A COMPARATIVE STUDY ON AXIS AND KOTAK MAHINDRA BANKS
(WITH REFERENCE TO BSE PRIVATE BANK INDEX)

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ABSTRACT

The Bombay Stock Exchange is considered to be one of the Asia's fastest stock exchange and it's located at Mumbai, India and Established in 1875. As on 2021 Axis and Kotak Mahindra Bank are the third largest Private Banks in India. It offers financial services to customer segments covering large and mid-sized corporate, Micro, Small & Medium Enterprises (MSME), Agriculture etc. The Secondary data has been sourced from BSE official web address for the period of April 2021 to May 2022.The study attempts to estimate the trends of stock price of Private Banks at BSE Index and analysed their Risk and Return level. The study also compares the stock performance of the Axis and Kotak Mahindra Banks that help individual investment decision. Every investor's tries to seek less risk with higher return. Risk & Return always go hand in hand. As stock market fluctuates the concern of all the investors to get a more return and bear the more risk. The study used different statistical tools & techniques like Mean, Beta, Alpha, and Standard Deviation and also applies analysis using Sharpe and Treynor's ratio is to understand and choose the suitable Banks for the investment decisions. In turn performance analysis of stock helps the investors to predict the future its performance at stock market.

KEYWORDS: Mean, Risk, Alpha, Beta, Sharpe, and Treynor's.

I.INTRODUCTION

The present study focuses on Bombay Stock Exchange of a nation acting as an Exchange platform providing trading services for stock brokers and traders on issue of securities dividends payments, pooled investments etc. Stock exchange have a become a vital sources of mobilization of funds in economics balance the returns and investment and also known as "Barometer of an Economy".

The Risk and Return were relevant to investment decisions among investors. After the liberalization in India various reforms have witnessed stock market actions. An index is important to measure the performance of investment against a relevant market index. Bank stocks are normally used to provide information about stock price movements of the Private

Banks. The Return and the Risk of the Private Banks are compared and analysed over a 14 months period to examine their stability. It analyses the return and performance of Private Banks stock using Beta, Alpha, Sharpe, Treynor's ratio. Hence the investors can make use of these details for their investment decision and helps to diversify the portfolio so they can earn a high rate of return and reduce the risk factor and create an opportunity to invest and take better return on their investment. Hence the study tries to protect the investor's interest on Private Banks and their investment decision.

II. STATEMENT OF THE PROBLEM

Analytical necessity to under the competency among the banks. As per investors point of view. This study tremendously protects their interests on private Bank stocks of India, based on extensive review of literature. There were fewer studies found on Private Banks at BSE index.

This research aims at finding out the risk and expected return Private Banks index with the help of historical prices of latest 14 months data with the assistance of normal standard deviation associate degree capitalist will analyses that which bank is riskier compared to alternative Banks. It provides knowledge and make investors to invest in BSE stocks and create an opportunity to invest and take better return on their investment so it will attract service and business class investors and help in investment decisions

III. NEED FOR THE STUDY

The present study attempts to focuses on stock performance exclusively on Axis & Kotak Mahindra BSE Private Banks Index. The investors can make use of these details for their investment decision. It will help to diversify the portfolio so has earn high rate of return and reducing the risk factor. Axis bank limited is the third largest private sector bank in India. It offer financial services to customer segments covering Large and Mid-Sized Corporate ,MSME, Agriculture.Kotak Mahindra bank is the largest Indian private sector bank by market capitalization headquarted in Mumbai,Maharashtra.

IV. OBJECTIVE OF THE STUDY

- To analyses the Return of Kotak Mahindra & Axis bank Stock at BSE Private Bank Index.
- To determine Systematic (β) & Unsystematic (α) Risk of selected Private Banks.
- To examine the performance of Kotak Mahindra & Axis bank Stock at BSE Private

Banks using Sharpe ratio.

- To investigate the potential performance of Kotak Mahindra & Axis bank Stock at BSE Private Banks using Treynor's ratio.

