A Study on Risk and Return of Select Banking Stocks

K. Sri Priya

Rishi UBR Women's College

Abstract
India's banking sector was well regulated and amply capitalized. The economic and financial environments in India are extensively superior among any other country in the world. Credit, market, and liquidity risk survey suggest that Indian banks are generally strong and have endured the global downturn well. Risk and returns are highly correlated in investing money in the securities. Expectations of high and increased returns can be generated with high-risk securities. Return indicates the gains and losses occurred from trading a security. In this paper an attempt is made to analyze the risk and return of the two selected banking stocks that constituents by weightage in the NIFTY by bank index.

Keywords: Economic Risk, Return on Investment, Banking Stocks

1. Introduction

The Risks/Return relationship is the basic concept not only in the financial management, but it relates to every aspect of life. If decisions made should result in the benefit maximization, it is necessary that the individuals or the institutions should consider the effect on the future return or the benefit as well as on risk or cost. Return means an amount that an investor earned on investment made for a certain period. It includes interest, dividend, and capital gains while risk represents the uncertainty with respect to specific task. In financial terms risk is the chances or probabilities that certain investment may or may not deliver the required returns.

The risk and return together says that the potential return rises with a rise in the amount of risk. It is important for an investor to decide the balance between desire lowest possible risk and highest possible return.

The risk and return analysis are important to equity shares investors in the share market. The need of equity shares at the time of preliminary stage company or bank to raising fund for establish company and starting a business. The equity shareholders in an actual owner of company or bank.

The risk and return analysis are main function of this project. The meaning risk and return as follows.

Risk: Risk refers to the possibility that the actual outcome of an investment will differ from expected outcome. More specifically, most investors are concerned about the actual outcome being less than expected outcome.

Return: Return is representing the reward for undertaking investment. Returns are the gains or losses from a security in a particular period and are usually quoted as a percentage. What kind of returns can investors expect from the capital markets? Several factors influence return.

https://doi.org/10.5281/zenodo.7448738

1.1. Need of the Study

In the finance field, it is a known fact that the money or finance is limited, and the investors try to maximize the returns by investing such money or finance. But when the return is higher, the risk is also higher. Return and risk go together, and they have a trade-off. The art of investment is to see that return is maximized with minimum risk. In the above discussion we concentrated on the word "investment" and to invest we need to analyze securities. Merging of different securities with specific risks and returns attributes will constitute the portfolio of the investor. Hence, it is imperative to study the risk and return of the securities.

1.2. Objectives of the Study

1. To study the fluctuations in share prices of HDFC and SBI Banks.
2. To calculate risk& return of select banking stocks.
3. To calculate and analyze covariance and correlation coefficient of select banking stocks.

1.3. Scope of the Study

The study covers all the information related to the investor risk-return relationship of securities. It is confined to 3 years i.e., 2019-2022 data of HDFC and SBI Banks. It is collected data from NSE website. The study covers the calculation of correlation between two companies. Also, the study includes the calculation of individual standard deviation of securities.

2. Review of Literature

Suresh and Sai Prakash (2018): A study on "Comparison of Risk and Return of public and private sector banks". The objectives of the study are to identify the return and risk of public and private banks listed on bank nifty, to rank the stocks based on returns, to compare the performance of each stock against their benchmark index and to measure the portfolio return and risk of public and private banks listed on bank nifty. The study has covered a period of 12 months i.e., starting from 1st January 2016 till 31st December 2016. They have concluded that the study is an attempt to evaluate the returns of banking stocks listed on bank nifty and identify the best stocks to invest and the worst stocks to be ignored.

Gautama and Nalla Bale Kalyan (2018): A study on "A comparative study on risk and return analysis of selected stocks in India" The study has focused on the objective: (1) To study the fluctuation in share prices of selected companies. (2) To study the risk involved in the securities of selected companies. (3) To make comparative study of Risk and Return of Bharati Airtel, Dabur India Payam, Asian Paint. The data has been collected from the sources, such as present and historical data and from Indian bull and internet. The tools used here are average return, standard deviation. The samples are taken from Bharati Airtel, Dabur India Payam and Asian Paints. They have concluded that the study helped the investor to define the trends to some extent.

