

# A Study on Risk and Return Analysis of Selected Stocks with Reference to Service Sector

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## I. INTRODUCTION

Indian financial exchanges will be one of the mainly settled within Asia. It's the past returns approximately 200 years earlier. Generally prompt records of safety dealings in India are little along with darken. East India Company will be the transcendent foundation during those time plus business within its development insurances used in the direction of executed near the finish of the 18<sup>th</sup> century.

Online stock trading is older thought intended for colossal foundations who exchange all the way through private frameworks controlled by means of Reuter's "Instinet" along with a casing work known "place" during 1969. Regardless, it becomes electronic intended for laymen just in late 90's. Clever, so as to truly thought was first time worn with an association creation brew known "Brain Lager" towards empower its speculators to trade its offers. That is the methods by which "Mind Capital" will be considered which is seen as lead the way of this thought.

### INDIAN STOCK BROKING INDUSTRY

Indian brokerage trade was solitary of the oldest trading industries before the establishment of Bombay Stock Exchange in 1875. Despite experiencing some change in post-liberalization, the trade have found ways to achieve sustainable development.

### RELATIONSHIP BETWEEN RISK AND RETURN:

There is a certain link between the assumed risk metrics and the expected amount of benefits, the greater the risk the greater the expected return and the greater the chance of substantial losses. A rational investor will have a degree of risk aversion. He will only anticipate the risk if he is fully compensated.

### INVESTMENT ALTERNATIVES

There is sweeping number of theory streets for savers in India. Some of them are alluring and liquid, while others are non-appealing. Some of them are particularly dangerous while some others are about chance less.

Speculation roads can be comprehensively arranged under the accompanying heads: Equity shares, Preference, Debentures, Derivatives, Fixed Deposits, Mutual Funds, Insurance, Provident Fund, Real Estate, Precious Objective

### RETURN

Investors want to maximize the expected return, but need to bear the risk tolerance. Return is the driving force and major reward in the investment process. This is a key method for investors to compare alternative investments. It includes Expected Return and Realised or Historical Return.

### RISK

Risk and return are a basic piece of venture choices. Risk is probably going to cause misfortune. The risk is typically identified with the likelihood that the securities will understand a lower return than anticipated returns. It covers Systematic chance and Unsystematic hazard with Business Risk, Financial Risk, Insolvency Risk, Liquidity Risk and Political Risk.

### STATAEMENT OF THE PROBLEM

The dissertation has been conducted on the risk and return analysis of the financial service sector; this helps us to find out the risk and return of companies of various sectors when invested. It gives us the clear picture where an individual has to invest in to achieve his goals. This also helps in finding out how an investor can analyse the risk of investing in a particular security.

## OBJECTIVES OF THE STUDY

1. To understand the factors influencing performance of service sector and to evaluate the risk and return performance of selected stocks
2. To analyse the relationship between risk and return of selected stocks
3. To offer meaningful suggestions to the investors based on the findings of the study.
4. To study the banks stock movement with respect to bank nifty.

## SCOPE OF THE STUDY

This research aims at finding out the risk and expected returns of 10 companies namely service sector with helps of historical of 12 months past one year with the help of standard deviation and investor can analyse which is riskier compare to other companies in the sector.

## SOURCES OF DATA

A descriptive research design has been adopted for the purpose of this study to analyse the returns and risk. Collected data with Primary and Secondary sources.

## II. LITERATURE REVIEW

1. **Shijin and Others (2007):** Shijin and Others analysed the hazard return qualities of basic stocks in Indian financial exchange for the period from Walk 1996 to Walk 2006 for an example of 72 companies from Bombay Stock Trade. The after effects of Vector Autoregressive Model demonstrated that showcase chance intermediary effectively affected stock returns in Indian market.
2. **Kumar and Gupta (2009):** Kumar and Gupta made an endeavor to explore the example of unpredictability in Indian financial exchange and to meet out the reason they tried an example of 29 organizations based on every day shutting cost exchanged Clever from the time of 1996 to 2007 with the range of 12 years and they found that the organizations taken for the examination were profoundly unstable.
3. **Balakrishnan and Rekha Gupta (2012):** Balakrishnan and Rekha Gupta demonstrated that the vast majority of the portfolio betas were not regressed to the esteem one and furthermore they demonstrated the individual securities beta and portfolio betas are not identified with one another.
4. **Dr. S. Krishnaprabha (2015) :** Risk plus Return examination assume an input fraction in most individual basic leadership process. Each financial specialist needs to keep away from chance and amplify return. All in all, risk and return go hand. On the off chance that a financial specialist wishes to procure higher returns than the speculator must welcome that this might be accomplished by a tolerating a similar increment in risk. In light of risk and return investigation, high risk gives significant yields with generally safe gives the low return, in view of this idea in keeping money segment high risk gives low return.
5. **Sunil M Rashinkar and Divya U (2017):** He creator studied market risk examination of the beta coefficients to five state-owned banks during the year. This research analysis shows that the test versions of the National Bank of India, the Industrial Development Bank of India, and the Syndicate Bank are negative, which means that these stocks do not move much in the market and are less affected by market risk. There are more than one Bank of Punjab National Bank and Baroda Bank, which indicates that these stocks face high market risk and any minor market changes will directly affect these stocks.
6. **Pramod Kumar Patjoshi (2017):** The creator concerning this investigation inspects the relationship among risk and return of the Sensex and managing an account loads of BSE 30. In this examination the distinctive Sensex and the keeping money stock lists have been utilized to inspect the risk return exchange off Sensex with that of HDFC Bank, ICICI Bank, Axis Bank and SBI. The examination is additionally in view of the optional information.

## III. ANALYTICAL TOOLS

### 1) Rate of Return:

The rate of returns will be premeditated by using closing price along with opening price of each stock for individual return plus market opening with closing price for market return.

$$R = \frac{\text{ClosingPrice} - \text{OpeningPrice}}{\text{OpeningPrice}} \times 100$$

### 2) Beta:

It is the gradient of the trait regression line, which describe the association connecting index returns plus stock returns. Beta helps determine the sensitivity of the stock price relative to the index price. Beta measurements cannot be diversifying system risks.

$$\beta = \frac{N \sum RxRy - \sum Rx \sum Ry}{N \sum Rx^2 - (\sum Rx)^2}$$

Where, Rx is market return.

Ry is individual stock return.

N is Number of pairs of observations.

