

# Comparative Study on the volatility of share price of private and public sector Banking Companies

SHANAVAS S M

Ph. D Research Scholar, Kannur University  
Assistant Professor

Post Graduate Department of Commerce  
Sir Syed College, Taliparamba, Kannur, Kerala

Dr. A V Hemalatha

Associate Professor & Research Guide  
PRNSS College, Mattanur, Kannur, Kerala

## Abstract

Investment in equity is a lucrative opportunity to make best return and to hedge against the threat of inflation. Stock market is the one of the most important investment avenue constitutes thousands of securities. NSE and BSE are the leading stock exchanges operating in India. NSE was the first exchange in the country to provide a modern, fully automated screen-based electronic trading system which offered easy trading facility to the investors spread across the length and breadth of the country. NSE has several indices which serve investors of different sectors. Broad market indices like NIFTY 50, NIFTY 100, NIFTY 500, Nifty midcap 50, Nifty midcap 250, and Nifty small cap 100 serve as a benchmark for measuring the performance of the stocks or portfolios. NSE owns separate sectoral indices like Nifty Auto, Nifty Bank, Nifty FMCG, and Nifty IT etc. which support investors to understand performance of various industrial sectors in the economy. There are 3 indices especially for banking sector namely, Nifty Bank, Nifty private bank, Nifty PSU Bank for banking companies. Nifty Bank constitutes 12 banks, 9 from private and 3 public sector banks listed in NSE, Nifty private bank consists of 10 private sector banks and Nifty PSU bank consists 12 public sector banks listed in NSE. Selection of securities for investment is a crucial work which requires in depth study and better awareness regarding share price movements. This study intends to understand the volatility of share prices of three banking companies each of private and public sector. As it is an analytical research, secondary data has used for the study. Tools used for this are percentage, Trend lines and Market Indicators. Further the study analyzed the market volatility by using mean, standard deviation and correlation using the opening and closing prices and monthly average prices.

Increased growth in the rate of non-performing assets especially in the case of public sector banks developed a negative image on the face of banks. Demonetization announced by the central Govt. on 8<sup>th</sup> Nov 2016 raised a big controversy in the nation regards its impact. A number of scams related to banking sector in the form of non repayment of huge loans by corporate were also come into the news after the date of demonetization. In the light of all these, this study attempts to compare the performance of public sector banks with private sector banks in its stock price. It study the performance of stock prices of banking sector companies and its volatility during the last one year period starts from 1<sup>st</sup> sep 2017 to 31<sup>st</sup> Aug 2018.

**Keywords: Private Bank, Public sector bank, Nifty Bank, Nifty Private Bank, Nifty PSU Bank**

## Introduction

In the modern economic system banks play a very important role in Economic development. It has a vital role in building the economics of an individual as well as nation. Wide spread banking system of India has greater importance as it forms the lifeline of economic activity of both rural and urban areas. The development of a nation mainly depends on the existence of well developed financial sector which supports Industry, Agriculture, education, household etc. by providing loans and advances and other financial assistance. Presence of banks enables capital formation and which develops savings habits among the public. Banks are the credit creators. They support the nation in stabilizing the money supply and channelizing the fund to productive sectors. The Indian Banking industry has contributed to the economic

growth of the country. This sector has undergone significant developments and investors believe it as a sector having future prosperity. Reserve Bank of India is the central bank of the country; it regulates the banking industry in India and ensures monetary stability in the economy.

In India Banks are classified into different groups such as scheduled and unscheduled commercial banks, public sector banks, private banks, foreign banks and cooperative banks. RBI recently permitted to start payment banks too in India. Commercial banks occupies lion portion of Indian banking system which consists public sector and private sector banks. The period from 1991 onwards remarkable growth in the banking sector took place regards to liberalization of economic policies. As per the Narasimham Committee recommendation RBI permitted entry of private sector players in Indian Banking system. At present India has a wide range of banking sector which consists of 21 public sector banks and 20 private sector banks.

This study attempts to compare the volatility of share price of public sector banks with private sector banks.

## Review of Literature

**Gajera Alpeshkumar (2016)** in his theses concluded that return on assets is high in private sector banks while return on equity is high in public sector banks which indicate that private sector banks have optimum utilization of their assets. One reason behind deviation is public sector banks have network in rural area also which is not as profitable as urban area due to which public sector banks performance is poor compare to private sector banks.

**Chirag V. Jiyani (2015)** in his article concludes that private sector banking witnessed substantial growth and superior financial services. Deposits, Advances, Total Income, Total Expenses of private banks have increased during the study period. The study also shows that overall financial performance of private banks improved during the study period.

**T.Deva Prasad, C.Chaitanya, A.Thulasi Kumar (2018)** in their article states that result that technical indicators can play useful role in the timing stock market entry and exit. By applying technical tools brokers or investors enjoy substantial profit. Shares volatility of banking sectors differ from other sectors because banking share volatility depends upon RBI decision.

**Baggam Seshu Sailendra, T.Subramanian (2015)** in a paper titled "A Study on the Technical Analysis of Share Price Movements of Banking Sector with Special Reference to NSE" published in Transactions on Engineering and Sciences, analyzed that share prices of private sector banks shows more fluctuations than public sector banks".

