors and then compare the

intrinsic value with current market price to determine underpriced and overpriced securities to make better investment decisions. Whereas the technical analysis is used to forecast the future share prices by observing the movement of share prices (trend) by using various indicators.In this study a simple analysis is made by calculating risk, return and standard deviation of banking stocks and also to see the relationship of each stock return towards the sensex return to make rational decisions in stock market.

Literature review

Dr. M. Muthu Gopalakrishnan & Amal Vijay A K (2017) has carried the research paper with an objective to analyse the risk and return characteristics of selected companies in pharmaceutical industry during the period 2012 to 2017 from national stock exchange. He recommended that the Divi's laboratories ltd is the favorable choice for potential investors one which gives higher return with the low market risk compared to other companies in pharmaceutical industry. Dr.Pramod Kumar Patjoshi (2016) has documented his research paper by analysed the risk return relationship of sensex and banking stocks during 2001 to 2015 from Bombay stock exchange by using correlation, regression t-test and descriptive statistics. The study found that from the results of regression analysis the stock returns are insignificant towards the sensex return except Axis Bank and all other tests shown the bank stock returns are insignificant towards the sensex returns. Dr. S. Krishnaprabha, Mr.M.Vijayakumar (2015) analysed the risk return comparative study of four sectors like Banking, Information Technology, Pharmaceutical and Fast moving consumer goods during 2010 to 2014. Finally concluded that the majority of stocks from pharmaceutical, FMCG and IT sectors offered more return than the Banking and Automobile industry.Dr. S. Gautami, Dr. Nalla Bala Kalyan (2018) documented her research paper with an objective to see the fluctuation of share prices and to compare the risk return of Bharati Airtel, Dabur India Panyam and Asian Paint.

Objectives

- To analyse securities by calculating the risk, return, standard deviation and Beta of select stocks from banking industry.
- To know the positions of banks through return per standard deviation and return per volatility
- To analyse and interpret the relationship between the return of select stocks towards the market index returns by using correlation and regression analysis.

Research Methodology

- **Data Sources :** Secondary data is used for the study like the research papers, publications, text books and closing prices of stocks is collected from the website of Bombay stock exchange.
- **Sample:**The topperformance of five private banks has chosen for the study that is HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank and YES Bank. The data collected for the period of five years from 1st January 2014 to 31st December 2018.
- **Statistics Used:** Average, Mean, Standard deviation,Beta, Correlation and Regression analysis.
- **Methodology**

  a) **Return:**Return is calculated by the current closing prices minus yesterday closing prices divided by yesterday closing prices of stocks. The return is calculated by considering daily closing prices for four years from 1st January 2014 to 31st December 2018. The formula is given by

  $$R = (P1/ P0) – 1$$

  Where,

  P_1 = Current closing price of stock

  P_0 = Previous closing price of stock

  b) **Standard Deviation:** Standard deviation is a statistical toll which measures the dispersion of observations relative to its mean and is calculated as the square root of variance and the formula is given by

  $$\sigma = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n}}$$

  Where,

  σ= Standard deviation

  $\bar{x}$ = Mean values of the independent variable

  x = The values of the independent variable

  c) **Beta:** Beta is the statistical tool which measures the sensitivity of stocks return towards the index return. Beta is calculated by the following formula.

  Beta coefficient(β)=Variance (R_m)/Covariance (R_i,R_m)

Where,

R_i= Return of individual stock

R_m= Return of market index return

d) Correlation analysis: Correlation analysis is a statistical method which evaluates the strength or relationship between the two variables. If the correlation value is positive denotes the one variable increases the other variable is also increases. If the correlation value is negative indicates the two variables are moving in opposite direction

e) Regression analysis: The regression equation is the algebraic expression of the regression lines is used to forecast the values of dependent variables towards the independent variables. There are two regression equations are