### 3) Co-efficient of correlation:

It is statistical tool which helps in formative, the fluctuation in two variables i.e. security return and market return. It determines the extent of relationship but it does not always imply cause plus effect relation. This helps to appreciate the market indicator prediction ability. It ranges from +1 and -1.

$$r = \frac{N \sum RxRy - \sum Rx \sum Ry}{\sqrt{N \sum Rx^2 - (\sum Rx)^2} \sqrt{N \sum Ry^2 - (\sum Ry)^2}}$$

Where, r is the co – efficient of correlation between x and y

Rx is the return of index.

Ry is returns of listed banks.

N is number of pairs of observations.

### 4) Mean:

$$\bar{X} = \frac{\sum X}{N}$$

### B. Statistical Tools:

- Bar Graph
- Line Graph

NOTE – MS Office is used for calculating average return, Standard Deviation, Beta along with Co-efficient of correlation.

## IV. ANALYSIS AND INTERPRETATION

### ICICI BANK LIMITED

NAME	TYPE	INDUSTRY	NSE
ICICI BANK	Public	Banking, Financial services	ICICIBANK

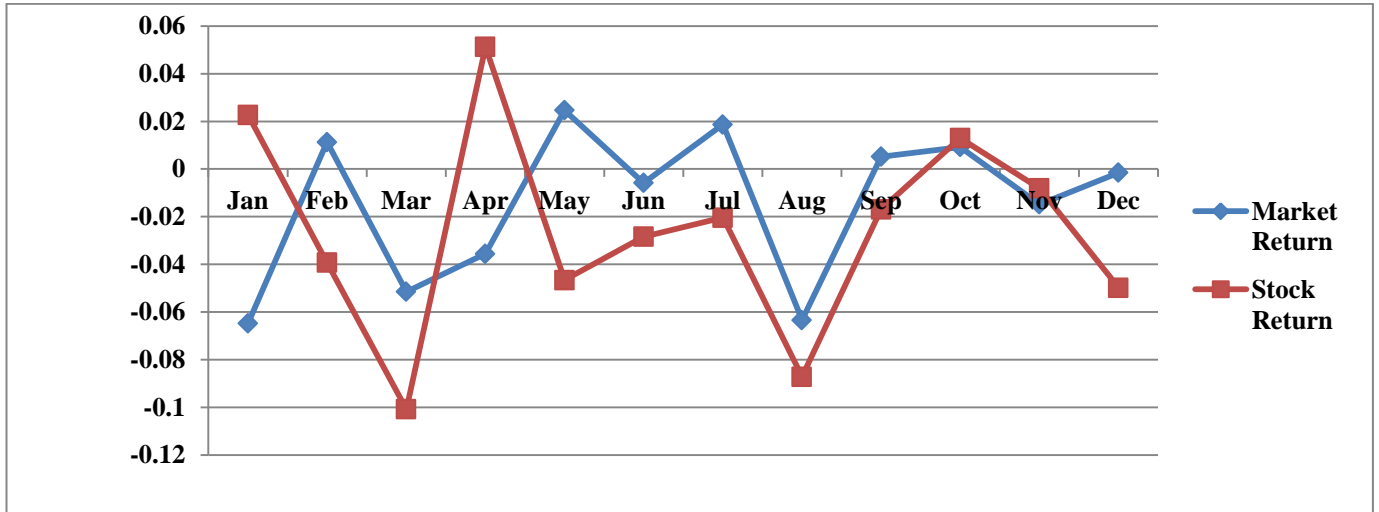
A Table showing Risk and Return Analysis of ICICI Bank Ltd of year 2019

Month	ICICI BANK		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Jan	352.70	360.70	8272.80	8808.90	-0.0648	0.0227	0.0042	-0.0015	0.0005
Feb	360.30	346.15	8802.5	8901.85	0.0113	-0.0393	0.0001	-0.0004	0.0015
Mar	350.85	315.50	8953.85	8492.30	-0.0515	-0.1008	0.0027	0.0052	0.0102
Apr	315.00	331.15	8483.7	8181.50	-0.0356	0.0513	0.0013	-0.0018	0.0026
May	332.75	317.25	8230.05	8433.65	0.0247	-0.0466	0.0006	-0.0012	0.0022
Jun	317.00	308.00	8417.25	8368.50	-0.0058	-0.0284	0.0000	0.0002	0.0008
Jul	308.70	302.40	8376.25	8532.85	0.0187	-0.0204	0.0003	-0.0004	0.0004
Aug	304.45	277.90	8510.65	7971.30	-0.0634	-0.0872	0.0040	0.0055	0.0076
Sep	275.00	270.35	7907.95	7948.90	0.0052	-0.0169	0.0000	-0.0001	0.0003
Oct	273.45	277.00	7992.05	8065.80	0.0092	0.0130	0.0001	0.0001	0.0002
Nov	277.00	274.75	8054.55	7935.25	-0.0148	-0.0081	0.0002	0.0001	0.0001
Dec	275.05	261.35	7958.15	7946.35	-0.0015	-0.0498	0.0000	0.0001	0.0025
n = 12			TOTAL		-0.1683	-0.3105	0.0136	0.0058	0.0288
Summation Total					ΣX	ΣY	ΣX <sup>2</sup>	ΣXY	ΣY <sup>2</sup>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.0058) - (-0.1683)(-0.3105)}{[12(0.0136) - (-0.1683)^2]} = 0.1319$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.0058) - (-0.1683)(-0.3105)}{\sqrt{(12(0.0136) - (-0.1683)^2)(12(0.0288) - (-0.3105)^2)}} = 0.0969$$

A Graph representing Return of ICICI Bank Ltd with respected to Nifty Movement in year 2019



### Interpretation

From the above table and graph we can analyse that a time change in market return leads to **0.1319** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = 0.0969:** From r value we can interpret that there is weak linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.0093:** From r<sup>2</sup>, we can interpret that the stock acts **0.93%** to the change in index.