Nirmala and Devendra (2017): A study on "The Risk and Return Analysis of Equity shares with special reference to select Mutual Fund companies" The study has focused on the objectives: (1) To study the Capital Asset Pricing model. (2) To measure the risk and return on select mutual fund companies listed in NSE by using CAPM. (3) To analyze the performance of stock of select companies by using Jenson's Alpha. The samples were randomly selected from NSE's 500 index from April 2011 to March 2016. The risk and return analysis were done by using Capital Asset Pricing Model and Performance analysis was done by using Jenson's Alpha. It has been concluded from the Study that the investors chose SBI and ICICI to invest their funds because their cost of capital and risk is less, and they are performing too well.

Robert Johnston (2015): in his study entitled as, "Identifying the critical determinants of service quality in retail banking: Importance and effects", focused on the categories of the quality factors in terms of their relative importance and their effect on satisfaction and dissatisfaction. The study is based on an analysis of over 200 customers in the UK banking industry and 100 interviewers. The study suggests that increasing the speed of processing information, delighting customers, such as improving the reliability of equipment, will lessen dissatisfaction rather than delight customer.

Frances X. Frei (2014) in the article entitled as, "Process variants as a Determinant of Bank Performance: Evidence from the retail banking study "explains the relation between retail banks branch-based processes and financial performance. There are 11 processes included in this study which represent the bulk of activities performed in a typical retail branch (e.g., opening/checking accounts). The findings of this study are that the financial performances of banks that perform better across these processes tend to be better than that of other banks.

3. Research Methodology

The data used in this project is of secondary nature. The information is gathered from auxiliary sources, for example Company dairies, daily papers, books and so forth, the examination utilized as a part of this task has been finished utilizing specific specialized apparatuses. In Equity market, risk is analyzed, and trading decisions are taken on basis of technical analysis. It is collection of share prices of selected companies for a period of five years.

The Methodology of the study consists of

- Source of data collection
- Statistical tool
- Data analysis

Sources of Data

Secondary Source

The data collection method "secondary collection" was used.

The stock prices were collected from NSE Website. The literature was collected from internet and textbooks.

Data analysis

The data had been analyzed using Tables and Charts.

Tools and Techniques

(1) Standard Deviation

$$\sigma = \sqrt{variance}$$

$$\text{Variance} = \frac{1}{N-1}\Sigma\left(R-\overline{R}\right)^2$$

(2) Return

$$R = \frac{p_1 - p_0}{p_0} \times 100$$

(3) Covariance

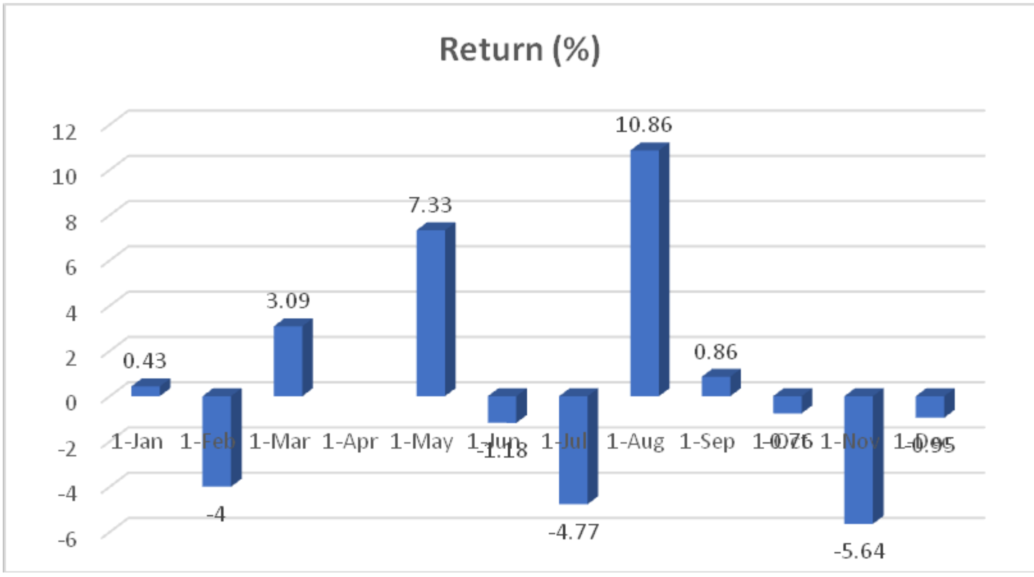
$$\text{Cov}\,(R_{HDFC}, R_{SBI}) = \frac{\sum((R_{HDFC} - \bar{R}_{HDFC})\,(R_{SBI} - \bar{R}_{SBI})}{N-1}$$