Regression equation 1: (y - Dependent variable, x - Independent variable)

$$\mathbf{y = a + b\,x}$$

Regression equation 2: (x - Dependent variable, y – Independent Variable)

$$\mathbf{x = a + b\,y}$$

I. Calculation of Mean Return, Standard Deviation and Beta of Banking Sector

Table 1: Showing Mean Return, Standard Deviation and Beta

	Mean Return	SD	Beta
HDFC Bank	-0.088693314	1.043606796	0.020309819
ICICI Bank	-0.006320824	3.003653565	1.517446774
Axis Bank	0.024190079	2.965194185	1.394699598
Kotak Mahindra Bank	0.071950874	2.077069184	1.043623741
Yes Bank	0.036246975	3.30476383	1.461914505

Chart 1.1 :Showing Mean Return of HDFC, ICICI, AXIS, KOTAK and YES BANK

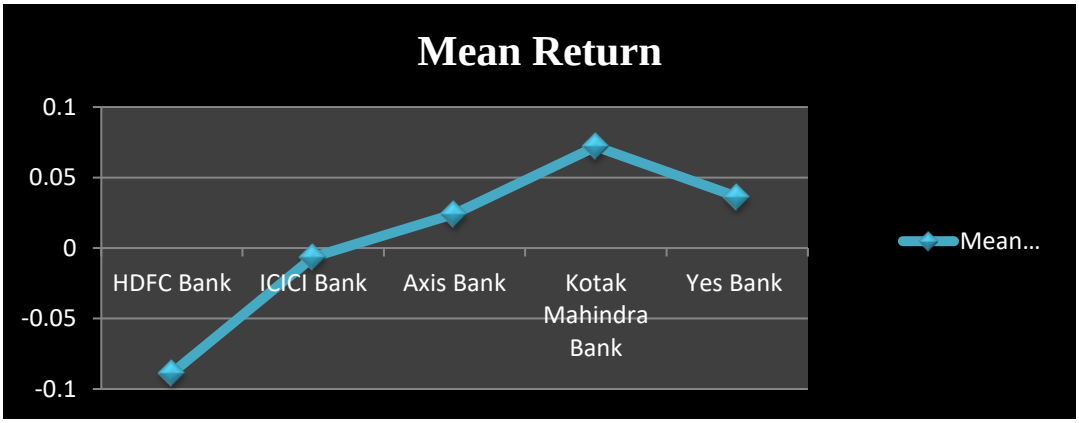


Chart 1.2 : Showing SD of HDFC, ICICI, AXIS, KOTAK and YES BANK

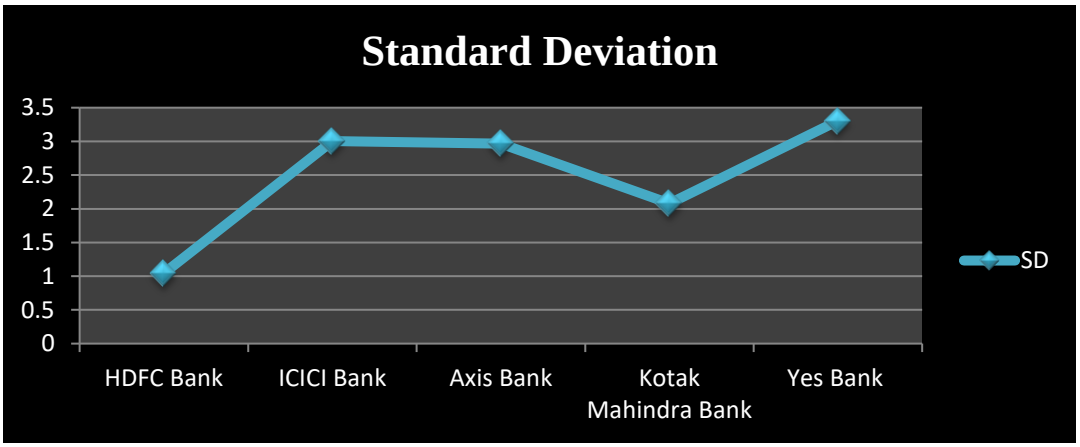
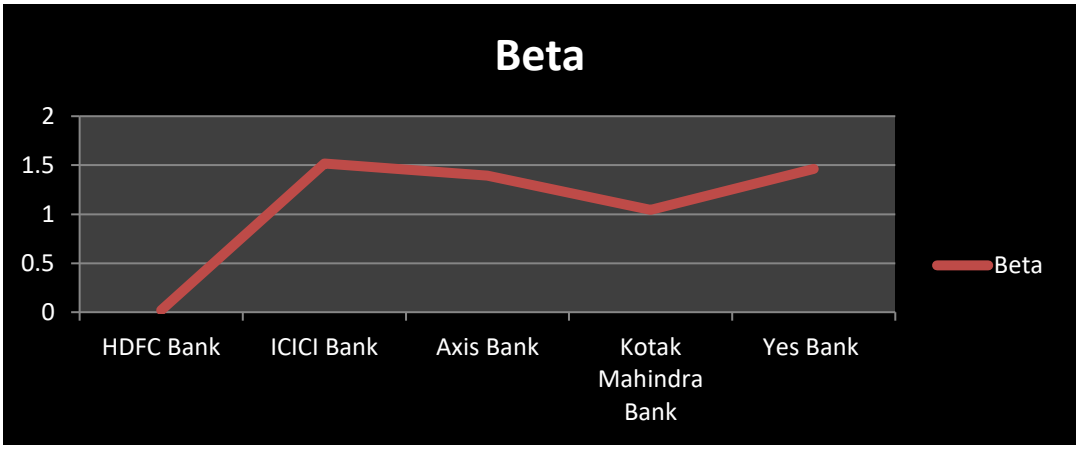