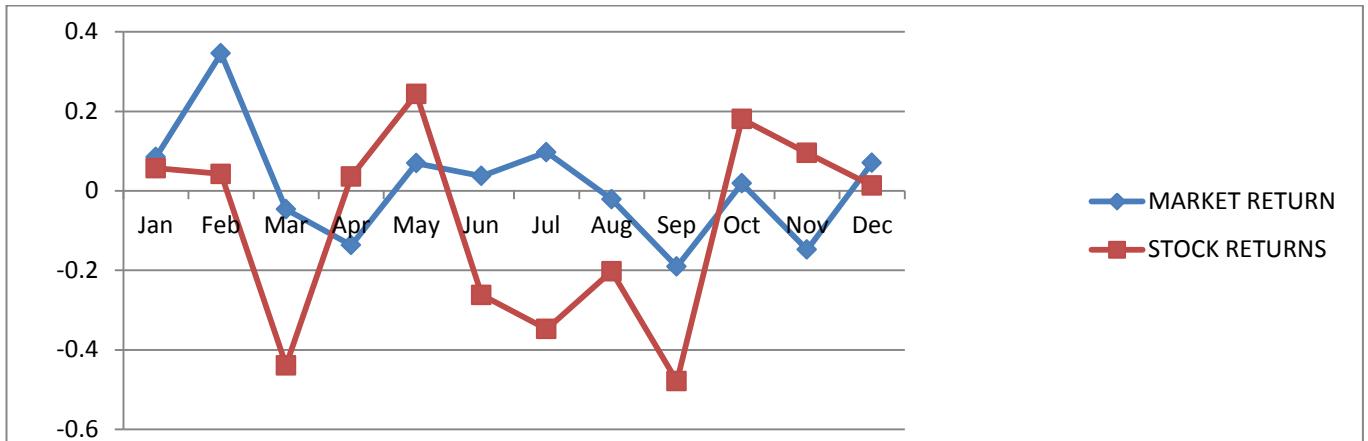
A Table showing Risk and Return Analysis of ICICI Bank Ltd of year 2019

Month	ICICI BANK		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Jan	262.64	262.79	8379.05	8386.2	0.0853	0.0571	0.00728	0.00487	0.00326
Feb	283.09	283.21	8819.47	8850	0.3457	0.0423	0.11951	0.01462	0.00179
Mar	277.89	276.67	9064.56	9060.3	-0.0467	-0.439	0.00218	0.0205	0.19272
Apr	278.43	278.53	9245.75	9233.1	-0.1367	0.0359	0.01869	-0.00491	0.00129
May	303.42	304.16	9456.9	9463.5	0.0696	0.2439	0.00484	0.01698	0.05949
Jun	309.1	308.29	9261.42	9607	0.0373	-0.262	0.00139	-0.00977	0.06864
Jul	299.19	298.15	9843.46	9850.1	0.0971	-0.348	0.00943	-0.03375	0.12083
Aug	296.5	295.9	9921.34	9900.3	-0.0212	-0.202	0.00045	0.00428	0.04097
Sep	290.14	288.75	9994.19	9975.1	-0.1908	-0.479	0.0364	0.09141	0.22954
Oct	277.06	277.56	10136.8	10139	0.0187	0.1805	0.00035	0.00338	0.03258
Nov	315.35	315.65	10344.7	10329	-0.1479	0.0951	0.02187	-0.01407	0.00904
Dec	309.51	309.55	10325	10318	0.0707	0.0129	0.005	0.00091	0.00017
n = 12		TOTAL		0.1812	-1.0624	0.22739	0.09446	0.76031	
Summation Total				ΣX	ΣY	ΣX <sup>2</sup>	ΣX*Y	ΣY <sup>2</sup>	

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.09446) - (0.1812)(1.0624)}{[12(0.22739) - (.1812)^2]} = 0.493$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.09446) - (0.1812)(1.0624)}{\sqrt{(12(0.22739) - (0.1812)^2)(12(0.76031) - (1.0624)^2)}} = 0.286$$

A Graph representing Return of ICICI Bank Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a time change in market return leads to **0.493** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = 0.286**

From r-value we can interpret that there is moderate linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.08176**

From r<sup>2</sup>, we can interpret that the stock acts **8.17%** to the change in index.

**HOUSING DEVELOPMENT FINANCIAL CORPORATION BANK**

NAME	TYPE	INDUSTRY	NSE
HDFC BANK	Public	Banking, Financial services	HDFCBANK

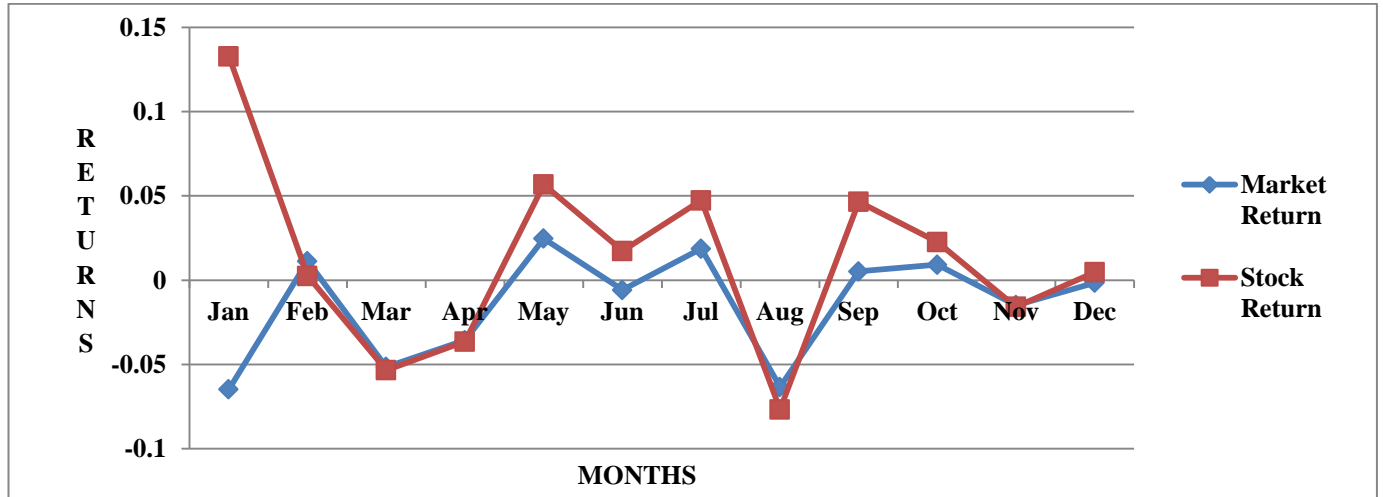
A Table showing Risk and Return Analysis of HDFC Bank Ltd of year 2019