**Dr. Virender Koundal (2012)** in his paper titled "performance of Indian banks in Indian financial System" concludes that various reforms have produced favorable effects on commercial banks in India, but it is realized that the major benefit is taken by the private sector banks and foreign banks whereas public sector banks are still lagging behind on various financial parameters.

**A. John William, T. Vimala (2015)** in a research paper entitled "a study on equity share price volatility of selected Private banks in (NSE) stock exchange" observes that even though the private banking companies adopt different operational strategy the share volatility is similar for all the selected private banks.

**Milan B. Undavia (2016)** in his paper titled "Fundamental Analysis of Selected Public and Private Sector Banks in India" found that South Indian Bank is the best stock from private sector banks for investment purpose & PNB is the best stock from Public Sector banks for investment purpose.

**Malaya Ranjan Mohapatra, Avizeet Lenka, Subrat Ku-mar Pradhan (2015)** in a paper titled "A Study of Operational Efficiency of Commercial Banks in Indian Financial System: At a Glance have analyzed the operational efficiency of commercial banks in India and challenges faced by public sector banks. The parameters considered for study are labour productivity, branch expansion and profitability ratios. The study

concluded that internal management and employee efficiency of foreign banks are far better than other sectors of commercial banks. Public sector banks are lagging behind in various financial parameters.

**Seema Malik (2014)** in a research paper titled “Technological Innovations in Indian Banking Sector: Changed face of Banking” reviewed the effect of technological innovations and benefits and challenges of changing banking sector. Technology and financial innovations led to tremendous improvement in banking services and operations over the past decades. Survival, growth and existence is depends on organisational effectiveness and operational efficiency in the current scenario where customer’s needs are changing every day.

## STATEMENT OF THE PROBLEM

The private sector banks play a vital role in the Indian economy. They indirectly motivate the public sector banks by offering a healthy competition to them. In India Banks are classified into different groups such as scheduled and unscheduled commercial banks, public sector banks, private banks, foreign banks and cooperative banks. RBI recently permitted to start payment banks too in India. Commercial banks occupies lion portion of Indian banking system which consists public sector and private sector banks. The period from 1991 onwards remarkable growth in the banking sector took place regards to liberalization of economic policies. As per the Narasimham Committee recommendation RBI permitted entry of private sector players in Indian Banking system. At present India has a wide range of banking sector which consists of 21 public sector banks and 20 private sector banks.

Demonetization announced by the central Govt. on 8<sup>th</sup> Nov 2016 raised a big controversy in the nation regards its impact. A number of scams related to banking sector in the form of non repayment of huge loans by corporate were also come into the news after the date of demonetization. In the light of all these, an attempt is made to compare the volatility of the share price movements of three banks each of private sector and public sector with that of Nifty Private bank and Nifty PSU Bank through technical analysis.

## Objectives of the Study

1. To study the volatility of share price movements of selected banking companies.
2. To compare the price movements of private bank with public sector banks.
3. To compare the performance of individual shares with Bank Nifty
4. To compare the performance of Nifty Private Bank with Nifty PSU bank.

## Research Methodology

Three popular banks were selected from Nifty private bank Index and Nifty PSU Bank for the study. Purposive sampling technique is used in this study. The data used in for the study is purely secondary in nature where the daily closing of the NIFTY index and daily closing prices of stock of the banks that appear in the bank index is used. The daily closing prices have been collected from the official website of National stock Exchange (NSE) for the period from 1<sup>st</sup> sep 2017 to 31<sup>st</sup> Aug 2018.

For data analysis here the descriptive statistics with regard to daily closing prices average, high and low are used. Volatility is explained using standard deviation and its coefficient. The NIFTY index returns and each of the bank returns have been correlated to see the relationship.

## Period of study

It intends to do a comparative study on the performance of stock prices of private sector banking companies with public sector banking companies for the last one year period starts from 1<sup>st</sup> sep 2017 to 31<sup>st</sup> Aug 2018.

## Limitations of the Study

1. This study is mainly carried out based on the performance 3 private sector and 3 public sector banks which might be not sufficient to generalize whole banking sector.
2. The study is based on technical analysis and no fundamental factors were considered.
3. The period of study restricted for 1<sup>st</sup> sep 2017 to 31<sup>st</sup> Aug 2018. which might be not sufficient to predict the future trend of market.

## Company profile

In this study I have selected 6 banks 3 from private sector and 3 from public sector. Below describes the present position of all these 6 selected banks.

### 1. State Bank of India

The origin of the State Bank of India goes back to the first decade of the nineteenth century with the establishment of the Bank of Calcutta in Calcutta on 2 June 1806. Three years later, the bank received its charter and was re-designed as the Bank of Bengal (2 January 1809). A unique institution, it was the first joint-stock bank of British India sponsored by the Government of Bengal. The Bank of Bombay (15 April 1840) and the Bank of Madras (1 July 1843) followed the Bank of Bengal. These three banks remained at the apex of modern banking in India till their amalgamation as the Imperial Bank of India on 27<sup>th</sup> January 1921.

The presidency Banks Act, which came into operation on 1 May 1876, brought the three presidency banks under a common statute with similar restrictions on business. The presidency Banks of Bengal, Bombay and Madras with their 70 branches were merged in 1921 to form the Imperial Bank of India. The new bank took on the triple role of a commercial bank, a banker's bank and a banker to the government. The establishment of the Reserve Bank of India as the central bank of the country in 1935 ended the quasi-central banking role of the Imperial Bank.

