

**A STUDY ON THE STOCK  
PERFORMANCE OF PRIVATE  
AND PUBLIC SECTOR  
BANKING COMPANIES  
LISTED UNDER S&P BSE  
CARBONEX**

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**ABSTRACT**

*In recent days, social and environmental concern is gaining importance among the progressive investors all over the world. Investors look forward to put their funds in organizations which utilize environment friendly technologies and business practices to reduce their carbon impact. To provide these investors with a standard base to examine the performance of green companies' stocks in comparison with the rest of the market, certain green stock indices have been introduced all over the world which consist of stocks of companies assisted by green business philosophy. Bombay Stock Exchange of India has introduced two green indices in the year 2010 - BSE Carbonex and BSE Greenex. These indices help in the measurement of changing climate risk, performance of carbon emissions and advancement of energy efficient practices. This study intends to understand the volatility of share price movements of private and public sector banking companies listed in BSE Carbonex. This study is an analytical research work based on secondary data. The study attempted to analyze the market volatility by using mean, variance and correlation using the monthly adjusted closing prices of green banking stocks listed in BSE Carbonex. This study also attempts to compare the performance of green public sector bank stocks with green private sector bank stocks.*

***Keywords: Private Banks, Public Sector Banks, S&P Bse Carbonex, Stock prices, Volatility.***

## 1. INTRODUCTION

BSE CARBONEX was launched in the year 2012. It is a carbon-based thematic index that values an organization's commitment to climate change. It aims at providing a benchmark as well as awareness to the dangers imposed by climate change. The assessment of these companies is made on the basis of carbon emission and carbon efficiency.

The drastic increase in greenhouse gas emissions in the recent years has given rise to Climate change. There are many other reasons behind climate change but the more common reason is anthropogenic activities. There is release of huge amount of greenhouse gases because of human activities in the atmosphere especially due to deforestation, burning of fossil fuels, industrial activities, etc. The release of these gases has resulted in global warming. Therefore, there is a need to keep a check on the greenhouse gas emissions emanating from our daily activities. Governments from all over the world are trying to come together to find a solution for this problem. The Indian Government has launched the National Action Plan of Climate Change in the year 2008 for tackling with the climate change issues.

It is the duty of the businessmen to act before it's late by considering the possible risks that might arise as a result of climate change. Many companies in India and the government have started working with various organizations like Carbon Disclosure Project – a non-profit organization from United Kingdom to work together for climate change adaptation and Mitigation. Bombay Stock Exchange has started indexing companies' and banks performance in terms of carbon emissions and climate change related risks and opportunities.

The first carbon index project in India, BSE Carbonex was launched by Bombay Stock Exchange in the year November 30, 2012. It takes into account the broader view of companies' commitment to mitigate climate

change. The Carbon Indexing Project uses data from Carbon Disclosure Project. CDP requires the leading companies from across the world to disclose information on emission of greenhouse gases, use of energy and the associated risks and opportunities from climate change. Carbon Disclosure Project has requested India's 200 largest companies to disclose climate change related information by their market capitalization as listed on the Bombay Stock Exchange.

The Companies which are efficient in managing the climate risk tend to be more attractive for long term investments. Investors look forward to put their funds in organizations which utilize environment friendly technologies and business practices to reduce their carbon impact. This study has been undertaken to analyze and examine the performance of green banking stocks listed under BSE Carbonex. There are 10 banking company stocks listed under BSE Carbonex, three public sector banks and seven private sector banks. The public sector banks listed under BSE Carbonex are State Bank of India, Bandhan Bank Ltd and Bank of Baroda. The private sector banks listed under BSE Carbonex are AU Small Finance Bank Ltd, Axis Bank Ltd, Federal Bank Ltd, ICICI Bank Ltd, HDFC Bank Ltd, IndusInd Bank Ltd and Kotak Mahindra Bank Ltd.

## 2. REVIEW OF LITERATURE

Neenu. C & T. Mohamed Nishad [July 2021] "Carbon Reduction and Sustainable Investment: A Way to Sustainable Development" the study was an attempt to examine the effect of different variables like population level, economic level, urbanization level, fossil fuel

energy consumption, industry proportion and emission of methane on carbon intensity in India using GARCH and EGARCH Model. The study was further extended to evaluate the volatility of green indices in the Indian stock market. The study found that all the identified variables except economic level had a significant positive impact on carbon intensity.