Month	HDFC BANK		NIFTY		RETURNS				
	Open	Close	Open	Close	X	Y	X <sup>2</sup>	X*Y	Y <sup>2</sup>
Jan	951.00	1077.35	8272.80	8808.90	-0.0648	0.1329	0.0042	-0.0086	0.0177
Feb	1068.50	1071.20	8802.5	8901.85	0.0113	0.0025	0.0001	0.0000	0.0000
Mar	1080.35	1022.70	8953.85	8492.30	-0.0515	-0.0534	0.0027	0.0028	0.0028
Apr	1026.10	988.80	8483.7	8181.50	-0.0356	-0.0364	0.0013	0.0013	0.0013
May	994.05	1050.55	8230.05	8433.65	0.0247	0.0568	0.0006	0.0014	0.0032
Jun	1048.95	1067.15	8417.25	8368.50	-0.0058	0.0174	0.0000	-0.0001	0.0003
Jul	1061.35	1111.65	8376.25	8532.85	0.0187	0.0474	0.0003	0.0009	0.0022
Aug	1112.75	1027.45	8510.65	7971.30	-0.0634	-0.0767	0.0040	0.0049	0.0059
Sep	1021.30	1068.80	7907.95	7948.90	0.0052	0.0465	0.0000	0.0002	0.0022
Oct	1075.20	1099.60	7992.05	8065.80	0.0092	0.0227	0.0001	0.0002	0.0005
Nov	1095.05	1077.75	8054.55	7935.25	-0.0148	-0.0158	0.0002	0.0002	0.0002
Dec	1077.05	1082.15	7958.15	7946.35	-0.0015	0.0047	0.0000	0.0000	0.0000
<b>n = 12</b>			<b>TOTAL</b>		<b>-0.1683</b>	<b>0.1487</b>	<b>0.0136</b>	<b>0.0032</b>	<b>0.0364</b>
<b>Summation Total</b>					<b>ΣX</b>	<b>ΣY</b>	<b>ΣX<sup>2</sup></b>	<b>ΣXY</b>	<b>ΣY<sup>2</sup></b>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.0032) - (-0.1683)(0.1487)}{[12(0.0136) - (-0.1683)^2]} = 0.4696$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.0032) - (-0.1683)(0.1487)}{\sqrt{(12(0.0136) - (-0.1683)^2)(12(0.0364) - (0.1487)^2)}} = 0.2676$$

A Graph representing Return of HDFC Bank Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a time change in market return leads to **0.4696** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = 0.2676**

From r-value we can interpret that there is moderate linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.0716**

From r<sup>2</sup>, we can interpret that the stock acts **7.16%** to the change in index.

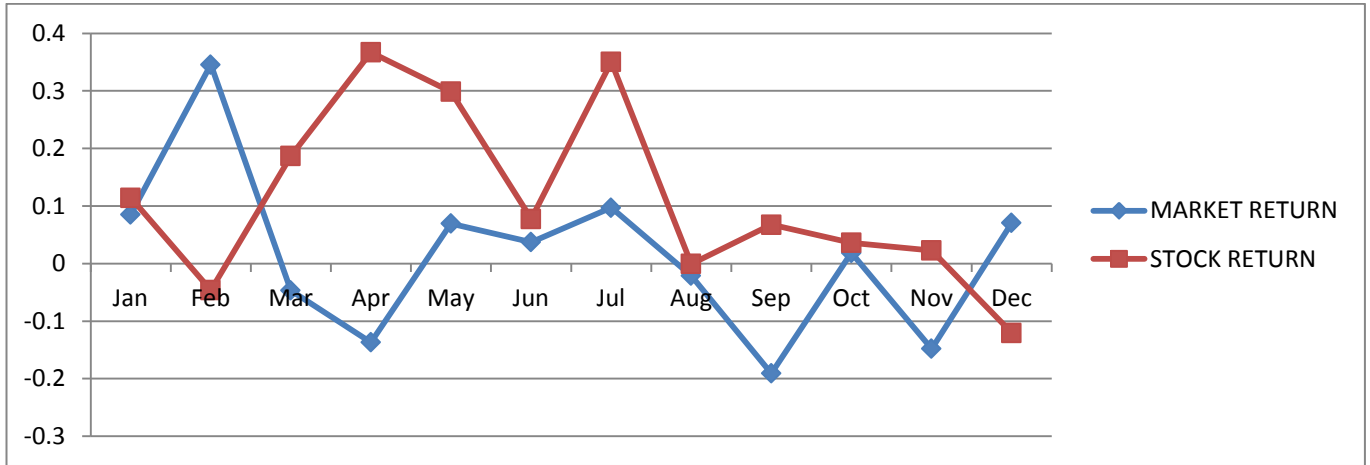
A Table showing Risk and Return Analysis of HDFC Bank Ltd of year 2019

Month	HDFC BANK		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Jan	1233.4	1234.8	8379.05	8386.2	0.0853	0.1143	0.0073	0.00975	0.01306
Feb	1342.4	1341.8	8819.47	8849.96	0.3457	-0.0462	0.1195	-0.01597	0.00213
Mar	1412.2	1414.8	9064.56	9060.33	-0.0467	0.1869	0.0022	-0.00873	0.03493
Apr	1468.4	1473.8	9245.75	9233.11	-0.1367	0.3671	0.0187	-0.05018	0.13476
May	1564.1	1568.8	9456.9	9463.48	0.0696	0.2986	0.0048	0.02078	0.08916
Jun	1662.7	1664	9261.42	9606.95	0.0373	0.0776	0.0014	0.00289	0.00602
Jul	1697.7	1703.7	9843.46	9850.11	0.0971	0.3505	0.0094	0.03403	0.12285
Aug	1768.3	1768.3	9921.34	9900.34	-0.0212	-0.0006	0.0004	1.3E-05	3.6E-07
Sep	1806.8	1808	9994.19	9975.12	-0.1908	0.0675	0.0364	-0.01288	0.00456
Oct	1820.5	1821.2	10136.81	10138.7	0.0187	0.0363	0.0004	0.00068	0.00132
Nov	1833	1833.4	10344.72	10329.4	-0.1479	0.0229	0.0219	-0.00339	0.00052
Dec	1852.6	1850.4	10324.99	10317.7	0.0707	-0.1204	0.005	-0.00851	0.0145
n = 12		TOTAL		0.1812	1.3545	0.2274	-0.03151	0.4238	
Summation Total				ΣX	ΣY	ΣX <sup>2</sup>	ΣX*Y	ΣY <sup>2</sup>	

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.03151) - (0.1812)(1.3545)}{[12(0.2274) - (1.812)^2]} = -0.2313$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.09446) - (0.1812)(1.0624)}{\sqrt{(12(0.22739) - (0.1812)^2)(12(0.76031) - (1.0624)^2)}} = -0.211$$