As per the recommendation of All India Rural Credit Survey Committee to create a state-partnered and state-sponsored bank by taking over the Imperial Bank of India, and integrating with it, the former state-owned or state-associate banks, an act was accordingly passed in Parliament in May 1955 and the State Bank of India was constituted on 1 July 1955. Later, the State Bank of India (Subsidiary Banks) Act was passed in 1959, enabling the State Bank of India to take over eight former State-associated banks as its subsidiaries (later named Associates).

State Bank of India provides a range of products and services to personal, commercial enterprises, large corporate, public bodies and institutional customers. The Company had approximately 22,500 branches and 58,000 ATMs. On 15 February 2017, the Union Cabinet approved the merger of 5 associate banks with SBI. Finally, the five associate banks, along with Bharatiya Mahila Bank, merged with SBI on 31 March 2017.

### 2. Bank of Baroda

On 20th July 1908, under the Companies Act of 1897, and with a paid up capital of Rs 10 Lacs. started the legend that has now translated into a strong, trustworthy financial body, THE BANK OF BARODA. Bank of Baroda (BoB) is an Indian state-owned International banking and financial services company headquartered in Vadodara (earlier known as Baroda) in Gujarat, India. It has a corporate office in Mumbai. It has a nationwide network of 5573 branches including 104 overseas branches. The Bank has transformed into 'India's International Bank.'

Bank of Baroda started its overseas journey by opening its first branch way back in 1953 in Mombassa, Kenya. Now BoB has its presence in Australia, Belgium, Hong Kong, China, Mauritius, Bahrain, Oman, USA, UK, UAE, Singapore, Bahamas, Fiji and Republic of South Africa.

### 3. Punjab National Bank

Punjab National Bank, India's first Swadeshi Bank, commenced its operations on April 12, 1895 from Lahore, with an authorized capital of Rs 2 lac and working capital of Rs 20,000. Far-sighted visionaries and patriots Lala Lajpat Rai, Mr. E.C. Jessawala, Babu Kali Prasono Roy, Lala Harkishan Lal and Sardar Dyal Singh Majithia displayed courage in giving expression to the spirit of nationalism by establishing the first bank purely managed by Indians with Indian Capital. During the long history of the Bank, 7 banks have merged with PNB. It is a state-owned corporation based in New Delhi, India. As of 31 March 2017, the bank has over 80 million customers, 6,937 branches, and 10681 ATMs across 764 cities. PNB has a banking subsidiary in the UK (PNB International Bank, with seven branches in the UK), as well as branches in Hong Kong, Kowloon, Dubai, and Kabul. It has representative offices in Almaty

(Kazakhstan), Dubai (United Arab Emirates), Shanghai (China), Oslo (Norway), and Sydney (Australia). In Bhutan it owns 51% of Druk PNB Bank, which has five branches. In Nepal PNB owns 20% of Everest Bank Limited, which has 50 branches. Lastly, PNB owns 84% of JSC (SB) PNB Bank in Kazakhstan, which has four branches.

#### 4. **Axis Bank Ltd**

Axis Bank is the third largest private sector bank in India. The Bank offers the entire spectrum of financial services to customer segments covering Large and Mid -Corporate, MSME, Agriculture and Retail Businesses.

The Bank has a large network of 2904 domestic branches (including extension counters) and 12,743 ATMs spread across the country as on 31st March 2016. The overseas operations of the Bank are spread over nine international offices with branches at Singapore, Hong Kong, Dubai (at the DIFC), Colombo and Shanghai; representative offices at Dhaka, Dubai, Abu Dhabi and an overseas subsidiary at London, UK. The international offices focus on corporate lending, trade finance, syndication, and investment banking and liability businesses.

Axis Bank is one of the first new generation private sector banks to have begun operations in 1994. The Bank was promoted in 1993, jointly by Specified Undertaking of Unit Trust of India (SUUTI) (then known as Unit Trust of India), Life Insurance Corporation of India (LIC), General Insurance Corporation of India (GIC), National Insurance Company Ltd., The New India Assurance Company Ltd., The Oriental Insurance Company Ltd. and United India Insurance Company Ltd. The share holding of Unit Trust of India was subsequently transferred to SUUTI, an entity established in 2003.

#### 5. **Kotak Mahindra Bank Ltd**

Since the inception of the erstwhile Kotak Mahindra Finance Limited in 1985, it has been a steady and confident journey leading to growth and success. Kotak Mahindra is one of India's leading banking and financial services group, offering a wide range of financial services that encompass every sphere of life. Kotak Mahindra Bank Ltd is a one stop shop for all banking needs. The bank offers personal finance solutions of every kind from savings accounts to credit cards, distribution of mutual funds to life insurance products. Kotak Mahindra Bank offers transaction banking, operates lending verticals, manages IPOs and provides working capital loans.

ING Vysya Bank has merged with Kotak Mahindra Bank with effect from April 1, 2015, and the combined entity will bear the name Kotak Mahindra Bank.