Swalih. M and Sulphey. M [2021] “Effectiveness of Investment in Sustainability Indices in the Bombay Stock Exchange” The study focused on determining the effectiveness of investing in environmentally responsible stock by analyzing the performance of three BSE indices; the S&P BSE Greenex, S&P BSE ESG-100, and S&P BSE Carbonex indices. The findings of the study indicate that the companies listed in sustainable indices performed as well or better than the market performance.

Preeti Sharma & Deepmala Jasuja [Jan 2020] in their research paper “Socially Responsible Investing and Stock Performance - A Study on Comparison of Sustainability Indices in India (ARCH & GARCH Approach)” have tried to compare the performance and volatility of BSE Carbonex and BSE Greenex via BSE Sensex. It was found that, during the study period, Sensex generated higher returns in comparison to that of the other two sustainability indices, Greenex and Carbonex.

Sanjay Kumar Patel and Poonam Kumari [2020] “Indian Stock Market Movements and Responsiveness of Sustainability Indices: A Risk Adjusted Analysis” The study was undertaken to analyze and examine the performance of BSE Carbonex and BSE Greenex with respect to market indices. The findings of the study show that the BSE Carbonex performance is similar to the BSE Sensex and BSE 500. Greenex performance is little lower than both BSE Sensex and BSE 500.

Shanavas S M & Dr. A V Hemalatha [2018] “Comparative Study on the volatility of share price of private and public sector Banking Companies” The study was taken up to examine and compare the volatility of share prices of three private banking companies with three public sector banking companies. This was an analytical research based on secondary data

Abhay Raja [July 2018] “Sustainable Business Practices and Stock Performance: A Study of BSE Greenex and its Constituents” The study made an attempt to examine and compare the performance of BSE Greenex with the performances of BSE Sensex and BSE – 100 indices. The study found that performance of BSE Sensex and BSE – 100 indices was better than the performance of BSE Greenex.

P. Vijaya & Dr. P. Sreenivas Reddy [April 2017] “A Study on Stock Exchanges & Sustainable Development” The study attempts to examine the evolution of stock exchanges in the movement towards sustainable development and the development of sustainable indices and practices.

Rajib Bhattacharya [2013] “Effect of Going Green on Stock Prices: A Study on BSE GREENEX” This paper tried to analyze and compare the performance of BSE-Greenex with other indices like the BSE-Sensex and the BSE-500 to find out whether it is financially rewarding for the investors to invest in green companies’ stocks. The study found that the performance of BSE-Greenex was superior over BSE-Sensex & BSE-500.

### 3. STATEMENT OF THE PROBLEM

Carbon efficient business can provide sustainable benefits for a business organization. The Companies which are effective and efficient in managing the climate risk tend to be more attractive for long term investment propositions. The Investors come forward to invest in organizations which will make use of environment friendly technologies and business practices to reduce their carbon intensity. This study has been undertaken to provide these progressive investors with the required information to assess the performance of green banking stocks listed under BSE Carbonex. BSE Carbonex

provides useful information and data to the investors which helps them in analyzing the risks and opportunities associated with change in climate. This enables the investors to monitor carbon emissions of companies in which they would like to invest.

#### 4. OBJECTIVES OF THE STUDY

1. To analyze the stock performance of banking companies listed under S&P BSE CARBONEX.
2. To compare the stock performance of private banks with public sector banks listed under S&P BSE CARBONEX.
3. To examine the relationship between the performance of individual banks shares with S&P BSE CARBONEX and BSE SENSEX.

#### 5. RESEARCH METHODOLOGY

For the study the banking stocks listed under BSE Carbonex have been selected. There are three public sector banks and seven private sector banks. The public sector banks listed under BSE Carbonex are State Bank of India, Bandhan Bank Ltd and Bank of Baroda. The private sector banks listed under BSE Carbonex are AU Small Finance Bank Ltd, Axis Bank Ltd, Federal Bank Ltd, ICICI Bank Ltd, HDFC Bank Ltd, IndusInd Bank Ltd and Kotak Mahindra Bank Ltd. This study is based on secondary data wherein daily adjusted closing prices of the S&P BSE Carbonex, BSE Sensex and daily closing prices of the banking stocks listed under BSE Carbonex are taken into consideration. The daily closing prices of the selected banking company stocks have been collected from the official website of Bombay stock Exchange (BSE) for a period of two years from 01-07-2021 to 30-06-2023. For data analysis, descriptive statistics, mean and variance analysis, trend analysis and correlation analysis have been used.

#### Period of Study

This study is based on the stock market information collected from private and public sector banking companies listed under BSE Carbonex for a period of two years from 1st July 2021 to 30th June 2023.