V. REVIEW OF LITERATURE

S. Baranidharan (2020), the study used to explore the mathematical tools such as descriptive statistics, correlation, Granger causality tests and VECM. The selected major economically variables were still partially distributed and risk was significantly higher than the return during the period.VECM pointed out that the BSE Sensex volatility movement in the study was linked to a previous gap since the long term equity outflow. This clarifies the short term relationship between the selected series during the study period and the selected macroeconomics variables did not significantly affect BSE Sensex recovery.

Jasminder kaur (2020), the researcher tried to conducting the number of listing applications to sustainability sectoral indices to signal companies' environmentally responsible posture has increased as stockholders' scrutiny of environmental management has grown. Whereas listing denotes a risky attitude toward the protection and restoration of the environment while achieving profit growth, delisting denotes a risky attitude toward the protection and restoration of the Environment while achieving profit growth. The market reaction to BSE Greene and CarboneEx.

Timcy Sachdeva (2020), the study explored stock market is critical to the development of the economy and the robust construction of the financial system in many sectors of the economy. The stock market has recently undergone a dramatic increase in volatility, causing turmoil in the financial sector and across many asset classes in global economies. In comparison to other international economies, India has a strong financial system. The influence of small cap and mid cap returns on the BSE Sensex returns from 2013 to 2018 is examined in this article. The study's findings imply that mid-cap and small-cap returns are important in today's capital market. Mid-cap equities in the BSE are less hazardous than small-cap stocks.

Manisha Luther (2014), the study explored based on secondary data it's descriptive in nature, they analyzed the tool used in this report Multiples regression. The goal of this article is to investigate the impact of macro-economic factors on the BSE banker.GDP growth rate, inflations, gold price and exchange rate make up the macroeconomic climate

of this country. Exchange rate, inflation and GDP growth rate all have positive impact on the banking index, whilst gold prices have negative impact on the BSE banks.

VI. LIMITATIONS

- The data for the research is collected monthly for a period of 14 months period
- The study is restricted only Axis and Kotak Mahindra Bank at BSE Private Bank.
- The study only applies Treynor's & Sharpe ratio to understand the stock performance and its volatility.

VII. TYPE OF RESEARCH

The present study is Descriptive and Analytical in nature. The study research aims to accurately and systematically describe a situation or event.The Analytical research is a type of research that involves examination of facts and information on research.The stock closing prices were retrieved from Kotak Mahindra & Axis banks Stock at BSE Private Banks from BSE India.com.

VIII. SCOPE OF THE STUDY

The present study is highly suitable for testing stock market, irrespective of companies or Banks or any other sector. The study forecast the upcoming performance based on past performance. The present study conducted to highlight the best performance and having high return with lower risk. It provides knowledge and make investors to invest in Private Banks and create an opportunity to invest and take better return on their investment so it will attract services based and business based investors and help their investment decisions.

IX. SOURCE OF DATA COLLECTION

- **PRIMARY DATA:-**The present study has fewer dependency on primary data collection.
- **SECONDARY DATA:-**In this study of Kotak Mahindra & Axis bank Stock at BSE Private Banks Index were collected. The data has been collected from the banks and official websites www.bseindia.com, www.axisbank.com www.kotak mahindrabank.com.

X. STATISTICAL TOOLS AND TECHNIQUES

- Average return (Mean)

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- Standard Deviation

- Beta(β)

- Alpha

- Sharpe's ratio

- Treynor's ratio

XI. OPERATIONAL DEFINITION AND FORMULA'S

1. PORTFOLIO PERFORMANCE:-Performance appraisal is one of the most important areas of investment analysis. Performance results used to assess the quality of the investment process and suggest changes that may improve it.

2. AVERAGE RETURN:-The gain or loss of a security in a particular period. The return consists of the income and the captial gains relative on an investment. It's is usually quoted as a percentage.