**Kotak Mahindra Bank** is an Indian private sector bank headquartered in Mumbai, Maharashtra, India. In February 2003, Reserve Bank of India (RBI) gave the license to Kotak Mahindra Finance Ltd., the group's flagship company, to carry on banking business. It offers a wide range of banking products and financial services for corporate and retail customers through a variety of delivery channels and specialized subsidiaries in the areas of personal finance, investment banking, life insurance, and wealth management

Kotak Mahindra Bank has a network of 1,348 branches across 675 locations and 2,051 ATMs in the country. In 2016, it is one of the largest private banks in India by market capitalization.

#### 6. **HDFC Bank Ltd**

The Housing Development Finance Corporation Limited (HDFC) was amongst the first to receive an 'in principle' approval from the Reserve Bank of India (RBI) to set up a bank in the private sector, as part of RBI's liberalization of the Indian Banking Industry in 1994. The bank was incorporated in August 1994 in the name of 'HDFC Bank Limited', with its registered office in Mumbai, India. HDFC Bank commenced operations as a Scheduled Commercial Bank in January 1995. The Bank had a nationwide distribution network of 4,787 branches and 12,635 ATM's in 2,691 cities/towns.

The shares are listed on the Bombay Stock Exchange Limited and National Stock Exchange of India Limited. The Bank's American Depository Shares (ADS) are listed on the New York Stock Exchange (NYSE) under the symbol 'HDB' and the Bank's Global Depository Receipts (GDRs) are listed on Luxembourg Stock Exchange under ISIN No US40415F2002.

On May 23, 2008, the amalgamation of Centurion Bank of Punjab with HDFC Bank was formally approved by Reserve Bank of India to complete the statutory and regulatory approval process. As per the

scheme of amalgamation, shareholders of CBoP received 1 share of HDFC Bank for every 29 shares of CBoP.

**Table – 1 Basic Detail of Selected Banks**

Symbol	BANKBARODA	SBIN	PNB	HDFCBANK	KOTAKBANK	AXISBANK
<b>Face Value</b>	2.00	1.00	2.00	2.00	5.00	2.00
<b>52 week high</b>	206.65	351.30	231.45	2220.00	1417.00	667.60
<b>52 week low</b>	109.5	232.35	71.65	1738.00	968	447.50

Source: [www.nseindia.com](http://www.nseindia.com)

### Monthly average prices of selected stocks from 1—Sept 2017 to 31-Aug-2018

Table -2 shows the monthly average of the closing prices of selected shares from 1- Sep- 2017 to the month of August 2018. This one year period will gives trend of share price movement. State Bank of India, Bank of Baroda and Punjab National Bank are the Public sector banks, while HDFC, Kotak Mahendra and Axis bank are private sector banks. Average price and variability of share price also can be found through standard deviation.

Table 2: Monthly average prices of selected shares from 1-Nov-2016 to 1-Aug-2018							
Sl.NO.	Date	SBIN	BANKBARODA	PNB	HDFC	KOTAKBANK	AXISBANK
11	1-Sep-17	268.01	141.33	139.94	1,808.02	1005.88	506.92
12	3-Oct-17	267.30	148.95	150.75	1,821.16	1048.60	496.08
13	1-Nov-17	327.34	173.91	189.23	1,833.42	1017.30	542.64
14	1-Dec-17	315.34	166.65	173.15	1,850.37	1010.74	544.88
15	1-Jan-18	307.66	163.41	174.48	1,911.47	1041.17	579.48
16	1-Feb-18	282.59	151.60	135.70	1,889.69	1063.15	550.37
17	1-Mar-18	251.67	137.80	97.22	1,862.10	1069.21	518.94
18	2-Apr-18	248.67	145.81	97.32	1,928.70	1145.02	517.34
19	2-May-18	252.91	138.81	85.81	2,008.35	1271.09	538.82
20	1-Jun-18	270.90	126.80	84.69	2,064.49	1322.13	525.93
21	2-Jul-18	266.12	123.76	77.95	2,153.67	1355.36	531.80
22	1-Aug-18	303.52	148.58	84.27	2,099.14	1279.19	617.21

Source: [www.nseindia.com](http://www.nseindia.com)