Chart 1.3: Showing Beta of HDFC, ICICI, AXIS, KOTAK and YES BANK



Analysis: From the above table shows that the Axis, Kotak Mahindra and Yes bank show positive mean return except HDFC and ICICI Bank. Higher the value of beta, higher the volatility.The ICICI Bank stocks are more volatile followed by Yes Bank and Kotak Mahindra bank compared to other bank. Kotak Mahindra bank is less volatile and offers good return is suggested to potential investors to invest in compared to Axis and Yes Bank.

II. Return per Standard deviation and Volatility of Private Banking sector

Table 2.1: Return per Standard Deviation for five Private Banking Sector

Banks	HDFC	ICICI	AXIS	KOTAK MAHINDRA	YES
Return per SD	-0.084	-0.002	0.0081	0.034	0.0109
Rank	5	4	3	1	2

Analysis: Table 2.1 shows that the return per standard deviation of daily stock returns and the ranks of five banking sectors. Axis, Kotak and Yes bank offers positive return except HDFC

and ICICI Bank. Kotak stood at first place in offering better return followed by Yes and Axis Bank.

Table2.2: Return per Volatility for five Private Banking Sector

Banks	HDFC	ICICI	AXIS	KOTAK MAHINDRA	YES
Return per Volatility	-4.364	-0.0041	0.0172	0.068	0.024
Rank	5	4	3	1	2

Analysis: As per table 2.2 indicates the returns of daily stock returns per volatility of five banking stocks. In this case, Kotak Mahindra bank offers better return compared to Axis and Yes Bank. The other two banks show negative returns. It is recommended to potential investors to give first preference to Kotak Mahindra Bank followed by Yes and Axis Bank to choose as investment option.

III. Correlation and Regression analysis of Five Private Banking Returns towards Market Index Return (Sensex)

Table 3: Correlation analysis

	SENSEX	HDFC Bank	ICICI Bank	AXIS Bank	Kotak Mahindra Bank	YES Bank
SENSEX	1					
HDFC Bank	0.016273	1				
ICICI Bank	0.422434	0.01488596	1			
AXIS Bank	0.393299	-0.074715042	0.254072052	1		
KOTAK Mahindra Bank	0.420134	-0.008279278	0.129136171	0.171833	1	
YES Bank	0.369894	-0.014313116	0.170338713	0.212355	0.229696028	1

Analysis: Table 3 clearly indicates that the ICICI Bank returns are strongly correlated towards the sensex returns followed by Kotak Mahindra, Axis Bank and Yes Bank. The HDFC Bank shows weak relationship towards the sensex returns compared to other Banks.