A Graph representing Return of HDFC Bank Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a change in market return leads to **-0.2313** change in stock return. The stock returns proportional to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = -0.211**

From r-value we can interpret that there is weak linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.0445**

From r<sup>2</sup>, we can interpret that the stock acts **4.45 %** to the change in index

**STATEBANK OF INDIA**

NAME	TYPE	INDUSTRY	NSE
STATE BANK OF INDIA	Public	Banking, Financial services	SBIBANK

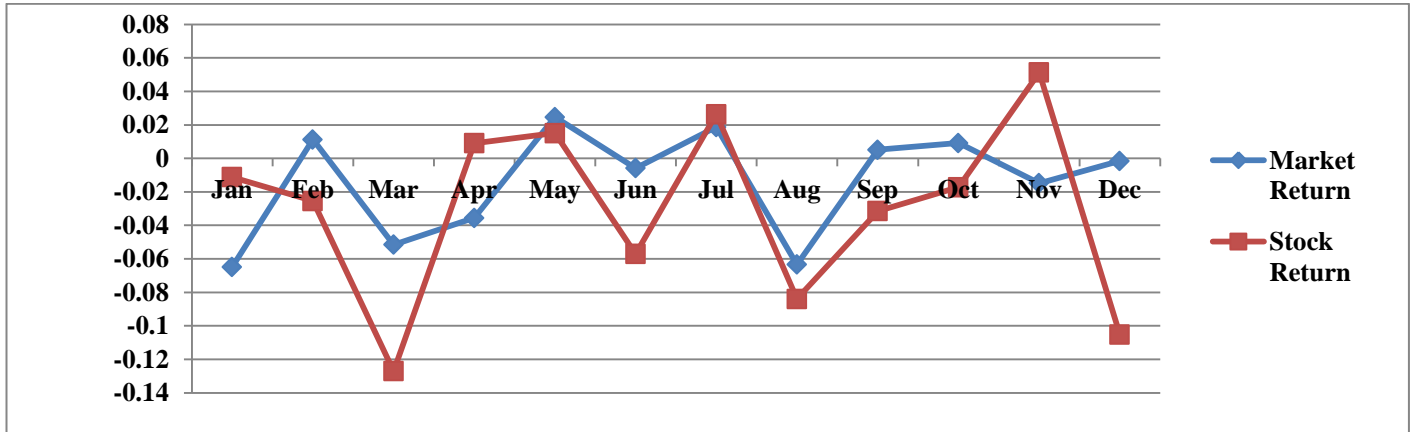
A Table representing Risk and Return Analysis of SBI Ltd of year 2019

Month	SBI		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Jan	312.45	308.95	8272.80	8808.90	-0.0648	-0.0112	0.0042	0.0007	0.0001
Feb	309.50	301.65	8802.5	8901.85	0.0113	-0.0254	0.0001	-0.0003	0.0006
Mar	305.90	267.05	8953.85	8492.30	-0.0515	-0.1270	0.0027	0.0065	0.0161
Apr	266.65	269.08	8483.7	8181.50	-0.0356	0.0091	0.0013	-0.0003	0.0001
May	274.00	278.15	8230.05	8433.65	0.0247	0.0151	0.0006	0.0004	0.0002
Jun	278.65	262.75	8417.25	8368.50	-0.0058	-0.0571	0.0000	0.0003	0.0033
Jul	263.10	270.05	8376.25	8532.85	0.0187	0.0264	0.0003	0.0005	0.0007
Aug	270.00	247.35	8510.65	7971.30	-0.0634	-0.0839	0.0040	0.0053	0.0070
Sep	244.85	237.15	7907.95	7948.90	0.0052	-0.0314	0.0000	-0.0002	0.0010
Oct	241.20	237.05	7992.05	8065.80	0.0092	-0.0172	0.0001	-0.0002	0.0003
Nov	238.00	250.20	8054.55	7935.25	-0.0148	0.0513	0.0002	-0.0008	0.0026
Dec	250.85	224.45	7958.15	7946.35	-0.0015	-0.1052	0.0000	0.0002	0.0111
<b>n = 12</b>			<b>TOTAL</b>		<b>-0.1683</b>	<b>-0.3565</b>	<b>0.0136</b>	<b>0.0123</b>	<b>0.0432</b>
<b>Summation Total</b>					$\sum X$	$\sum Y$	$\sum X^2$	$\sum XY$	$\sum Y^2$

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.0123) - (-0.1683)(-0.3565)}{[12(0.0136) - (-0.1683)^2]} = 0.6451$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.0123) - (-0.1683)(-0.3565)}{\sqrt{(12(0.0136) - (-0.1683)^2)(12(0.0432) - (-0.3565)^2)}} = 0.3788$$

A Graph representing Return on SBI Ltd with respected to Nifty Movement in year 2019



### Interpretation

From the above table and graph we can analyse that a time change in market leads to **0.6451** changes in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = 0.3788** From r-value we can interpret that there is moderate linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.1434** From r<sup>2</sup>, we can interpret that the stock acts **14.34%** to the change in index.