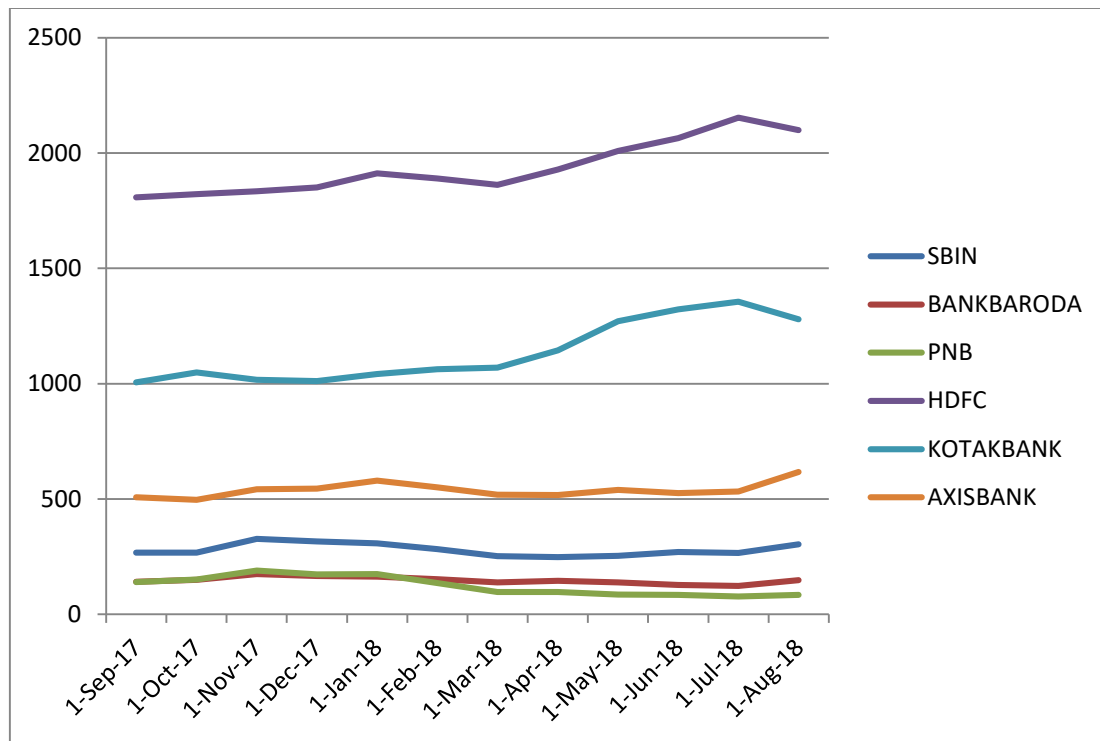


Figure – 1  
Monthly Average prices of selected shares from 1-Sep-2017 to 1-Aug-2018

**Interpretation**

Figure 1 shows the trend lines of all selected 6 shares. It is clear from the chart that private sector banks shows a clear upward trend and public sector banks keep a static mode. Among private sector banks HDFC bank and Kotak Mahindra Bank shows higher rate of growth and Axis bank also keep an increasing momentum. Punjab national bank shows a downward movement among public sector bank.

**Analysis of growth in the share prices**

The study period ranges from 1 Sept 2017 to 31<sup>st</sup> Aug 2018. Share prices of selected banks on the first day of Sept 2017 and current price (31st Aug 2018) were taken to find the changes happened.

Table 4: Changes in the price of shares during the study period

Name of the Bank	Price on 1-09-2017	Price on 31-08-2018	Change in value	% change
HDFC	1767.6	2061	293.4	16.60
KOTAKBANK	992	1287	295	29.74
AXISBANK	507.55	649	141.45	27.87
PNB	144.45	88.15	-56.3	-38.98
SBIN	277	309	32	11.55
BANKBARODA	138	152	14	10.14

Source: [www.nseindia.com](http://www.nseindia.com)

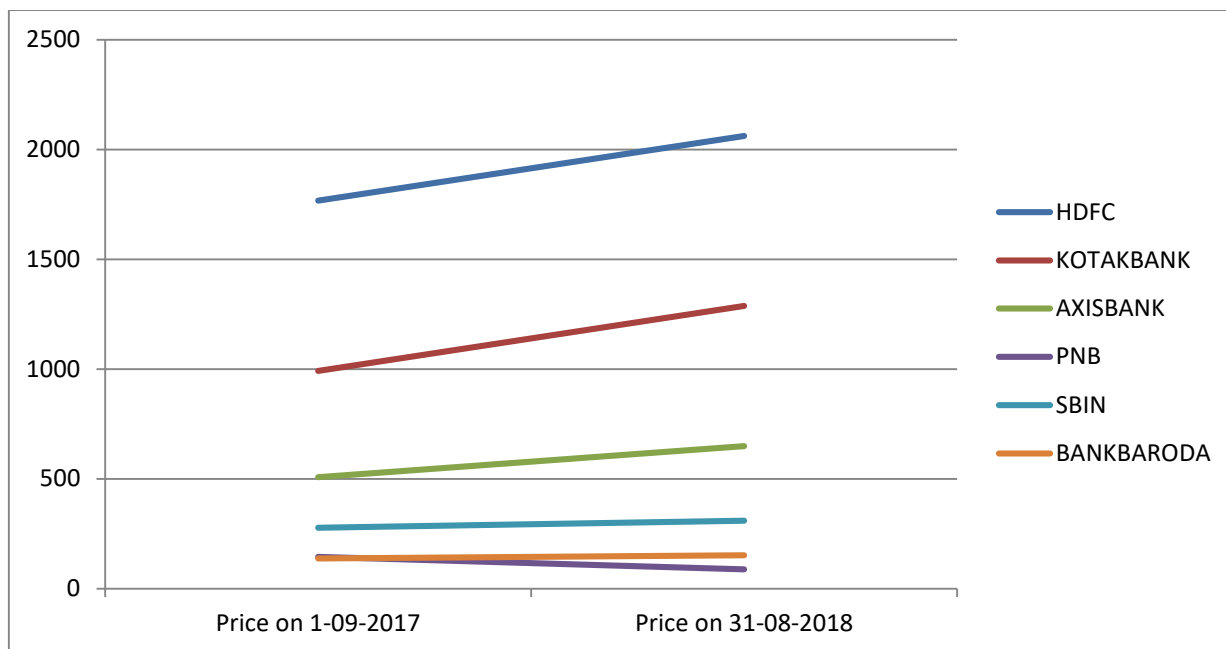


Figure 2: Changes in the price of shares during the study period

**Interpretation**

From the above table and figure it is clear that all three private sector banks keep a higher rate of increase in the share price. Kotak Mahindra Bank has the highest growth of 29.74%, closely followed by Axis bank at rate of 27.87%. Among public sector banks State Bank of India and Bank of Baroda shows an increase of 11% and 10% respectively. While Punjab National Bank shows a marginal decline of 38.98%.