(4) Correlation-Coefficient

$$= \frac{\text{cov}\,(R_{HDFC}, R_{SBI})}{(\sigma_{HDFC})(\sigma_{SBI})}$$

HDFC Bank Ltd. - Return 2021-2022

Graph of Return on HDFC Bank 2021-2022



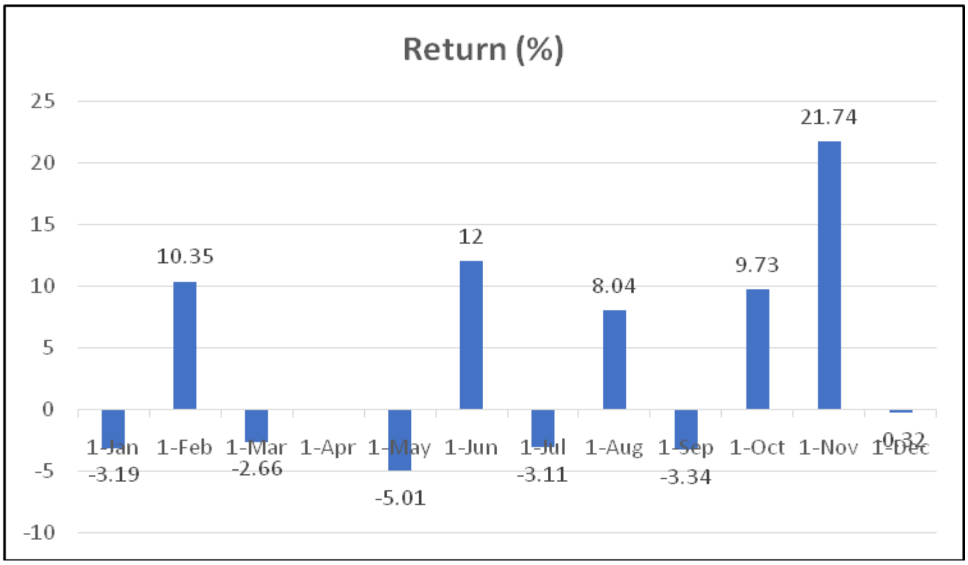
Interpretation

From the above graph, it was observed that the highest positive value was in August 2021 (10.86) and next least value was in May 2021 (7.33). Returns were observed in the months of October 2021 (0.76), July 2021 (-4.77), February (-4), November (-5.64).

https://doi.org/10.5281/zenodo.7448738

HDFC Bank Ltd. - Return 2020-2021

Graph of Return on HDFC Bank 2020-2021:

