



A STUDY ON VOLATILITY OF BANKING SECTOR SCRIPS INCLUDED IN BSE BANKEX

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Abstract

The growth of equity markets in India has been phenomenal in the decade gone by. Right from early nineties the stock market witnessed heightened activity in terms of various bull and bear runs. The Sensex captured all these events in the most judicial manner. One can identify the booms and busts of the Indian stock market through Sensex. This study which attempts to study the volatility of banking sector scrips included in the BSE Bankex uses tools like return, correlation, beta and alpha.

Keywords : Scrip, banking sector, Bankex, return, correlation, beta and alpha

INTRODUCTION

The growth of equity markets in India has been phenomenal in the decade gone by. Right from early nineties the stock market witnessed heightened activity in terms of various bull and bear runs. The Sensex captured all these events in the most judicial manner. One can identify the booms and busts of the Indian stock market through Sensex.

REVIEW OF LITERATURE

Dr. Pallavi, 2000 in her research found that, as far as the Indian banking is concerned it can be categorized in different modes such as government owned, private banking and specialized banking institution.

An article entitled, “Recent Financial Crisis and Market Efficiency: An Empirical Analysis of Indian Stock Market”, by Anil K.Sharma and Neha Seth (2011), studied the impact of recent financial crisis on stock market efficiency in emerging stock markets such as India. It is found that Indian Stock Market did not exhibit weak form of market efficiency and thus did not follow random walk during the study period. The recent financial crisis did not have any impact on the behaviour of Indian Stock Markets.

Tamilselvan M (2011) in his study entitled, “An Empirical Evaluation of Risk Return Relationship in Indian Stock Market”, explored the relationship between excess returns and different risk measures including beta, a popular risk measurement variable in the Capital Asset Pricing Model (CAPM). The result suggested that investors did not hold diversified portfolios in Indian Market since the beta was not related to the returns on the stocks and it was possible to eliminate firm specific risks. Besides, the skewness and kurtosis played a vital role in the returns.

Rajesh Ramkumar. R, et.al (2012), in their article entitled, “An Analysis of Market Efficiency in Sectorial Indices: A Study with a Special reference to Bombay

Stock Exchange in India”, tested the 13 sectorial indices of BSE and examined the market efficiency. The study found that the returns of 8 indices out of 12 indices, namely, BSE Automobile index, BSE Bankex, BSE capital Goods Index, BSE Consumer Durables Index, BSE Health Care Index, BSE Metal Index, BSE PSU Index and BSE Realty Index followed normal distribution and earned better return.

NEED FOR THE STUDY:

The study will reveal the relationship between Bankex index and banking sector scrips and also to find how risk affects the index movement in the share market and fluctuation in the Bankex. The study can also be used to find the future value of banking shares which are traded in BSE. The outcome of this study will help the investors for making their investment decisions and also help the bankers to analyse the movement of their scrips in along with Bankex sector.

SCOPE AND SIGNIFICANCE OF THE STUDY

The study will reveal the relationship between Bankex index and banking sector scrips and also to find how risk affects the index movement in the share market and fluctuation in the Bankex. The study can also be used to find the future value of banking shares which are traded in BSE. The outcome of this study will help the investors for making their investment decisions and also help the bankers to analyse the movement of their scrips in along with Bankex.

OBJECTIVES OF THE STUDY

Primary Objective:

- To study the volatility and return of bank scrips included in BSE Bankex.

Secondary Objective:

- To find the volatility of the Bankex scrips during the study period.
- To study the price movements of Bankex scrips during the study period (May 2017-June 2018).
- To analyse the average returns and risk for the Bankex scrips.
- To find the association of the Bankex with stock market index.

DATA ANALYSIS AND INTERPRETATION

**TABLE 1 BANKEX & ANDHRA BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018**

Month	Bankex	Andhra Bank	X	Y
May-17	26,547.35	58.55	4.83	-14.65
Jun-17	26,277.96	54.4	-1.01	-7.09
Jul-17	28,386.54	57	8.02	4.78
Aug-17	27,440.82	52.25	-3.33	-8.33
Sep-17	27,025.26	56	-1.51	7.18
Oct-17	28,284.00	66.1	4.66	18.04
Nov-17	28,631.42	62.65	1.23	-5.22
Dec-17	28,856.77	58.15	0.79	-7.18
Jan-18	30,986.13	52.6	7.38	-9.54
Feb-18	28,313.85	46.05	-8.62	-12.45
Mar-18	27,197.88	41.65	-3.94	-9.55
Apr-18	28,651.87	39.75	5.35	-4.56
May-18	30,007.14	36.35	4.73	-8.55
Jun-18	29,250.56	32.7	-2.52	-10.04

From the above table, it is interpreted that the index return is negative and the Andhra Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Andhra Bank return has the highest return of 18.04% during the month of Oct 2017 and the lowest return of -14.65% during the month of May 2017.