**Mean and Standard Deviation**

The average and standard deviation of the share prices helps to understand the variability of the share price from its mean price. Daily closing prices of selected shares from 1 Sept 2017 to 1 Aug 2018 are used to find the average and standard deviation.

Table 3: Average price and coefficient of variation

Name of the Bank	Mean Price	Co-efficient of variation
HDFC	1935.88	6.06
KOTAKBANK	1135.74	11.71
AXISBANK	539.20	6.10
PNB	124.21	32.98
SBIN	280.17	9.57
BANKBARODA	147.28	10.32

**Interpretation**

Table 2 shows the average price and the dispersion of all the 6 selected shares for the period of Sep 2017 to Aug 2018. As per the figures listed above Punjab National bank shows the highest degree of volatility of 32.98%. HDFC bank keeps the least volatility of 6.06% among the 6 selected banks.

**Correlation**

Correlation analysis is used to measure the degree of relationship between two continuous variables. If there is any correlation between two variables that means both the variables moves in a systematic order.



Here in this study correlation between selected banking shares with bank nifty, Nifty private bank and Nifty PSU bank are calculated. It supports to find the direction of movement of specific share prices.

### a. Correlation with Nifty 50 and Nifty Bank Index

Correlation between share price movements of all the selected shares with Nifty 50 Index and Nifty Bank Index is shown in table 5.

Table 5: Correlation with Bank Nifty

Name of the Bank	Correlation With Nifty 50	Correlation With Nifty Bank
HDFC Bank	0.796342	0.820157
Kotak Mahindra bank	0.735116	0.725217
Axis Bank	0.772274	0.759941
Punjab National Bank	-0.39182	-0.28601
State Bank of India	0.330843	0.439387
Bank of Baroda	0.075927	0.085777

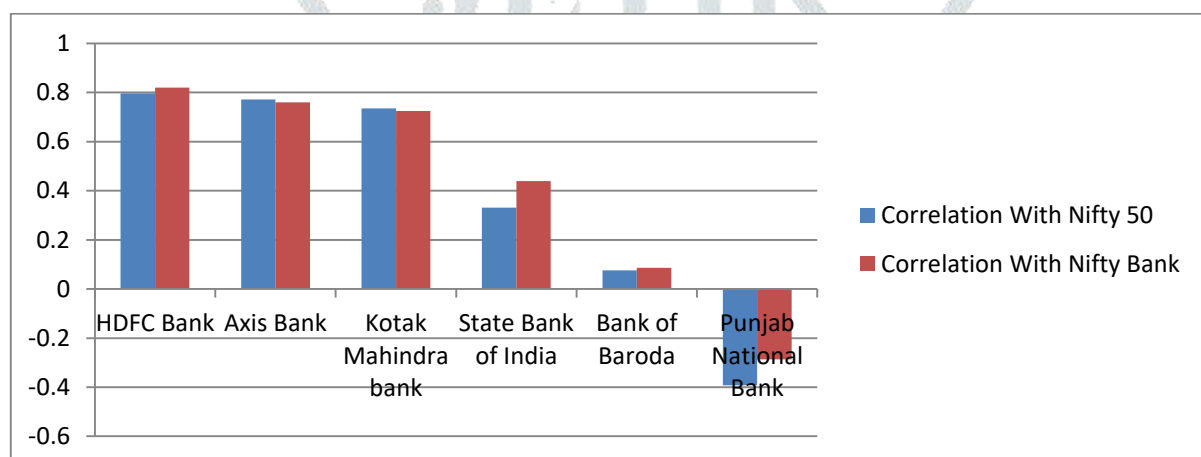


Figure 3: Correlation with Nifty 50 and Nifty Bank Index

### Interpretation

Table 5 and figure 3 shows correlation statistics of the monthly closing price of the individual stocks of banks with Nifty 50 Index and Nifty Bank Index. Stocks of all the private sector banks viz. HDFC Bank, Kotak Mahindra Bank and Axis Bank were positively correlated to the Nifty 50 and Bank Nifty Index. From the table it is clear that HDFC Bank has highest correlation (Positive) with Nifty 50 and Bank Nifty index among selected 6 banks. Other bank such as Kotak Mahindra Bank and Axis bank have higher correlation with a point of +0.77 and +0.750 respectively.

A public sector bank shows a less correlation with both indexes. State Bank India has the highest correlation with nifty indices among public sector banks. Punjab national bank shows a negative relation with both the indices under consideration.

### b. Correlation of Public sector banks with Nifty PSU Bank Index

Here in this study considered the 3 banks from public sector. State bank of India, Punjab National Bank and Bank of Baroda are the public sector banks. Table 6 shows the correlation of public sector banks with Nifty PSU Index.