#### 6. LIMITATIONS OF THE STUDY

1. This study is mainly carried out based on the performance of private sector and public sector banks stocks listed under S&P BSE Carbonex which might not be sufficient to generalize whole banking sector.
2. The study is purely based on technical analysis.
3. The period of study is restricted from 1st July 2021 to 30th June 2023 which might not be sufficient to predict the future market trend.

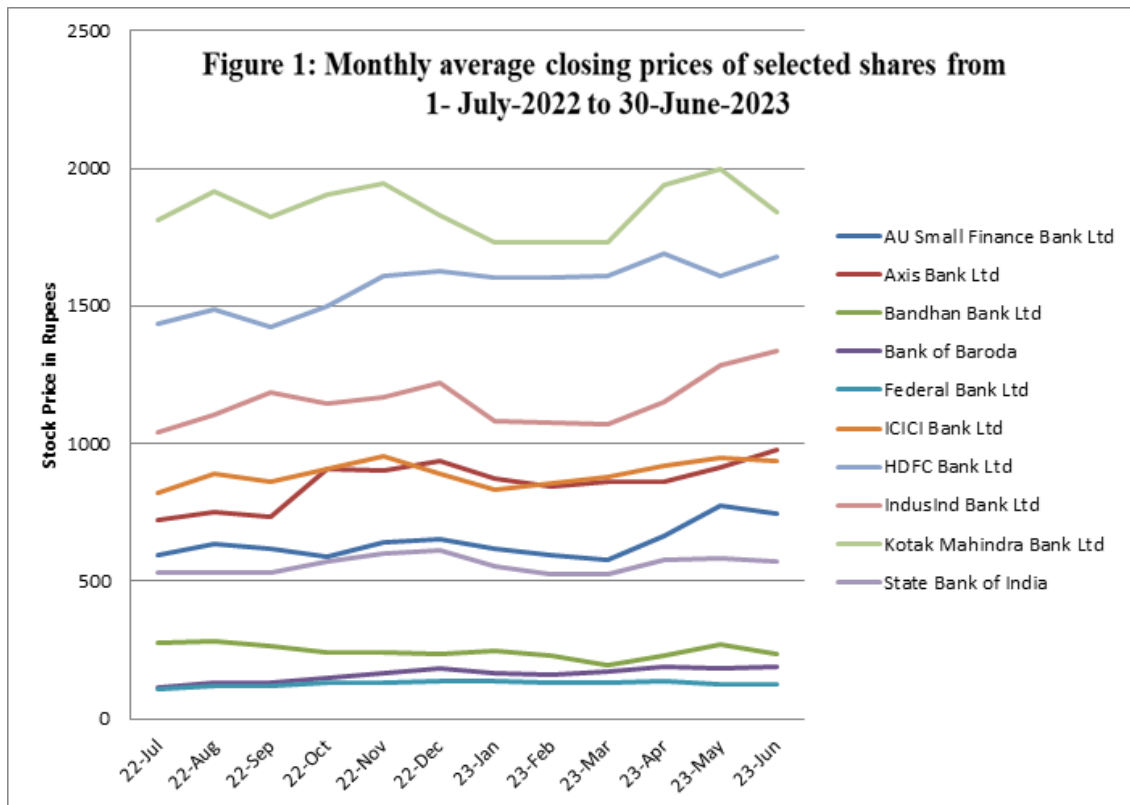
#### 7. DATA ANALYSIS AND INTERPRETATION

Monthly average prices of selected stocks from 1st July 2021 to 30th June 2023

Table shows the monthly average of the adjusted closing prices of selected shares from 1- July-2021 to 30-June- 2023. The trend of share price movement of the selected stocks has been studied for a period of two years. State Bank of India, Bank of Baroda and Bandhan Bank Ltd., are the Public sector banks, while AU Small Finance Bank, Axis Bank Ltd, Federal Bank Ltd, ICICI Bank Ltd, HDFC Bank Ltd, IndusInd Bank Ltd and Kotak Mahindra Bank Ltd are private sector banks.