TABLE 2 BANKEX & AXIS BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	Axis Bank	X	Y
May-17	26,547.35	514.2	4.83	0.90
Jun-17	26,277.96	516.1	-1.01	0.37
Jul-17	28,386.54	518.85	8.02	0.53
Aug-17	27,440.82	500.65	-3.33	-3.51
Sep-17	27,025.26	508.8	-1.51	1.63
Oct-17	28,284.00	523.05	4.66	2.80
Nov-17	28,631.42	536	1.23	2.48
Dec-17	28,856.77	562.4	0.79	4.93
Jan-18	30,986.13	593.4	7.38	5.51
Feb-18	28,313.85	529.6	-8.62	-10.75
Mar-18	27,197.88	509.4	-3.94	-3.81
Apr-18	28,651.87	518.05	5.35	1.70
May-18	30,007.14	543.3	4.73	4.87
Jun-18	29,250.56	510.4	-2.52	-6.06

From the above table, it is interpreted that the index return is negative and the Axis Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Axis Bank return has the highest return of 5.51% during the month of Jan 2018 and the lowest return of -10.75% during the month of Feb 2018.

TABLE 3 BANKEX & BANK OF BARODA
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	Bank of Baroda	X	Y
May-17	26,547.35	178	4.83	-5.07
Jun-17	26,277.96	161.1	-1.01	-9.49
Jul-17	28,386.54	165.6	8.02	2.79
Aug-17	27,440.82	137.65	-3.33	-16.88
Sep-17	27,025.26	137.5	-1.51	-0.11
Oct-17	28,284.00	169.85	4.66	23.53
Nov-17	28,631.42	169.05	1.23	-0.47
Dec-17	28,856.77	160.5	0.79	-5.06
Jan-18	30,986.13	156.95	7.38	-2.21
Feb-18	28,313.85	142	-8.62	-9.53
Mar-18	27,197.88	142.2	-3.94	0.14
Apr-18	28,651.87	148.65	5.35	4.54
May-18	30,007.14	137.05	4.73	-7.80
Jun-18	29,250.56	112.8	-2.52	-17.69

From the above table, it is interpreted that the index return is negative and the Bank of Baroda stock return is also negative. This is because the stock price fell

continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Bank of Baroda return has the highest return of 23.53% during the month of Oct 2017 and the lowest return of -17.69% during the month of Jun 2018.

TABLE 4 BANKEX & ANARA BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	Canara Bank	X	Y
May-17	26,547.35	350.75	4.83	-1.13
Jun-17	26,277.96	329	-1.01	-0.06
Jul-17	28,386.54	368.1	8.02	0.12
Aug-17	27,440.82	339.2	-3.33	-0.08
Sep-17	27,025.26	308.05	-1.51	-0.09
Oct-17	28,284.00	404.75	4.66	0.31
Nov-17	28,631.42	373.4	1.23	-0.08
Dec-17	28,856.77	360.9	0.79	-0.03
Jan-18	30,986.13	341.25	7.38	-0.05
Feb-18	28,313.85	299.3	-8.62	-0.12
Mar-18	27,197.88	264.25	-3.94	-0.12
Apr-18	28,651.87	265.8	5.35	0.01
May-18	30,007.14	257.2	4.73	-0.03
Jun-18	29,250.56	251.6	-2.52	-0.02

From the above table, it is interpreted that the index return is negative and the Canara Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Canara Bank return has the highest return of 0.31% during the month of Oct 2017 and the lowest return of -1.13% during the month of May 2017.

TABLE 5 BANKEX & ICICI BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	ICICI BANK	X	Y
May-17	26,547.35	326.3	4.83	17.16
Jun-17	26,277.96	290.1	-1.01	-11.09
Jul-17	28,386.54	301.95	8.02	4.08
Aug-17	27,440.82	297.65	-3.33	-1.42
Sep-17	27,025.26	276.95	-1.51	-6.95
Oct-17	28,284.00	299.95	4.66	8.30
Nov-17	28,631.42	307.8	1.23	2.62
Dec-17	28,856.77	314	0.79	2.01
Jan-18	30,986.13	352.95	7.38	12.40
Feb-18	28,313.85	313.5	-8.62	-11.18
Mar-18	27,197.88	278.4	-3.94	-11.20
Apr-18	28,651.87	284.45	5.35	2.17
May-18	30,007.14	285.6	4.73	0.40
Jun-18	29,250.56	275.5	-2.52	-3.54

From the above table, it is interpreted that the index return is negative and the ICICI Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

ICICI Bank return has the highest return of 17.16% during the month of May 2017 and the lowest return of -11.20% during the month of March 2018.