Table 5: Correlation of Public sector banks with Nifty PSU Bank Index

Name of the Bank	Correlation With Nifty PSU Bank
Punjab National Bank	0.887839

State Bank of India	0.92011
Bank of Baroda	0.85646

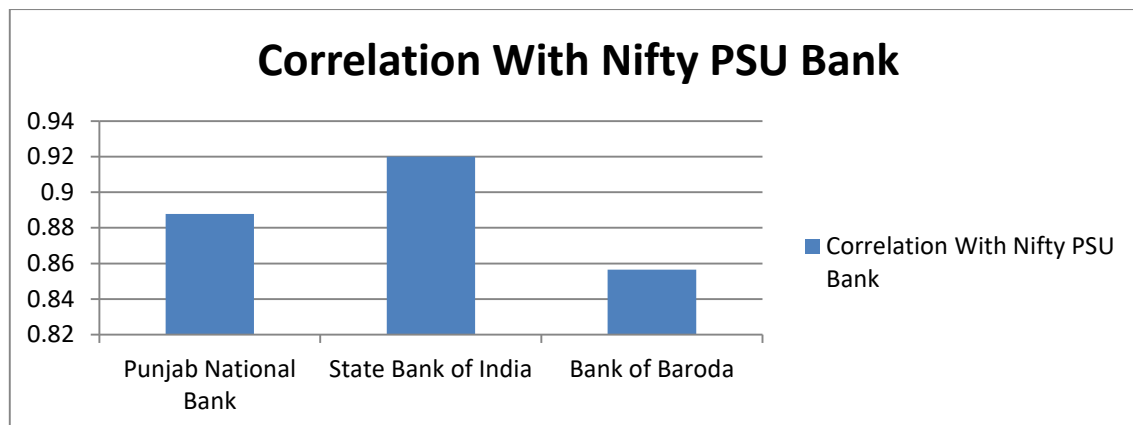


Figure 4: Correlation of Public sector banks with Nifty PSU Bank Index

**Interpretation**

All the public sector banks keep a positive correlation in its share price movement with Nifty PSU Bank Index. State Bank of India has the highest correlation of 0.92 followed by Punjab National Bank of 0.8878.

**c. Correlation of private sector banks with Nifty Private Bank index**

HDFC Bank, Kotak Mahindra Bank and Axis Bank is the private sector bank considered here in this study. Correlation of share price movement of these banks with the Nifty Private Bank Index for the last one year period is shown in the table -6

Table 6: Correlation of private sector banks with Nifty private Bank Index

Name of the Bank	Correlation With Nifty Private Bank
HDFC Bank	0.869137
Kotak Mahindra Bank	0.821979
Axis Bank	0.707725

**Interpretation**

It is clear from the table that all the private sector banks keep a positive correlation with Nifty Private Bank Index. HDFC bank has the highest correlation of 0.869 followed by Kotak Mahindra Bank of 0.8219. Axis bank has correlation of 0.707.

**d. Correlation of Banking sectoral Indices with Nifty 50 Index**

NSE has three indices related with banking companies. Nifty Bank Index represent entire banking sector whether public or private. Nifty PSU Bank index is another which represents only the public sector banks listed in NSE. Thirdly Nifty Private Bank Index representing private sector banks listed with NSE. Here this study tries to correlate the movement of these three indices with the Nifty 50 index.

Table 7: Correlation of sector indices with Nifty 50 Index

Name of the Index	Correlation With Nifty 50
Nifty Bank	0.948643193
Nifty Private Bank Index	0.954007127
Nifty PSU Bank Index	-0.012519409