Average return = (Closing Price-Opening price)/Opening price*100

3. STANDARD DEVIATION: - Standard deviation is one of the most used statistical tools for measuring the volatility of the stock and yes if the stock is more volatile carries the higher risk.Higher the volatility higher the risk lowers the volatility lowers the risk.

4. BETA: - A measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

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

5. ALPHA: - Alpha is one of the most used tools for measuring risk of the stocks and it's also used to measure the performance of the stock compared with the benchmark.

$$\alpha = \bar{Y} - \beta(X)$$

6. SHARPE RATIO: - Sharpe's was expect it uses the total risk of the portfolio rather than just the systematic risk.

$$\text{Sharpe ratio} = \frac{(Rp - Rf)}{\alpha p}$$

7. TREYNOR'S RATIO: - Treynor's was the first researcher developing a composite measure of portfolio performance. It measures portfolio risk with beta, and calculate portfolio's market risk premium relative to its beta.

$$\text{Treynor's ratio} = \frac{(Rp - Rf)}{\beta p}$$

8. Risk free factor

Risk factor is assumed for the study as 1% i,e 0.01

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XII. DATA ANALYSIS

1. **TABLE ON RETURN AND RISK OF AXIS BANK**

AXIS BANK

Months	Open price	Close price	X	Y (Index Value)	X-mean of X	XY	X²	Variance	SD
Apr-21	706	714.5	8.5	13350.04	10.882	113475	72.25	8.45	2.908
May-21	706.95	750.25	43.3	12860.87	45.682	556876	1847.89	141.28	11.88
Jun-21	752.3	748.3	-4	13849.26	-1.617	-55397	16	0.462	0.679
Jul-21	749.8	709	-40.8	13599.19	-38.417	-554847	1664.64	111.96	10.581
Aug-21	714.2	786.4	72.2	13419.31	74.582	968874	5212.84	384.63	19.612
Sep-21	796	766.8	-29.2	14131.82	-26.817	412649	852.64	55.93	7.478
Oct-21	764.9	742.05	-22.85	14360.61	-20.467	-328140	522.12	33.40	5.779
Nov-21	750	657.05	-92.95	15031	-90.567	-139713.45	8639.70	601.30	24.521
Dec-21	663	678.55	15.55	13602.69	17.932	211522	241.80	19.91	4.462
Jan-22	680	773.1	93.1	13413.02	95.482	1248752	8667.61	634.95	25.198
Feb-22	777	742.6	-34.4	14330	-32.017	-492952	1183.36	78.67	8.869
Mar-22	734	760.65	26.65	13328.58	29.032	355207	710.22	55.26	7.434
Apr-22	761	728.7	-32.3	13708.8	-29.917	-442794	1043.29	69.02	8.308
May-22	724.7	688.55	-36.15	13497.68	-33.767	-487941	1306.82	87.19	9.337
Total			-33.5	192482.9		-717146	32008.19		147

No of observation (n) =14

Average SD= 147/14=**10.50**

Mean of x = $\sum X / n$ = -33.5/14 = **-2.38**

Mean of y=$\sum Y / n$ =192482.9/14 =**13784.77**

$\beta = n \sum XY - (\sum X) \sum Y) / n \sum X^2 - (\sum X)$

 = [(14*-717146)] – (33.5* 192483)/ (14* 32008.19) – (33.5)