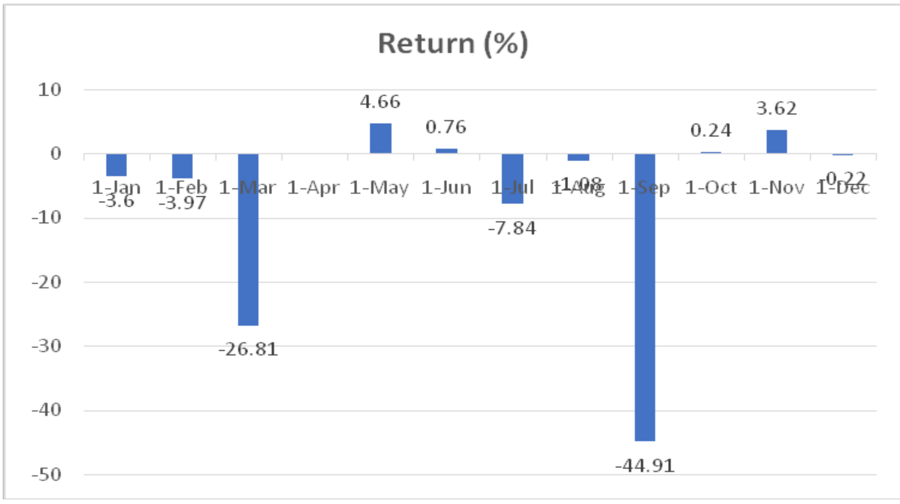


Interpretation

From the above graph, it was observed that the highest positive value was in November 2020 (21.74) and next least value was in January (12). Returns were observed in the months of September (-3.3), July 2020 (-3.11), May (-5.01), March (-2.66).

HDFC Bank Ltd. - Return 2019-2020

Graph of Return on HDFC Bank 2019-2020

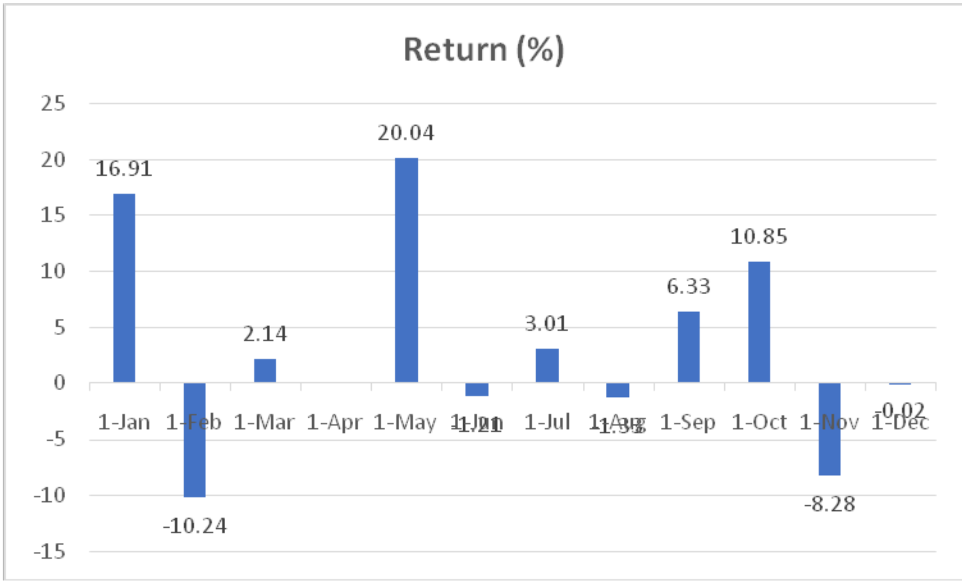


Interpretation

From the above graph, it was observed that the highest positive value was in May 2019 (4.66) and next least value was in November (3.62). Returns were observed in the months of September 2019 (44.91), March 2019 (-26.81), July (-7.84).