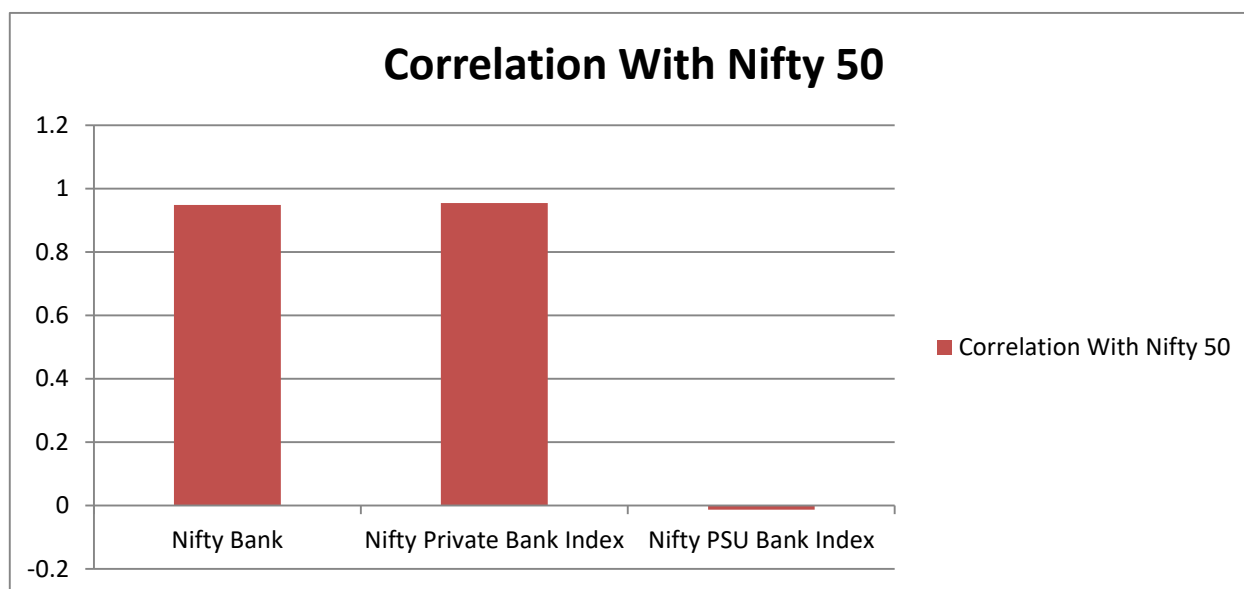


Figure 5: Correlation of sector indices with Nifty 50 Index

### Interpretation

From the table 7 figure 5 it is clear that Nifty Bank index and Nifty Private Bank index have high positive correlation of 0.948 and 0.954 respectively with NIFTY. While Nifty PSU Bank Index shows a negative correlation of -0.0125 with Nifty 50 index. From this it is clear that private banks moves in the same direction of overall Indian economy whereas public sector banking companies follows an opposite direction, that is a downward movement.

### Findings and Conclusions

Stock market in general considered as highly volatile and its volatility is taken as the key criteria while making investment decisions. In Indian economy, banking sector companies holds a good position in the investors mind while selecting stock for investment. This study attempted to measure the volatility of selected companies from banking sector. Estimation of volatility helps in pricing of securities and investment decisions. It also intends to compare the volatility and trends of public sector banks with private sector banks.

### Findings

1. All the private sector banks shows higher rate of growth when compare to public sector bank. Kotak Mahindra Bank has a growth rate of 29.74, closely followed by Axis bank 27.87. HDFC bank also shows a growth rate of 16.6 in the stock price during the last one year. At the same time state bank of India and Bank of Baroda made a growth of 11% and 10% respectively. Punjab national bank recorded a loss of 38% in its share price.
2. Stock prices public sector banks are more volatile than private sector banks. Punjab National Bank shows the highest volatility of 32.98% and HDFC Bank shows least volatility of 6.06%.
3. All the private sector banks shows high positive correlation to the Nifty 50 and Nifty Bank when compares to public sector banks. Punjab national bank shows a negative correlation, Bank of Baroda shows no correlation and State bank of India only shows a correlation of 0.33 and 0.43 with Nifty 50 and Nifty bank.
4. All the public sector banks show high positive correlation with Nifty PSU Bank index.
5. All private sector banks show high positive correlation with Nifty Private Bank Index.
6. When comparing bank indices with Nifty 50, it is found that Nifty bank and Nifty Private Bank Indices moves along with major index NIFTY. Both show a positive correlation of 0.948 and 0.956 respectively. But Nifty PSU Bank index recorded a negative correlation of 0.0125%.
7. While considering the correlation, percentage of growth and volatility it is clear that all the three private sector banks keep a positive direction than the public sector banks.

## Conclusion

Stock market is the one of the investment avenue which offers maximum return with higher rate of risk. Volatility of the stock price decides the degree of risk and return one investor can earn from stock market. So information regards to the stock price volatility helps the investor to make best investment decisions. Here this study attempts to compare the volatility of the public sector banks with the volatility of private sector banks.

## REFERENCES

1. Koundal, Virender (2012) Performance of Indian Banks in Indian Financial System. International Journal Of Social Science & Interdisciplinary Research, Vol.1 (9).
2. Malik, Seema (2014) Technological Innovations in Indian Banking Sector: Changed face of Banking, International Journal of Advance Research in Computer Science and Management Studies, Volume 2 (6).
3. Mohaptra Malaya Ranjan, Lenka Avizeet, Pradhan Subrat Kumar (2015). A Study of Operational Efficiency of Commercial Banks in Indian Financial System: At a Glance. Abhinav Journal of Research in Commerce & Management, Vol. 4(6), 13-18.
4. Soudhi, Amanjot and Simran, Waraich (2016), Fundamental Analysis of Selected Public and Private Sector Banks in India, NMIMS Management Review Volume XXVIII January-February 2016
5. William, Jhon, Vimala (2015), A Study on Equity Share Price Volatility Of Selected Private Banks In (Nse) Stock Exchange, International Journal of Research in Applied, Natural and Social Sciences, Vol. 3(7), Jul 2015, 87-96
6. Sailendra, Baggam and Subramanian T (2015), A Study on the Technical Analysis of Share Price Movements of Banking Sector with Special Reference to NSE, Transactions on Engineering and Sciences, Vol.3(5), July-September 2015
7. Chandran, Prema (2016), A Study on the Volatility and Returns of the Indian Banking Sector Index with Reference to NSE Nifty, International Journal of Advance Research in Computer Science and Management Studies, Vol. 4(4), April 2016.
8. Undavia, Milan (2016) Fundamental Analysis of Selected Public and Private Sector Banks in India, Indian Journal of Research, Vol. 5(11) November-2016
9. Prasad Deva T, Chaitanya C, Thulasi Kumar A (2018) A Study on Stock's Volatility in Banking Sector Using Technical Analysis, International Research Journal of Engineering and Technology (IRJET), Volume: 05(1) Jan-2018.
10. Gajera Alpeshkumar Chandulal (2016) in his theses on a comparative study on financial Performance of private and public Sector banks with special reference to Affecting factors and their impact on Performance indicators.
11. <http://www.thehindubusinessline.com/todays-paper/tp-moneybanking/evolution-of-sbi/article1051195.ece>
12. [www.nseindia.com](http://www.nseindia.com)