A Table showing Risk and Return Analysis of SBI Bank Ltd of year 2019

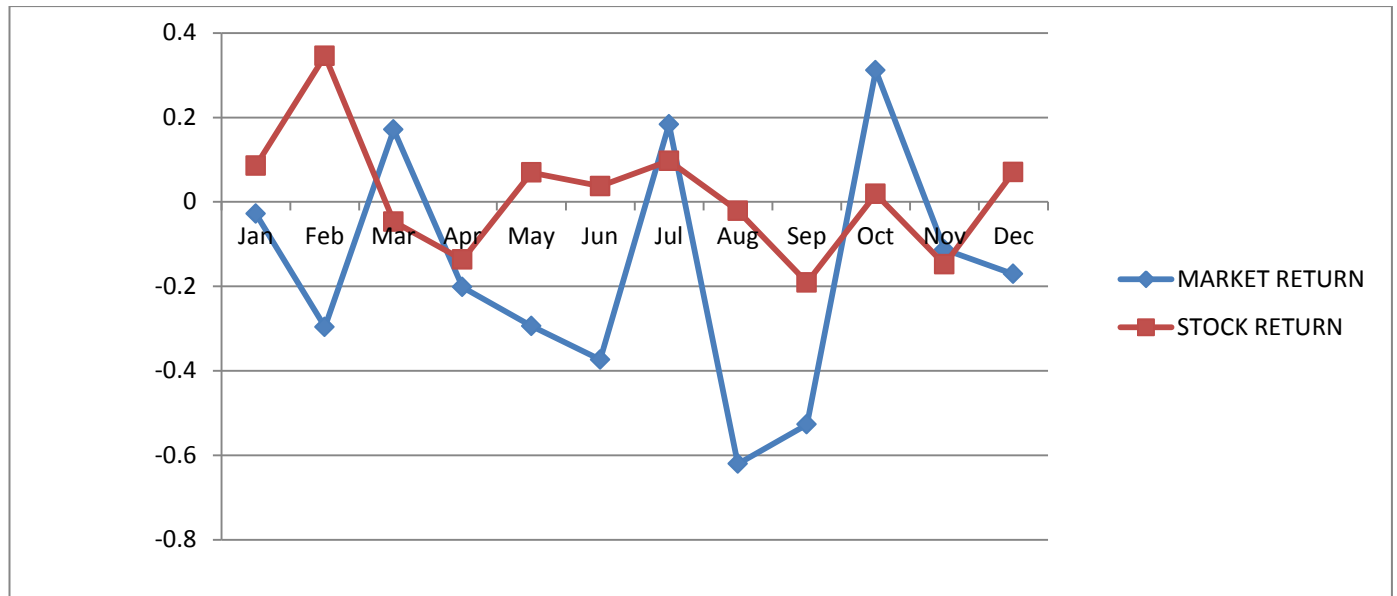
Month	SBI		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Jan	252.96	252.89	8379.05	8386.2	0.0853	-0.0277	0.0073	-0.00236	0.00077
Feb	273.29	272.48	8819.47	8849.96	0.3457	-0.2964	0.1195	-0.10247	0.08785
Mar	274.78	275.25	9064.56	9060.33	-0.0467	0.171	0.0022	-0.00799	0.02924
Apr	289.47	288.89	9245.75	9233.11	-0.1367	-0.2018	0.0187	0.02759	0.04072
May	296.01	295.14	9456.9	9463.48	0.0696	-0.2939	0.0048	-0.02046	0.08638
Jun	286.55	285.48	9261.42	9606.95	0.0373	-0.3734	0.0014	-0.01393	0.13943
Jul	288.82	289.35	9843.46	9850.11	0.0971	0.1835	0.0094	0.01782	0.03367
Aug	290.18	288.38	9921.34	9900.34	-0.0212	-0.6203	0.0004	0.01313	0.38477
Sep	269.43	268.01	9994.19	9975.12	-0.1908	-0.527	0.0364	0.10055	0.27773
Oct	266.47	267.3	10136.81	10138.7	0.0187	0.3115	0.0004	0.00584	0.09703
Nov	327.71	327.34	10344.72	10329.4	-0.1479	-0.1129	0.0219	0.0167	0.01275
Dec	315.88	315.34	10324.99	10317.7	0.0707	-0.1709	0.005	-0.01208	0.02921
n = 12			TOTAL		0.1812	-1.9583	0.2274	0.02234	1.2195
Summation Total					ΣX	ΣY	ΣX <sup>2</sup>	ΣX*Y	ΣY <sup>2</sup>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{12(0.02234) - (0.1812)(1.9583)}{[12(0.2274) - (0.1812)^2]} = 0.231$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{12(0.02234) - (0.1812)(1.9583)}{\sqrt{(12(0.2274) - (0.1812)^2)(12(1.2195) - (1.9583)^2)}} = 0.1154$$



A Graph representing Return of SBI Bank Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a time change in market return leads to **0.231** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

$r = 0.1154$

From r-value we can interpret that there is moderate linear relationship between market returns and stock returns.

$r^2 = 0.0133$

From  $r^2$ , we can interpret that the stock acts **1.33%** to the change in index.

**INSURANCE SECTOR**

**GENERAL INSURANCE CORPORATION OF INDIA**

NAME	TYPE	INDUSTRY	NSE
GICRE	Public	Insurance, Financial services	GICRE

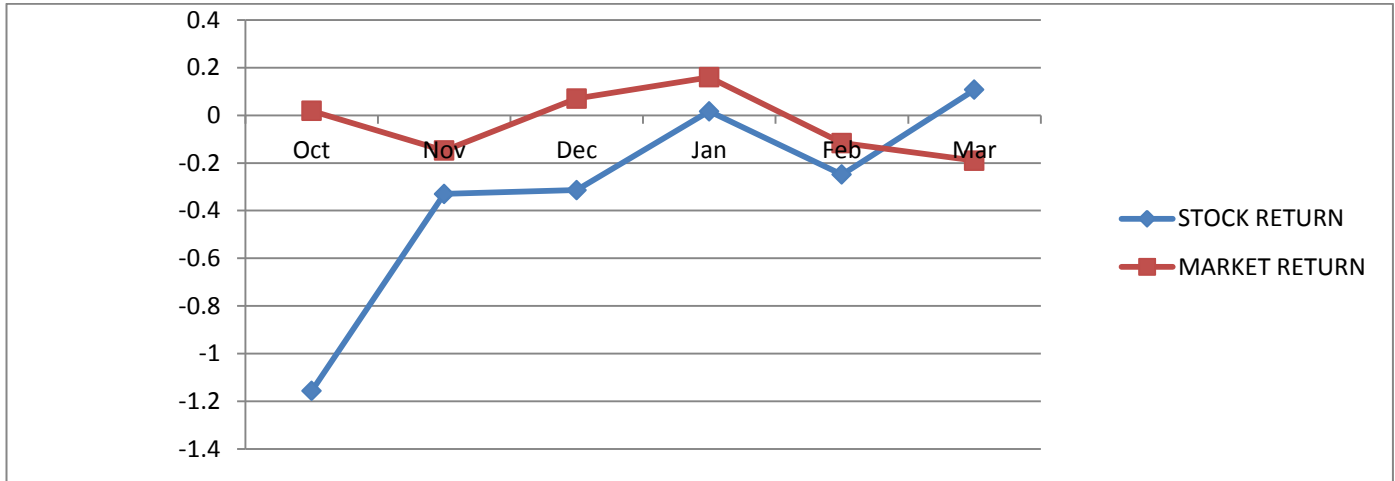
A Table showing Risk and Return Analysis of GICRE Ltd of year 2019