SBI Bank Ltd. - Return 2021-2022

Graph of Return on SBI Bank 2021-2022

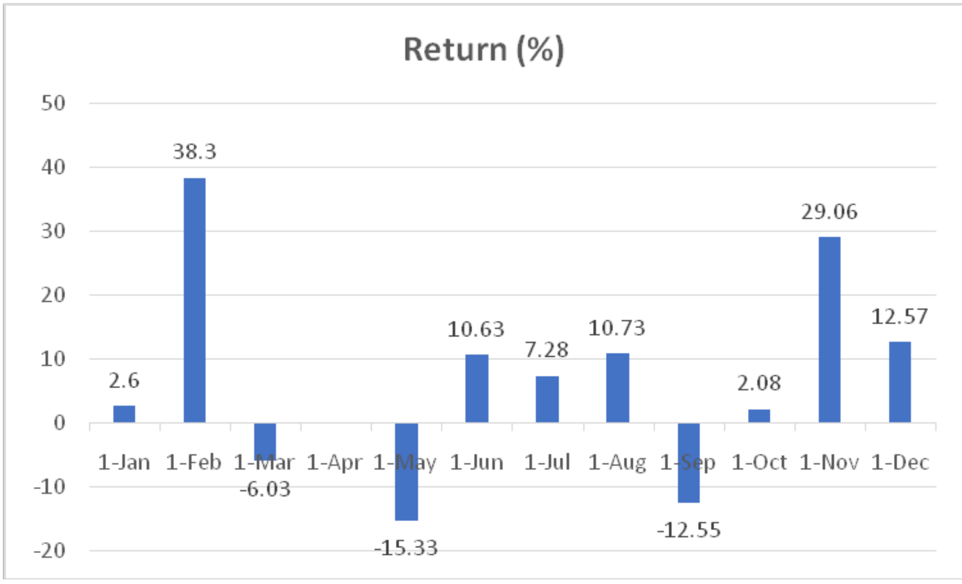


Interpretation

From the above graph, it was observed that the highest positive value was in August 2021 (20.04) and next least value was in January 2021 (16.91). Returns were observed in the months of February 2021 (-10.24), June 2021 (-1.21), August (-1.33), November (-8.28).

SBI Bank Ltd. - Return 2020-2021

Graph of Return on SBI Bank 2020-2021

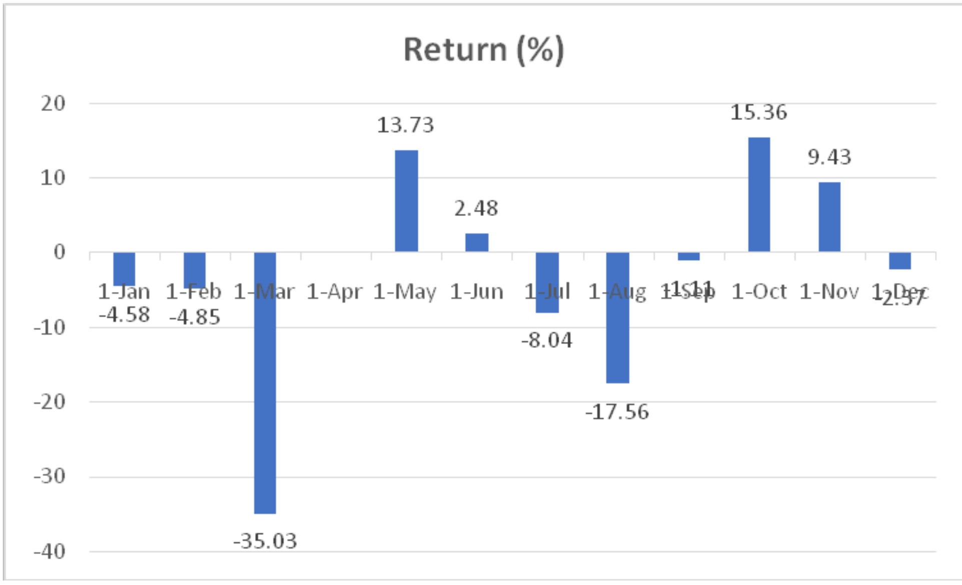


Interpretation

From the above graph, it was observed that the highest positive value was in February 2020 (38.3), and next least value was in November 2020 (29.06). Returns were observed in the months of May 2020 (-15.33), September 2020 (-12.55), March (-6.03).

SBI Bank Ltd. - Return 2019-2020

Graph of Return on SBI Bank 2019-2020



Interpretation

From the above graph, it was observed that the highest positive value was in October 2019 (15.36) and next least value was in May 2019 (13.73). Returns were observed in the months of March 2019 (-35.03), July 2019 (-8.04), August (-17.56).

HDFC Bank Risk / Standard Deviation 2020-2021

Month	Closing Price	R	$\bar{R}$	R - $\bar{R}$	$(R - \bar{R})^2$
Apr-20	1001.8	-	-	-	-
May-20	951.65	-5.01	3.69	-8.7	75.69
Jun-20	1065.85	12	3.69	8.31	69.06
Jul-20	1032.8	-3.11	3.69	-6.8	46.24
Aug-20	1115.85	8.04	3.69	4.35	18.92
Sep-20	1078.6	-3.34	3.69	-7.03	49.42
Oct-20	1183.55	9.73	3.69	6.04	36.48
Nov-20	1440.85	21.74	3.69	18.05	325.80
Dec-20	1436.3	-0.32	3.69	-4.01	16.08
Jan-21	1390.5	-3.19	3.69	-6.88	47.33
Feb-21	1534.4	10.35	3.69	6.66	44.36
Mar-21	1493.65	-2.66	3.69	-6.35	40.32
	Avg. Return =	**3.69**		**Variance =**	**769.7**
				Deviation =	**27.74**