Table 1 : Monthly average prices of selected shares from 1- July- 2021 to 10- June-2023

Month	AU Small Finance Bank Ltd	Axis Bank Ltd	Bandhan Bank Ltd	Bank of Baroda	Federal Bank Ltd	ICICI Bank Ltd	HDFC Bank Ltd	IndusInd Bank Ltd	Kotak Mahindra Bank Ltd	SBI
23-Jun	754.1	987.8	242.05	190.35	126.1	934.35	1,701.75	1,375.05	1,847.20	572.8
23-May	776.05	914.7	268.4	185	125.2	948.45	1,611.35	1,286.65	1,994.60	580.55
23-Apr	663.75	860	229.2	187.8	134.95	917.7	1,688.05	1,152.05	1,937.70	578.05
23-Mar	578.85	858.45	195.7	168.8	132.25	877.2	1,609.75	1,068.15	1,733.50	523.7
23-Feb	593.2	843.8	230.9	159.25	129.1	854.65	1,601.25	1,077.85	1,729.00	522.75
23-Jan	619	871.65	244.25	167.9	134.5	831.65	1,603.45	1,083.60	1,730.25	553.7
22-Dec	652.95	933.85	234.2	185.65	138.95	890.95	1,627.30	1,221.50	1,826.45	613.2
22-Nov	638.55	901.5	238.3	166.2	131.4	953.4	1,608.75	1,167.35	1,945.60	602.5
22-Oct	589.3	905.85	238.65	147.75	131.45	908.55	1,496.40	1,142.70	1,901.80	573.8
22-Sep	619.25	733.5	266.65	132.4	118.6	862.8	1,422.40	1,186.30	1,821.25	531.05
22-Aug	633.75	751.15	278.7	130.85	117	887.6	1,486.20	1,106.95	1,915.25	531.15
22-Jul	591.8	724.8	276.35	116.25	106.65	818.5	1,434.45	1,043.20	1,810.80	528.2
22-Jun	591.3	636.7	263.5	97.35	90.25	706.85	1,347.50	794.55	1,660.80	465.8
22-May	1,250.35	685.4	326.1	100.15	88.85	751.5	1,387.45	930.75	1,854.20	467.8
22-Apr	1,391.80	728.7	334.3	112.9	95.95	743.55	1,384.75	978.2	1,788.95	496.5
22-Mar	1,245.85	760.65	307.4	111.6	97.35	730.25	1,469.95	935.1	1,754.70	493.4
22-Feb	1,204.35	742.6	306.35	106.55	96.95	742.45	1,426.70	921	1,842.65	483.3
22-Jan	1,310.10	773.1	315.7	107.55	100.6	789.25	1,485.55	871.85	1,857.50	538.35
21-Dec	1,036.30	678.55	252.65	81.95	83	740.25	1,479.80	887.65	1,796.30	460.45
21-Nov	1,092.75	657.05	272.35	85.75	86.95	714.3	1,493.60	883.6	1,962.15	460.6
21-Oct	1,209.85	742.05	291.5	97.5	97.4	802.3	1,582.35	1,140.05	2,032.25	502.4
21-Sep	1,164.60	766.8	282.75	81.75	84.25	700.8	1,595.50	1,112.15	2,004.10	453.05
21-Aug	1,130.75	786.4	284.85	77.35	81.25	718.85	1,581.50	993.5	1,754.45	426
21-Jul	1,219.90	709	291.3	80.3	87.4	682.7	1,425.80	981	1,654.95	431.7



### Discussion Table 1

Figure 1 shows the trend lines of all selected 10 banking company shares listed in BSE Carbonex Index for a period of one year from July 2022 to June 2023. It is clear from the chart that private sector banks stocks listed in BSE Carbonex are trading at a high price than the stocks of public sector banks and have shown an upward trend from the past one year. Public sector banks are at static mode. Among private sector banks Kotak Mahindra Bank, HDFC Bank and ICICI Bank have shown higher rates of growth and Axis Bank is also keeping an increasing momentum. In the public sector, SBI is trading at the top in comparison to Bank of Baroda and Bandhan Bank.

### Descriptive Statistics

	AU Small Finance Bank Ltd	Axis Bank Ltd	Federal Bank Ltd	ICICI Bank Ltd	HDFC Bank Ltd	IndusInd Bank Ltd	Kotak Mahindra Bank Ltd	S&P BSE CARBONEX
Mean	0.027569	1.461468	1.856275	1.854518	0.628889	1.755279	0.519742	0.913293
Standard Error	3.014826	1.654195	1.674655	1.347097	0.922569	2.073244	1.290009	0.7557
Median	-1.1017	-0.14983	0.565717	2.702047	0.291774	1.844058	0.832443	0.354516
Standard Deviation	14.76957	8.103865	8.204099	6.599401	4.519648	10.15678	6.319728	3.702159
Sample Variance	218.1402	65.67263	67.30723	43.5521	20.42722	103.1601	39.93897	13.70598
Minimum	-52.7092	-11.4548	-10.729	-10.9685	-5.79612	-22.4946	-10.4304	-4.97863
Maximum	26.42092	23.49693	21.20482	15.79543	10.92019	31.29444	14.22953	9.062032