 = [-1004004.8 – (-6419304)]/ 448114.69 – 1112.22

 = -362074/447002.47

 = -8.10

$\alpha = \bar{Y} - \beta(X)$ =13784.77- [-8(-2.38)] =**13729.48**

Sharpe ratio = (Rp – Rf)/ αp = (-2.38-0.01)/10.50 = **-2.38**

Treynor's = (Rp – Rf)/ βp = (-2.38 – 0.01)/-8.10 = **-2.38**

Analysis: From the above table, the data depicts that Return, Standard deviation, Beta, Alpha value of Axis Bank consecutive for 14 months from April 2021 to May 2022.The average return shows as -2.38, average risk as -10.50, Beta value is in negative as -8.10 and Alpha value is 13729.48 respectively the Sharpe value as -2.38 and Treynor's value as -2.38.
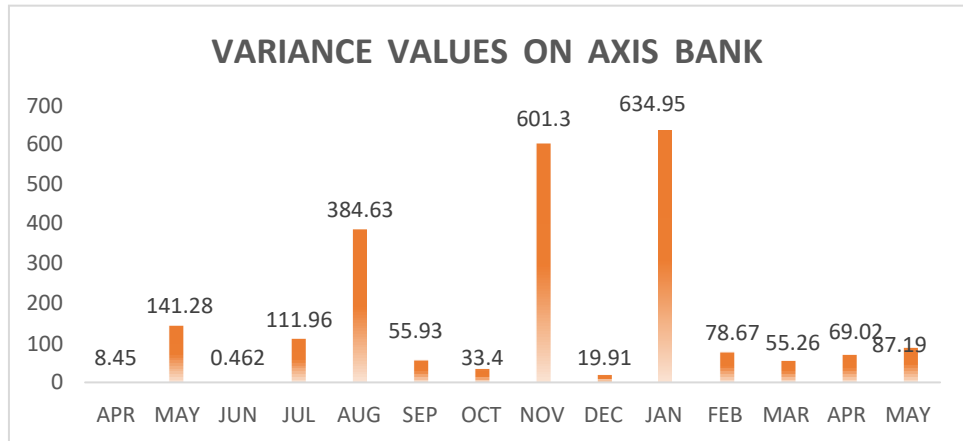
1.BAR GRAPH- AXIS BANK VARIANCES

Interpretation: From the above graph the study on Axis bank stocks shows fluctuation in the determination of the variances for 14 months period. During the month of October and November 2021.Shows a positive value in variance. From the calculation the beta found negative, Hence the beta less than zero seeks the protection to the investors on their investment and shows market is in rise. Hence Axis banks stock moves less than the market. Thus, this stocks poses les risk but low returns to the investors.

2.TABLE ON RETURN AND RISK OF KOTAK MAHINDRA BANK

KOTAK MAHINDRA

Months	Open price	Close price	X	Y	X-Mean of X	XY	X²	Variance	Standard deviation
Apr 21	1765	1748.6	-16.4	13350.04	-22.08	-218940.65	268.96	34.85	5.90
May21	1743	1807.8	64.8	12860.87	59.11	833384.37	4199.04	249.57	15.79
Jun 21	1815.9	1706.4	-109.5	13849.26	-115.18	-1516493.97	11990.25	947.75	30.78
Jul21	1712.7	1654.95	-57.75	13599.19	-63.43	-785353.22	3335.06	287.46	16.95
Aug21	1666	1754.1	88.1	13419.31	82.41	154536.21	7761.61	485.10	22.02
Sep21	1758	2004.1	246.1	14131.82	240.41	3477840.90	60565.21	4128.37	64.25
Oct21	1998	2032.25	34.25	14360.61	28.56	491850.89	1173.06	58.26	7.63
Nov21	2045	1962.15	-82.85	15031	-88.53	-1245318.35	6864.12	559.94	23.66
Dec21	1980	1796.3	-183.7	13602.69	-189.38	-2498814.15	33745.69	2562.02	50.61

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Jan22	1790.5	1857.5	67	13413.02	61.31	898672.34	4489	268.50	16.38
Feb22	1886.9	1842.65	-44.25	14330	-49.93	-634102.5	1958.06	178.13	13.34
Mar22	1820	1754.7	-65.3	13328.58	-70.98	-870356.27	4264.09	359.96	18.97
Apr22	1754	1788.95	34.95	13708.8	29.26	479122.56	1221.50	61.15	7.82
May22	1750	1854.2	104.2	13497.68	98.510	1406458.25	10857.64	693.16	26.32
Total			79.65	192482.7		-27513.58	152693.30		320.48