https://doi.org/10.5281/zenodo.7448738

Interpretation

From the above table, it was observed that the highest positive value was in November 2020 (325.80) and next least value was in May 2020 (75.69). Risk was observed in the months of June 2020 (69.06), July 2021 (46.24), September (49.42), October (36.48), December (16.08), January (44.36), February (44.36), March (7.23).

SBI Bank Risk / Standard Deviation 2021-2022

Month	Closing Price	R	$\overline{R}$	$R - \overline{R}$	$(R - \overline{R})^2$
Apr-21	353.5	-	-	-	-
May-21	424.35	20.04	3.18	16.86	284
Jun-21	419.2	-1.21	3.18	-4.39	19.27
Jul-21	431.8	3.01	3.18	-0.17	0.03
Aug-21	426.05	-1.33	3.18	-4.51	20.34
Sep-21	453	6.33	3.18	3.15	9.92
Oct-21	502.15	10.85	3.18	7.67	58.83
Nov-21	460.55	-8.28	3.18	-11.46	131.33
Dec-21	460.45	-0.02	3.18	-3.2	10.24
Jan-22	538.3	16.91	3.18	13.73	188.51
Feb-22	483.2	-10.24	3.18	-13.42	180.09
Mar-22	493.55	2.14	3.18	-1.04	1.08
	Avg. Return =	**3.18**		**Variance =**	**903.64**
				Deviation =	**30.06**

Interpretation

From the above table, it was observed that the highest positive value was in October 2021 (108.58) and next least value was in May 2021 (47.47). Risk was observed in the months of June 2021 (2.62), July 2021 (27.14), September (0.18), November (36.97), December (1.93), January (0), February (19.1), March (7.23).

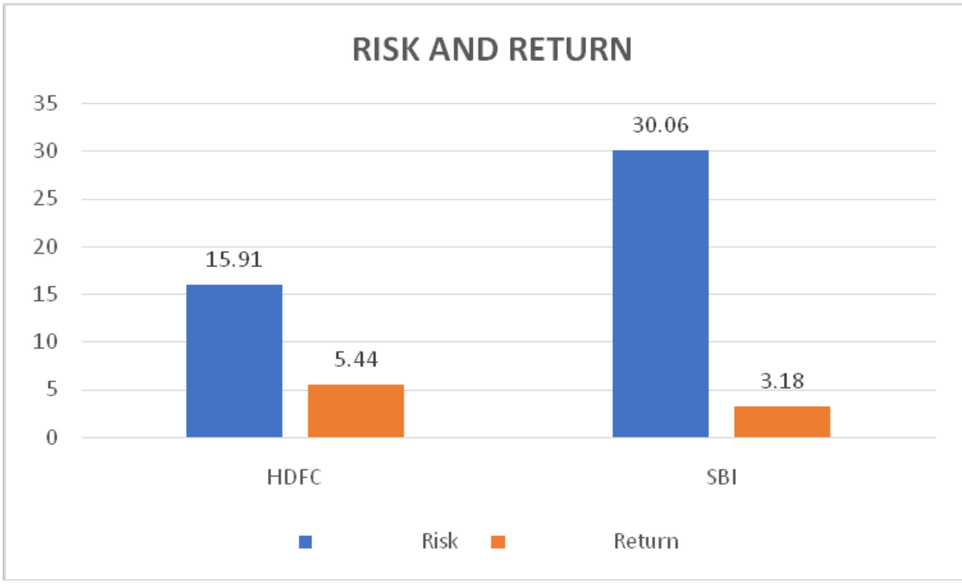
Covariance for 2021-2022 of HDFC & SBI

Month	R_{HDFC}	$\overline{R}_{HDFC}$	R_{SBI}	$\overline{R}_{SBI}$	$R - \overline{R}_{HDFC}$	$R - \overline{R}_{SBI}$	$(R - \overline{R})_{HDFC} \times (R - \overline{R})_{SBI}$
Apr-21	-	-	-	-	-	-	-
May-21	7.33	0.44	20.04	3.18	6.89	-8.7	-59.943
Jun-21	-1.18	0.44	-1.21	3.18	-1.62	8.31	-13.4622
Jul-21	-4.77	0.44	3.01	3.18	-5.21	-6.8	35.428
Aug-21	10.86	0.44	-1.33	3.18	10.42	4.35	45.327
Sep-21	0.86	0.44	6.33	3.18	0.42	-7.03	-2.953