### Discussion Table 2

Descriptive statistics here will give a summary of returns and nature of returns from the selected Private Banking Stocks. The above table depicts that most of the Private Banks stocks have mean returns higher than that of market return, S&P BSE Carbonex. The Stocks of Axis Bank Ltd, Federal Bank Ltd, ICICI Bank Ltd and IndusInd Bank Ltd have given the returns higher than the standard index returns. AU Small Finance Bank Ltd, HDFC Bank Ltd and Kotak Mahindra Bank Ltd have given mean returns less than that of market return, S&P BSE Carbonex. All the selected private banks have higher standard error in comparison to that of S&P BSE Carbonex. The standard deviation is used to measure total risk involved in investing in securities. There is more risk associated with all private banking stocks listed in BSE Carbonex in comparison to that of S&P BSE Carbonex. The risk of investing in ICICI Bank, HDFC Bank & Kotak Mahindra Bank is comparatively lesser than that of other private banking stocks. All the funds have varying minimum and maximum returns and it is not in-line with market (Sensex) minimum returns and maximum returns.

### Descriptive Statistics of Private Sector Banks

	Bandhan Bank Ltd	Bank of Baroda	SBI	S&P BSE CARBONEX
Mean	-0.79428	3.884641	1.536253	0.913293
Standard Error	2.101526	2.192457	1.423865	0.7557
Median	-1.96737	2.038227	0.495495	0.354516
Standard Deviation	10.29534	10.7408	6.975484	3.702159
Sample Variance	105.9939	115.3648	48.65737	13.70598
Minimum	-19.1966	-12.0513	-10.2257	-4.97863
Maximum	24.95547	31.23856	16.91823	9.062032

Table 3: Mean return, Standard deviation and Variance from selected Banking stocks

Table 2 (a): Summary of basic descriptive statistics of Private Banks and its comparison with S&P BSE Carbonex								
	AU Small Finance Bank Ltd	Axis Bank Ltd	Federal Bank Ltd	ICICI Bank Ltd	HDFC Bank Ltd	IndusInd Bank Ltd	Kotak Mahindra Bank Ltd	S&P BSE CARBONEX
Mean	0.027569	1.461468	1.856275	1.854518	0.628889	1.755279	0.519742	0.913293
Standard Error	3.014826	1.654195	1.674655	1.347097	0.922569	2.073244	1.290009	0.7557
Median	-1.1017	-0.14983	0.565717	2.702047	0.291774	1.844058	0.832443	0.354516
Standard Deviation	14.76957	8.103865	8.204099	6.599401	4.519648	10.15678	6.319728	3.702159
Sample Variance	218.1402	65.67263	67.30723	43.5521	20.42722	103.1601	39.93897	13.70598
Minimum	-52.7092	-11.4548	-10.729	-10.9685	-5.79612	-22.4946	-10.4304	-4.97863
Maximum	26.42092	23.49693	21.20482	15.79543	10.92019	31.29444	14.22953	9.062032

### Discussion Table 2 (b)

Descriptive statistics here will give a summary of returns and nature of returns from the selected public sector Banking Stocks. The above table depicts that State Bank of India and Bank of Baroda stocks have mean returns higher than that of market return, S&P BSE Carbonex while the Stocks of Bandhan Bank Ltd have given mean returns less than S&P BSE Carbonex. All the selected public banks have higher standard error in comparison to that of S&P BSE Carbonex. The standard deviation is used to measure total risk involved in investing in securities. There is more risk associated with all public banking stocks listed in BSE Carbonex in comparison to that of S&P BSE Carbonex. The risk of investing in SBI is comparatively lesser than that of other public banking stocks. All the funds have varying minimum and maximum returns and it is not in-line with market (Sensex) minimum returns and maximum returns.

### Risk & Return

The average return and standard deviation of the returns helps to understand the mean returns and variability of returns from its mean. Daily adjusted closing prices of selected banks shares have been taken and their respective returns are worked out from 1 July 2021 to 30 June 2023. These returns are used to find the average, standard deviation and variance

Table 3: Mean return, Standard deviation and Variance from selected Banking stocks

Name of the Bank	Average Return	Standard Deviation	Variance
AU Small Finance Bank Ltd	0.03	14.77	218.14
Axis Bank Ltd	1.46	8.1	65.67
Federal Bank Ltd	1.86	8.2	67.31
ICICI Bank Ltd	1.85	6.6	43.55
HDFC Bank Ltd	0.63	4.52	20.43
IndusInd Bank Ltd	1.76	10.16	103.16
Kotak Mahindra Bank Ltd	0.52	6.32	39.94
Bandhan Bank Ltd	-0.79	10.3	105.99
Bank of Baroda	3.88	10.74	115.36
SBI	1.54	6.98	48.66