Month	GICRE		NIFTY		RETURNS		X <sup>2</sup>	X*Y	Y <sup>2</sup>
	Open	Close	Open	Close	X	Y			
Oct	865.75	855.74	10136.81	10138.7	0.0187	-1.1562	0.0004	-0.02167	1.3368
Nov	810.02	807.35	10344.72	10329.4	-0.1479	-0.3296	0.0219	0.04875	0.10864
Dec	786.63	784.16	10324.99	10317.7	0.0707	-0.3139	0.005	-0.02219	0.09853
Jan	776.27	776.4	10754.03	10771.2	0.1597	0.0167	0.0255	0.00267	0.00028
Feb	751.4	749.53	10545.34	10533.1	-0.1161	-0.2489	0.0135	0.0289	0.06195
Mar	707.8	708.56	10252.1	10232.6	-0.1902	0.1074	0.0362	-0.02043	0.01153
<b>n = 06</b>			<b>TOTAL</b>		<b>-0.2051</b>	<b>-1.9245</b>	<b>0.1024</b>	<b>0.01602</b>	<b>1.61773</b>
<b>Summation Total</b>					<b>ΣX</b>	<b>ΣY</b>	<b>ΣX<sup>2</sup></b>	<b>ΣX*Y</b>	<b>ΣY<sup>2</sup></b>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{6(0.01602) - (-0.2051)(1.9245)}{[6(0.1024) - (-0.2051)^2]} = -0.5217$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{6(0.01602) - (-0.2051)(1.9245)}{\sqrt{(6(0.1024) - (-0.2051)^2)(6(1.61773) - (1.9245)^2)}} = -0.1614$$

A Graph representing Return of GICRE Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a time change in market return leads to **-0.5217** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = -0.1614**

From r-value we can interpret that there is weak linear relationship between market returns and stock returns

**r<sup>2</sup> = 0.0260** From **r<sup>2</sup>**, we can interpret that the stock acts **2.6%** to the change in index

**ICICI PRUDENTIAL LIFE INSURANCE COMPANY**

NAME	TYPE	INDUSTRY	NSE
ICICI PRULI	Public	Insurance, Financial services	ICICIPRULI

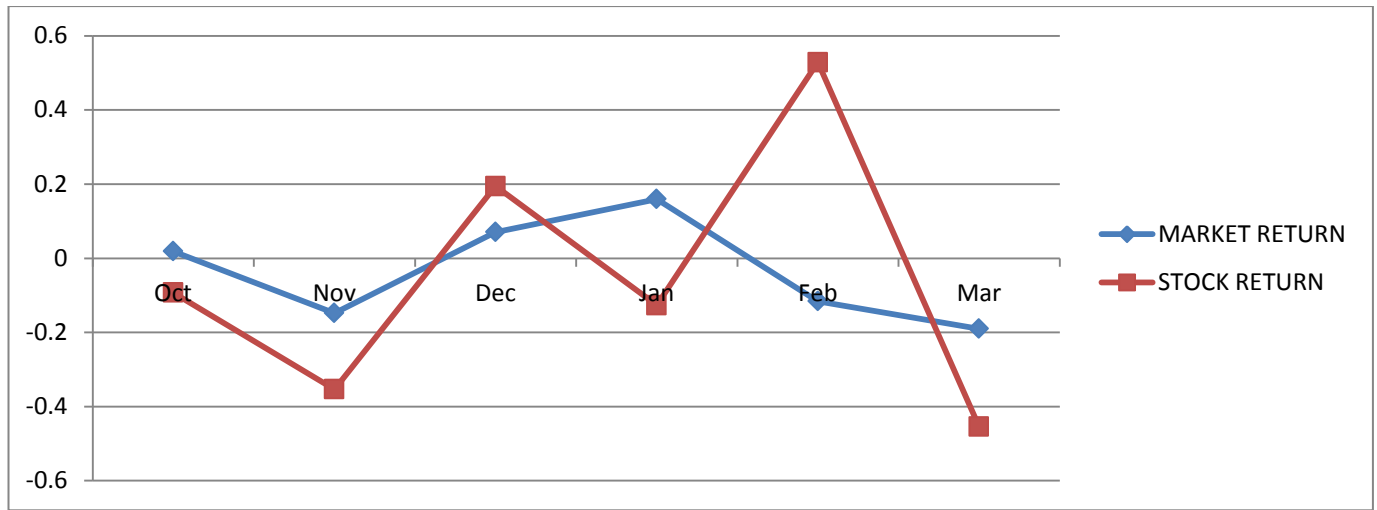
A Table showing Risk and Return Analysis of ICICIPRULI of year 2019

Month	ICICIPRULI		NIFTY		RETURNS				
	Open	Close	Open	Close	X	Y	X <sup>2</sup>	X*Y	Y <sup>2</sup>
Oct	399.75	399.38	10136.81	10138.7	0.0187	-0.0926	0.0004	-0.00173	0.00857
Nov	384.96	383.6	10344.72	10329.4	-0.1479	-0.3532	0.0219	0.05224	0.12475
Dec	380.85	381.59	10324.99	10317.7	0.0707	0.1944	0.005	0.01374	0.03779
Jan	410.49	409.97	10754.03	10771.2	0.1597	-0.1266	0.0255	-0.02022	0.01603
Feb	410.45	412.62	10545.34	10533.1	-0.1161	0.5286	0.0135	-0.06137	0.27942
Mar	387.17	385.41	10252.1	10232.6	-0.1902	-0.4545	0.0362	0.08645	0.20657
<b>n = 06</b>			<b>TOTAL</b>		<b>-0.2051</b>	<b>-0.3039</b>	<b>0.1024</b>	<b>0.06911</b>	<b>0.67312</b>
<b>Summation Total</b>					<b>ΣX</b>	<b>ΣY</b>	<b>ΣX<sup>2</sup></b>	<b>ΣX*Y</b>	<b>ΣY<sup>2</sup></b>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{6(0.06911) - (-0.2051)(0.3039)}{[6(0.1024) - (-0.2051)^2]} = 0.61705$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{6(0.06911) - (0.2051)(0.3039)}{\sqrt{(6(0.1024) - (0.2051)^2)(6(0.67312) - (0.3039)^2)}} = 0.57028$$

A Graph representing Return of ICICI PRULI Ltd with respected to Nifty Movement in year 2019



**Interpretation**

From the above table and graph we can analyse that a time change in market return leads to **0.61705** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

$r = 0.57028$

From r-value we can interpret that there is moderate linear relationship between market returns and stock returns.

$r^2 = 0.3252$

From  $r^2$ , we can interpret that the stock acts **32.5%** to the change in index.