Table 4: Regression analysis

Regression Statistics	Values
Multiple R	0.642843897
R Square	0.413248276
Adjusted R Square	0.410855324
Standard Error	0.641809556
Observations	1232

ANOVA	df	SS	MS	F	Significance F
Regression	5	355.6800475	71.13601	172.694	3.5256E-139
Residual	1226	505.0133142	0.41192		
Total	1231	860.6933617			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	0.037800342	0.018362143	2.058602	0.039743	0.001775639
HDFC	0.027501629	0.017588401	1.563623	0.118164	-0.007005068
ICICI	0.081003654	0.00636318	12.73006	5.9E-35	0.068519727
AXIS	0.064166086	0.00654245	9.807653	6.51E-22	0.051330447
KOTAK MAHINDRA	0.119487986	0.009146101	13.06436	1.3E-36	0.101544243
YES	0.051698013	0.005815977	8.888964	2.16E-18	0.040287643

Analysis: Table 4 shows the results of regression analysis of the relationship between the sensex return and the stocks of banking sectors. The significance value from the output of regression value is less than the 0.05 that indicates it is significant in case of ICICI, Axis, Kotak Mahindra and Yes Bank except HDFC Bank. That means ICICI, Axis, Kotak Mahindra and Yes bank returns is positive significance towards the sensex returns except HDFC bank because its significance value is greater than the 0.05, hence it is not significant towards the sensex returns.

Conclusion:

This study made an attempt to analyse the securities through risk, return, standard deviation and beta of five banking stocks and results from the table shows that the volatility of Kotak Mahindra bank is less and offers good return compared to all other banks, whereas the HDFC bank is less volatile but it offers negative returns. As per Return per Standard or return per volatility gives same result Kotak Mahindra Bank stood at first place followed by Yes and Axis Bank in terms of return per standard deviation or volatility return is high. Correlation analysis shows all variables are decently correlated towards the sensex return except HDFC Bank. From the results of regression analysis denotes ICICI, Axis, Kotak Mahindra and Yes Bank are significant towards the sensex returns except HDFC Bank.

References

- *Dr. M. Muthu Gopalakrishnan & Amal Vijay A K (2017) "A Study on Risk Return Analysis of Pharmaceutical Industries in Indian Stock Market" Imperial Journal of Interdisciplinary Research (IJIR) Vol-3, Issue-5, 2017 ISSN: 2454-1362, http://www.onlinejournal.in*
- *Dr. Pramod Kumar Patjoshi (2016) "Comparative Risk Return Analysis of Bombay Stock Market with Selected Banking Stocks in India" IRA-International Journal of Management & Social Sciences ISSN 2455-2267; Vol.04, Issue 01 Institute of Research Advances, http://research-advances.org/index.php/RAJMSS.*
- *Dr. S. Krishnaprabha, Mr.M.Vijayakumar (2015) "A Study on Risk and Return Analysis of Selected Stocks in India" International Journal of scientific research and management (IJSRM) ||Volume||3||Issue||4||Pages||2550-2554.*
- *G. Sudarsana Reddy & P. Sadananda (2013) "Analysis Of Select FMCG Companies' Stock Performance with Market" ELK ASIA PACIFIC JOURNAL OF FINANCE AND RISK MANAGEMENT ISSN 0976-7185 (Print) ISSN 2349-2325 (Online) Volume 4 Issue 1.*
- *Dr. S. Gautami, Dr. Nalla Bala Kalyan (2018) "A Comparative Study on Risk & Return Analysis of Selected Stocks in India" International Journal of Management and Economics Invention, ISSN: 2395-7220, DOI:10.31142/ijmei/v4i5.03, Volume: 04 Issue: 05 May, 2018.*
- *Robert G. King, Ross Levine (1994) "Capital fundamentalism, economic development, and economic growth" The World Bank Policy Research Department Finance and Private Sector Development Division, Policy Research Working paper 1285*

Books

- *Fischer E, Donald, Jordon J, Ronald, (2006) Security analysis and portfolio management, Pearson education inc., New Delhi, pp.522- 549.*
- *S. Kevin (2013) " Portfolio Management" PHI learning private ltd, Second edition, ISBN – 978-81-203-2959-1.*

Websites

- *www.bseindia.com*
- *www.investopedia.com*