### Discussion Table 3

The above table shows the return and risk associated with all the selected banking company stocks for the period of two years from July 2021 to June 2023. As per the figures listed above, the Bank of Baroda has given the highest return followed by Federal Bank, ICICI Bank, IndusInd Bank, SBI & Axis Bank in the recent two years to its investors. Bandhan Bank Ltd has given the least negative returns as compared to all the other banking stocks. AU Small Finance Bank Ltd, IndusInd Bank Ltd, Bandhan Bank Ltd and Bank of Baroda have the highest degree of volatility in returns and hence the risk of investing in these Banking stocks is high. HDFC Bank, ICICI Bank, Kotak Mahindra Bank and SBI have less risk

### 8. CORRELATION ANALYSIS

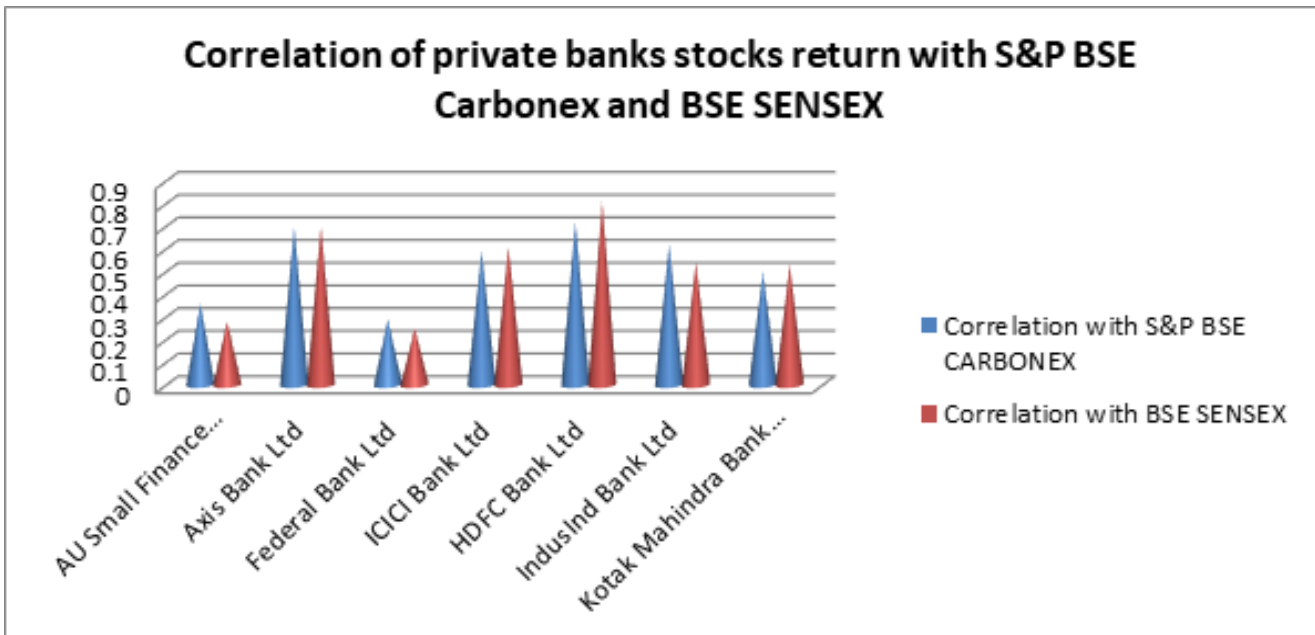
Correlation analysis is a bivariate analysis technique, primarily concerned with finding out whether a relationship exists between variables and then determining the magnitude and action of that relationship. Correlation between two variables can be either a positive correlation, a negative correlation, or no correlation. A positive correlation between two variables means both the variables move in the same direction. An increase in one variable leads to an increase in the other variable and vice versa. For example, spending more time on a treadmill burns more calories. A negative correlation between two variables means that the variables move in opposite directions. An increase in one variable leads to a decrease in the other variable and vice versa. For example, increasing the speed of a vehicle decreases the time you take to reach your destination. No correlation exists when one variable does not affect the other. For example, there is no correlation between the number of years of school a person has attended and the letters in his/her name.