Oct-21	-0.76	0.44	10.85	3.18	-1.2	6.04	-7.248
Nov-21	-5.64	0.44	-8.28	3.18	-6.08	18.05	-109.744
Dec-21	-0.95	0.44	-0.02	3.18	-1.39	-4.01	5.574
Jan-22	0.43	0.44	16.91	3.18	-0.01	-6.88	0.0688
Feb-22	-4	0.44	10.24	3.18	-4.44	6.66	-29.570
Mar-22	3.09	0.44	2.14	3.18	2.65	-6.35	-16.827
						Total =	**-153.3494**

Interpretation

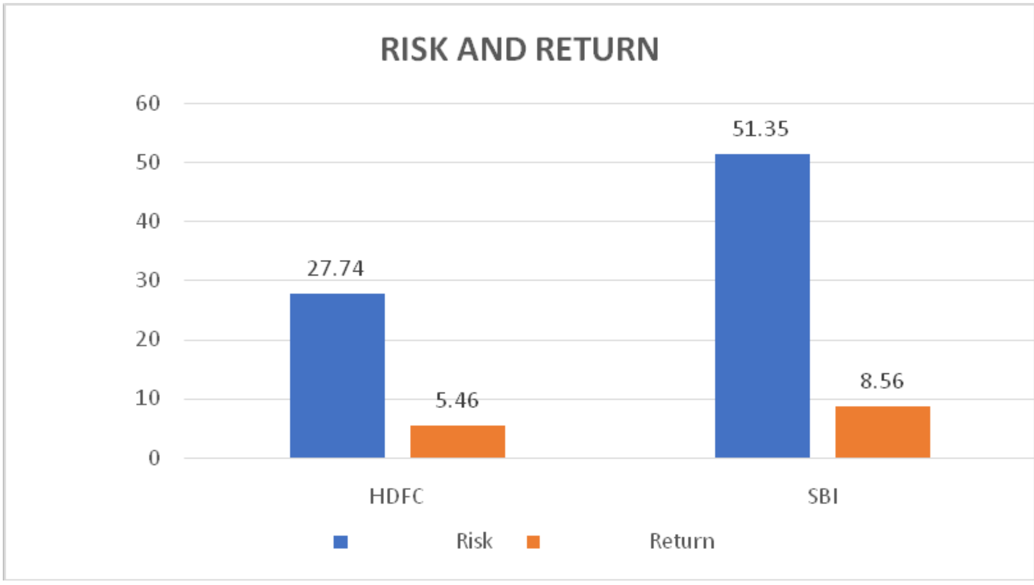
The above table represents the calculation of correlation between HDFC and SBI. There is a negative correlation between the two companies i.e., -0.029.



Interpretation

From the above graph it was observed that the HDFC is having low Risk and highest Return i.e.,15.91 & 5.44, and SBI is having highest Risk and low Return i.e., 30.06 & 3.18.