No of observation (n) =14

Average SD= 320.4863/14 = **22.89**

Mean of x = $\sum X / n$ = 79.65/14 = **5.68**

Mean of y=$\sum Y / n$ =192482.9/14=**13784.77**

$\beta = n \sum XY - (\sum X) \sum Y)/ n\sum X^2 - (\sum X)^2$

$= [(14*-27513.58)-(79.65*192482.9)]/ (14*152693.30) - (79.65)^2$

$= [(-385190.24)-15331260.6] / 2137706.22 - 6344.11$

$= -15716450.8/2131362.11$

$= -7.37$

$\alpha = \bar{Y} - \beta(X)$ =13784.77- [-7.37(5.68)] =**13790.72**

Sharpe ratio = (Rp – Rf) / αp = (5.68-0.01) /-22.89 = **5.68**

Treynor's = (Rp – Rf)/βp = (5.68-0.01)/-7.37 = **5.69**

ANALYSIS: From the above table, the data depicts that Return, Standard deviation, Beta, Alpha value of Kotak Mahindra Bank consecutive for 14 months from April 2021 to May 2022.The average return shows as 5.68, average risk as 22.89, Beta value is in negative as -7.37 and Alpha value is 13784.77 respectively the Sharpe value as 5.68 and Treynor's value as 5.69
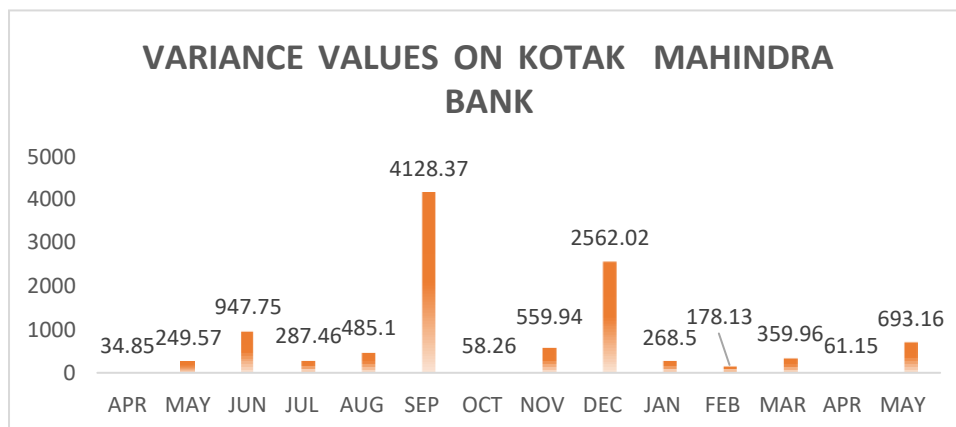

2. BAR GRAPH-KOTAK MAHINDRA VARIANCES

INTERPRETATION: From the above graph the study on Kotak Mahindra bank stocks shows fluctuation in the determination of the variances for 14 months period. During the month of September 2021.Shows a positive value in variance. From the calculation the beta found negative, Hence the beta less than zero seeks the protection to the investors on their investment and shows market is in rise. Hence Kotak Mahindra banks stock moves less than the market. Thus, this stocks poses les risk but low returns to the investors.

3.   CONSOLIDATED TABLE

BANKS	MEAN	STANDARD DEVIATION	BETA	ALPHA	SHARPE RATIO	TREYNOR'S RATIO
AXIS BANK	-2.38	10.50	-8.10	13729.48	-2.38	-2.38
KOTAK MAHINDRA BANK	5.68	22.89	-7.37	13790.72	5.68	5.69