**SBI LIFE**

NAME	TYPE	INDUSTRY	NSE
SBI LIFE	Public	Insurance, Financial services	SBI LIFE

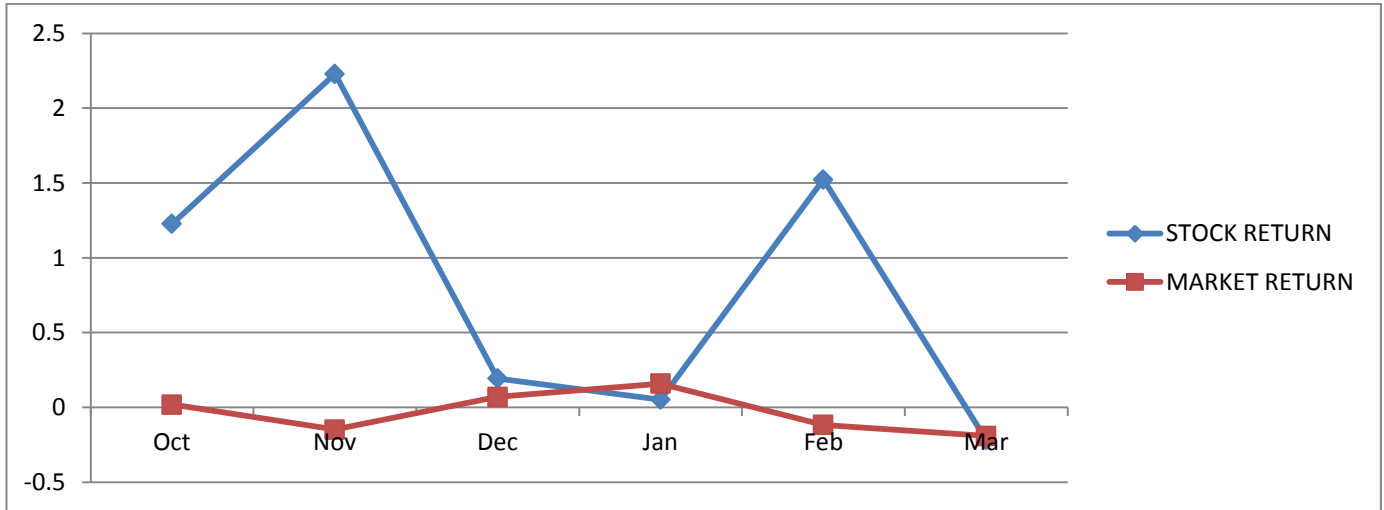
A Table showing Risk and Return Analysis of SBILIFE Ltd of year 2019

Month	SBILIFE		NIFTY		RETURNS				
	Open	Close	Open	Close	X	Y	X <sup>2</sup>	X*Y	Y <sup>2</sup>
Oct	683.22	680.14	10136.81	10138.7	0.0187	-0.4508	0.0004	-0.00845	0.20322
Nov	657.11	657.42	10344.72	10329.4	-0.1479	0.0472	0.0219	-0.00698	0.00223
Dec	678.65	683.48	10324.99	10317.7	0.0707	0.7117	0.005	0.05032	0.50653
Jan	698.98	699.36	10754.03	10771.2	0.1597	0.0544	0.0255	0.00868	0.00296
Feb	690.04	691.52	10545.34	10533.1	-0.1161	0.2145	0.0135	-0.0249	0.046
Mar	671.12	670.77	10252.1	10232.6	-0.1902	-0.0522	0.0362	0.00992	0.00272
n = 06			TOTAL		-0.2051	0.5248	0.1024	0.02859	0.76365
Summation Total					ΣX	ΣY	ΣX <sup>2</sup>	ΣX*Y	ΣY <sup>2</sup>

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{[n\sum X^2 - (\sum X)^2]} = \frac{6(0.02859) - (0.2051)(0.5248)}{[6(0.1024) - (0.2051)^2]} = 0.487863$$

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{(n\sum X^2 - (\sum X)^2)(n\sum Y^2 - (\sum Y)^2)}} = \frac{6(0.02859) - (0.2051)(0.5248)}{\sqrt{(6(0.1024) - (0.2051)^2)(6(0.76365) - (0.5248)^2)}} = 0.46322$$

A Graph representing Return of SBI LIFE Ltd with respected to Nifty Movement in year 2019



### Interpretation

From the above table and graph we can analyse that a time change in market return leads to **0.4878** change in stock return. The stock moves slowly to market index. The stock is also considered to be less risky because the beta is less than 1.

**r = 0.46322**

From r-value we can interpret that there is moderate linear relationship between market returns and stock returns.

**r<sup>2</sup> = 0.2145**

From r<sup>2</sup>, we can interpret that the stock acts **21.4 %** to the change in index.

## V. FINDINGS

- The ICICI BANK stock has less variation, if compared by past 2 years data, as it shows a positive beta in 2018 and a positive beta in 2019. But the stock is moving slowly against the market with moderate linear relationship. But the stock is said to be moderately riskier. And it has positive return in year 2018 and 2019.
- The HDFC BANK stock is also volatile in nature, if compared by past 2 years data, as it shows positive beta in 2018 and a negative beta in 2019. But the stock is moving slowly against market with weak linear relationship. But the stock is said to be less risky. HDFC bank is able to make decent returns for the year 2020.
- The SBI LIFE stock is has less variation, as it shows a positive beta in 2019. The stock is moving slowly against the market with moderate linear relationship. The stock is said to be moderately riskier. And it has positive return in year 2019.

## VI. SUGESSTIONS

- The investment in the Stock market (Securities) is one of the most important investment avenues. A good portfolio selection for the investment is crucial for successful investment. Now a days more and more investors are looking at Stock market due to the fact that securities are less risk when compared to the direct investment like in real estates.
- On the basis of return investor are suggested to invest in Axis bank and ICICI bank which has highest return when compared to the other stocks under the study.
- A study risk and return analysis helps the investors to pick up the securities based on their risk and return. The investigation of this sort gives data about the execution of different stocks in the market of hazard and return.
- There ought to be a set number of customers under the relationship director, so chief should deal with new just as old customers appropriately.
- Individuals at youthful age ought to be urged to put resources into financial exchange.

- The company should give more importance to carry out promotional activities to educate and increase awareness of clients.

## VII. CONCLUSION

Risk and return analysis are very essential, because it helps to calculate future predictable returns and risk of the stock. In this study it is clear that the investment in HDFC and SBI BANK has low risk with decent returns. ICICI BANK. The investment in stocks of in Nifty index with preferable because of continuous appreciation of nifty index. Investments in stocks are to be made for a longer period of time to fetch good returns for what an investor has invested.

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