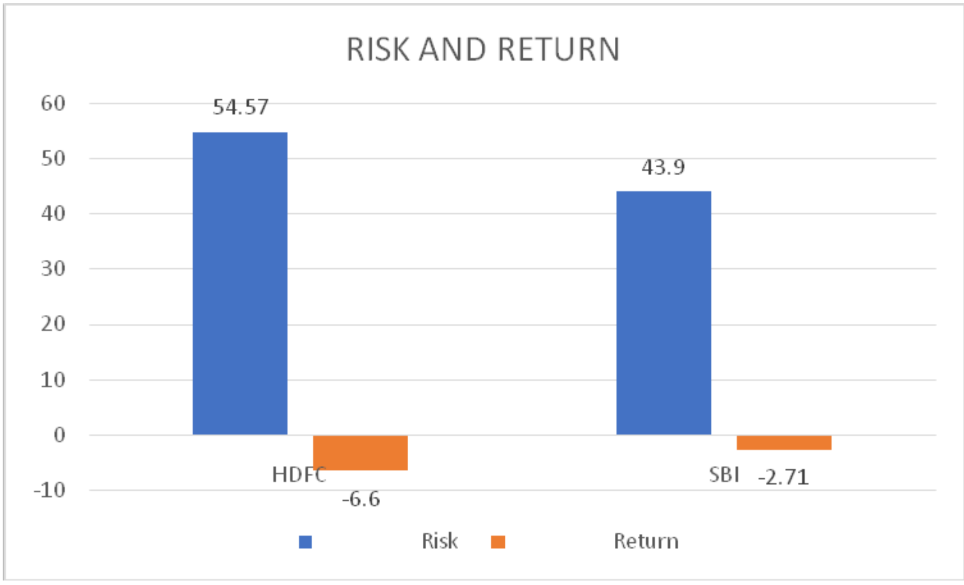
Graph of Risk and Return 2020-2021



Interpretation

From the above graph, it was observed that the HDFC is having highest risk and low return i.e., 27.74 & 5.46, and SBI is having highest risk and low return i.e., 51.35 & 8.56.

Risk and Return 2019-2020



Interpretation

From the above graph it was observed that the HDFC is having highest Risk and low Return i.e., 54.57 & -6.60, and SBI is having highest Risk and low Return i.e., 43.9 & -2.71.

Findings

In the year of 2021-2022, the return of HDFC is 1.44, and return in 2020-21 is 3.69, and return in 2019-20 is -6.60. So, it was observed that highest return is in 2020-21. In the year of 2021-2022, the risk of HDFC is 15.91, 27.74 in 2020-21, and 54.57 in 2019-20. So, it was observed that highest risk is in 2019-20. In the year of 2021-2022, the return of SBI is 3.18, and 6.56 in 2020-21, and -2.71 in 2019-20. So, it was observed that highest return is in 2020-21. In the year of 2021-2022 the risk of SBI is 30.06, 51.35 in 2020-21, and 43.90 in 2019-20. So, it was observed that highest risk is in 2020-21 covariance for HDFC & SBI in the year of 2021-22 is -0.029, for 2020-21 is 0.070, and for 2019-20 is -0.0038. Correlation coefficient of HDFC & SBI in the year of 2021-22 is -0.029, in 2020-21 is 0.070, and in 2019-20 is -0.0038.

Conclusion

In the Investing world risk refers to the Chance that an investment's actual return will differ from the expected return. The most effective way to manage investing risk is through diversification. Although diversification won't ensure gains or guarantee against losses, it does provide the potential to improve returns based on target level of risk. It is concluded form the study that among Comparison of two banks, HDFC has higher return. The risk of SBI was less when compared to HDFC. The covariance between the stocks was two years negative. Finding the right balance between Risk and Return helps ensure to achieve financial goals while still being able to get a Good Nights Sleep.

References

1. Gautama and Nalla Bale Kalyan, "A comparative study on risk and return of selected stocks", Iconic Research and Engineering Journals, Volume 5, July 1, Page no 160-170.
2. Suresh and Sai Prakash "Comparison of risk and return of public and private sector banks", International Journal of Science Research and Management, Volume 3, Issue 4.
3. Nirmala and Devendra, "The Risk and Return analysis of equity shares with special references to select Mutual funds companies", International Journal of Economics and Management Studies", Volume 3, Issue 2.
4. Robert Johnston, "Identifying the critical determinants of service quality in retail banking importance and efforts", Acme Intellects International Journal of Research in Management, Volume 7.
5. Frances X. Frei, "Process variants as a Determinant of Bank Performance", Journal of Management and Finance, Volume 4.

Websites

1. https://www1.nseindia.com/products/content/equities/equities/eq_security.htm
2. https://irejurnals.com/formatedpaper/1702837
3. https://doi.org/10.2139/ssrn.3844409
4. https://www.moneycontrol.com