 ANALYSIS: From the above table, the data depicts on return, Standard deviation, Beta, Alpha value of AXIS and KOTAK MAHINDRA BANK for the consecutive months from April 2021 to May 2022.The average return -2.38 & 5.68, average risk is 10.50 & 22.89,Beta value is in negative value as -8.10 &-7.37, and Alpha value is 13729.48 & 13790.72 respectively the Sharpe value as -2.38 & 5.68 and Treynor's value as -2.38 & 5.69.
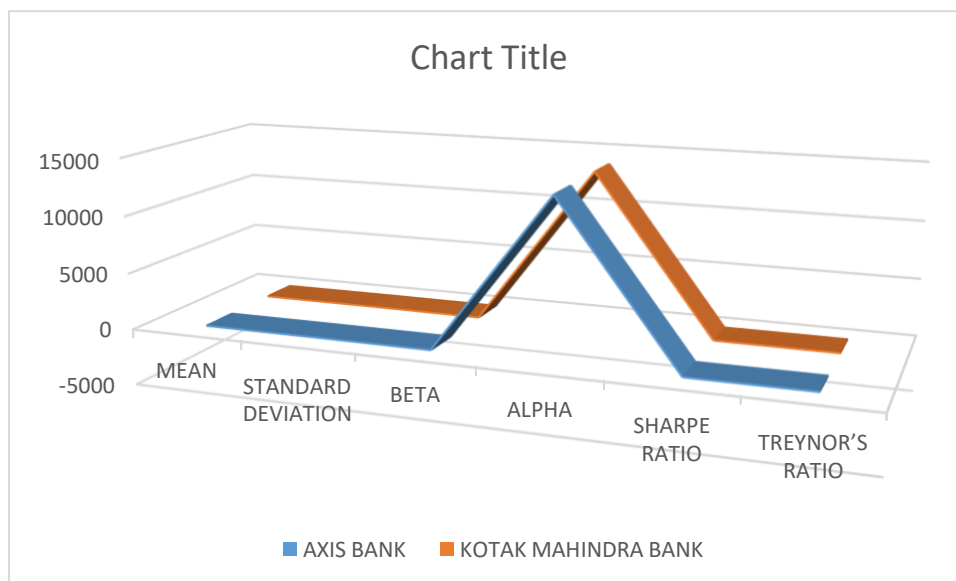
3.   LINE GRAPH OF CONSOLIDATED VALUES

INTERPRETATION:- From the above graph the study on AXIS Bank and KOTAK MAHNDR Bank shows fluctuation in the determination of the Mean, Risk, Beta, Alpha, Sharpe and Treynor's value, Hence the beta less than zero seeks the protection to the investors on their investment and shows market is in rise.

XIII. FINDINGS

- The Axis Bank had an average Return of -2.38 and the Risk 10.50, with the stock Beta of

  -8.10, Alpha value is 13729.48, Sharpe ratio is -2.38 and Treynor's ratio is -2.380. Hence

both Sharpe and Treynor's showing negative sign it's highly recommended that the stocks are more risk less with less return for the next 3 years.

- The Kotak Mahindra Bank had an average Return of 5.68 and the Risk 22.89, with the stock Beta of -7.37, Alpha value is 13790.72, Sharpe ratio is 5.68 and Treynor's ratio is 5.690, its highly recommended that Sharpe and Treynor's value as positive it's better for an investor to invest in these stock for the next 3years will be less risk with more return.

XIV. SUGGESTIONS

- Track on previous last 3 months stock performance of both the banks, there is flucation in the price of the stocks, hence the investors must be very carefully in investing in these stocks.
- Investors must be cautious before Investing under Axis bank stock as its highly fluctuating.
- The shares is showing negative beta value doesn't mean it fetch less return, they perform better when the stock market goes down. The investors need to analyze each stock know why beta is negative and then used to decide if it is good for investing

XV. CONCLUSION

From the study had an extensive analysis on the risk & return potentials of the stock performance of Axis & Kotak Mahindra Banks. The study had growth income of the bank by determining the excess return to Beta value. The ranking among the banks were measured using Sharpe, Treynor's ratio to guide investors to make on the respective Private Banks.

In the Sharpe & Treynor's ranking method Kotak Mahindra Banks as an positive value its shows an better performance in the stocks but Axis bank founds an negative value, so it's a poor stocks high risk with a less rate of return.

Thus, the study it is infers and provide, assurance to all the investors to invest on Kotak Mahindra Banks.

XVI. REFERENCE

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