#### a. Correlation of private sector banks with S&P BSE Carbonex and BSE SENSEX

Correlation between stock returns of all the selected shares of private sector banks with the two indices - S&P BSE Carbonex and BSE SENSEX is shown in table

Name of the Bank	Correlation with S&P BSE CARBONEX	Correlation with BSE SENSEX
AU Small Finance Bank Ltd	0.36	0.28
Axis Bank Ltd	0.7	0.7
Federal Bank Ltd	0.29	0.25
ICICI Bank Ltd	0.59	0.61
HDFC Bank Ltd	0.72	0.81
IndusInd Bank Ltd	0.62	0.54
Kotak Mahindra Bank Ltd	0.5	0.53

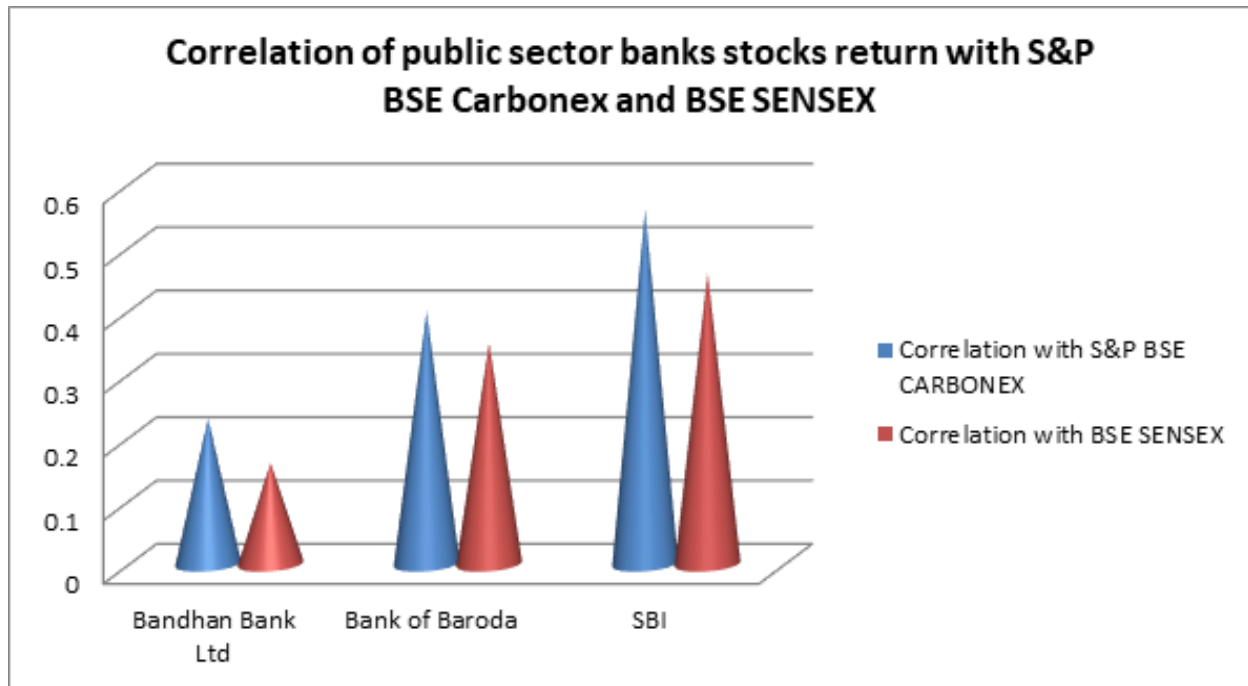




#### Discussion Table 4

The above table and graph shows correlation statistics of the monthly returns of the individual stocks of private banks with S&P BSE Carbonex and BSE Sensex Index. All the private sector banks stock returns listed under BSE Carbonex index are positively correlated with S&P BSE Carbonex and BSE Sensex. Axis Bank and HDFC Bank Ltd stock returns have very high positive correlation with S&P BSE Carbonex and BSE Sensex. ICICI Bank Ltd, IndusInd Bank Ltd and Kotak Mahindra Bank Ltd stock returns have moderate positive correlation with S&P BSE Carbonex and BSE Sensex. AU Small Finance Bank Ltd and Federal Bank Ltd stock returns have very low positive correlation with S&P BSE Carbonex and BSE Sensex. Correlation of public sector banks with S&P BSE Carbonex and BSE SENSEX Correlation between stock returns of all the selected shares of public sector banks with the two indices - S&P BSE Carbonex and BSE SENSEX is shown in table

Name of the Bank	Correlation with S&P BSE CARBONEX	Correlation with BSE SENSEX
Bandhan Bank Ltd	0.23	0.16
Bank of Baroda	0.4	0.35
SBI	0.56	0.46



### Discussion Table 5

The above table and graph show correlation statistics of the monthly returns of the individual stocks of public sector banks with S&P BSE Carbonex and BSE Sensex Index. All the public sector banks stock returns listed under BSE Carbonex index are positively correlated with S&P BSE Carbonex and BSE Sensex. Bandhan Bank Ltd stock returns has very low rate of positive correlation with S&P BSE Carbonex and BSE Sensex. Bank of Baroda stock returns have low positive correlation with S&P BSE Carbonex and BSE Sensex and State Bank of India stock returns has moderate level of positive correlation with S&P BSE Carbonex and BSE Sensex.

## 9. FINDINGS

This study attempts to measure the volatility of banking companies' stocks listed under S&P BSE Carbonex. It also intends to compare the volatility and trends of public sector banks with private sector banks.

- I. Private sector banks stocks listed in BSE Carbonex are trading at a higher price than the stocks of public sector banks and have shown an upward trend in the past two years.
- II. Among private sector banks Kotak Mahindra Bank, HDFC Bank and ICICI Bank have shown higher rates of growth and Axis Bank is also keeping an increasing momentum. In the public sector, SBI is trading at the top in comparison to Bank of Baroda and Bandhan Bank.
- III. Most of the Private Banks stocks have mean returns higher than that of market return, S&P BSE Carbonex. The Stocks of Axis Bank Ltd, Federal Bank Ltd, ICICI Bank Ltd and IndusInd Bank Ltd have given the returns higher than the standard index returns.

- IV. The risk of investing in ICICI Bank, HDFC Bank & Kotak Mahindra Bank is comparatively lesser than that of other private banking stocks.
- V. In the public sector, State Bank of India and Bank of Baroda stocks have mean returns higher than that of market return, S&P BSE Carbonex while the Stocks of Bandhan Bank Ltd have given mean return less than S&P BSE Carbonex.
- VI. The risk of investing in SBI is comparatively lesser than that of other public banking stocks
- VII. The Bank of Baroda has given the highest return followed by Federal Bank, ICICI Bank, IndusInd Bank, SBI & Axis Bank in the recent two years to its investors. Bandhan Bank Ltd has given the least and negative returns as compared to all the other banking stocks.
- VIII. AU Small Finance Bank Ltd, IndusInd Bank Ltd, Bandhan Bank Ltd and Bank of Baroda have the highest degree of volatility in returns and hence the risk of investing in these Banking stocks is high. HDFC Bank, ICICI Bank, Kotak Mahindra Bank and SBI have less risk.
- IX. All the private sector banks stock returns listed under BSE Carbonex index are positively correlated with S&P BSE Carbonex and BSE Sensex. Axis Bank and HDFC Bank Ltd stock returns have very high positive correlation with S&P BSE Carbonex and BSE Sensex. ICICI Bank Ltd, IndusInd Bank Ltd and Kotak Mahindra Bank Ltd stock returns have moderate positive correlation with S&P BSE Carbonex and BSE Sensex. AU Small Finance Bank Ltd and Federal Bank Ltd stock returns have very low positive correlation with S&P BSE Carbonex and BSE Sensex.
- X. All the public sector banks stock returns listed under BSE Carbonex index are positively correlated with S&P BSE Carbonex and BSE Sensex. State Bank of India stock returns has moderate level of positive correlation with S&P BSE Carbonex and BSE Sensex. Bandhan Bank Ltd stock returns has very low rate of positive correlation with S&P BSE Carbonex and BSE Sensex. Bank of Baroda stock returns have low positive correlation with S&P BSE Carbonex and

## 10. CONCLUSION

Social and environmentally responsible investing is a recent and growing trend in India, in which investors look for twin objectives, financial returns, and reduced socio-environmental impact. Yet, selecting an Indian stock having both these properties is not easy. To help investors track companies that follow energy-efficient and eco-friendly practices, the Bombay Stock Exchange (BSE) has developed indices with environmentally responsible stocks in collaboration with some other organizations. This study focuses on analyzing the performance of banking companies environmentally responsible stocks listed under BSE Carbonex index. The findings indicate that stock prices of public sector banks are more volatile than private sector banks. The study is very significant, as it provides new insights on the role of sustainable indices in the promotion of sustainable development in India and helps the investors who look to consider better performing green banking stocks in their portfolio. The findings of the study are important to investors, portfolio managers, financial advisers, and other stakeholders of the financial market interested in promoting sustainable investment.

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