TABLE 6 BANKEK & HDFC BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	HDFC Bank	X	Y
May-17	26,547.35	1,633.35	4.83	5.91
Jun-17	26,277.96	1,652.25	-1.01	1.16
Jul-17	28,386.54	1,783.35	8.02	7.93
Aug-17	27,440.82	1,775.00	-3.33	-0.47
Sep-17	27,025.26	1,803.05	-1.51	1.58
Oct-17	28,284.00	1,808.80	4.66	0.32
Nov-17	28,631.42	1,852.05	1.23	2.39
Dec-17	28,856.77	1,873.55	0.79	1.16
Jan-18	30,986.13	2,006.35	7.38	7.09
Feb-18	28,313.85	1,883.80	-8.62	-6.11
Mar-18	27,197.88	1,891.45	-3.94	0.41
Apr-18	28,651.87	1,944.60	5.35	2.81
May-18	30,007.14	2,136.15	4.73	9.85
Jun-18	29,250.56	2,108.05	-2.52	-1.32

From the above table, it is interpreted that the index return is negative and the HDFC Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

HDFC Bank return has the highest return of 9.85% during the month of May 2018 and the lowest return of -6.11% during the month of February 2018..

TABLE 7 BANKEK & IDBI BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	IDBI BANK	X	Y
May-17	26,547.35	59.95	4.83	-23.19
Jun-17	26,277.96	53.4	-1.01	-10.93
Jul-17	28,386.54	59.35	8.02	11.14
Aug-17	27,440.82	55.1	-3.33	-7.16
Sep-17	27,025.26	52.4	-1.51	-4.90
Oct-17	28,284.00	62.7	4.66	19.66
Nov-17	28,631.42	60.6	1.23	-3.35
Dec-17	28,856.77	59.85	0.79	-1.24
Jan-18	30,986.13	60.35	7.38	0.84
Feb-18	28,313.85	74.6	-8.62	23.61
Mar-18	27,197.88	72.25	-3.94	-3.15
Apr-18	28,651.87	66.15	5.35	-8.44
May-18	30,007.14	65.4	4.73	-1.13
Jun-18	29,250.56	54.9	-2.52	-16.06

From the above table, it is interpreted that the index return is negative and the IDBI Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

IDBI Bank return has the highest return of 23.61% during the month of Feb 2018 and the lowest return of -23.19% during the month of May 2017.

TABLE 8 BANKEK & SBI
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	SBI	X	Y
May-17	26,547.35	288.55	4.83	-0.31
Jun-17	26,277.96	273.6	-1.01	-5.18
Jul-17	28,386.54	312.55	8.02	14.24
Aug-17	27,440.82	277.35	-3.33	-11.26
Sep-17	27,025.26	253.75	-1.51	-8.51
Oct-17	28,284.00	305.8	4.66	20.51
Nov-17	28,631.42	320.45	1.23	4.79
Dec-17	28,856.77	309.5	0.79	-3.42
Jan-18	30,986.13	312.75	7.38	1.05
Feb-18	28,313.85	268.75	-8.62	-14.07
Mar-18	27,197.88	250.1	-3.94	-6.94
Apr-18	28,651.87	246.3	5.35	-1.52
May-18	30,007.14	269.2	4.73	9.30
Jun-18	29,250.56	259.3	-2.52	-3.68

From the above table, it is interpreted that the index return is negative and the State Bank of India stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

SBI return has the highest return of 20.51% during the month of Oct 2017 and the lowest return of -14.07% during the month of Feb 2018.

TABLE 9 BANKEK & PUNJAB NATIONL BANK PRICE FROM MAY 2017
TO JUNE 2018

Month	Bankex	PNB	X	Y
May-17	26,547.35	150.1	4.83	-11.13
Jun-17	26,277.96	137.15	-1.01	-8.63
Jul-17	28,386.54	162.2	8.02	18.26
Aug-17	27,440.82	143.7	-3.33	-11.41
Sep-17	27,025.26	129.05	-1.51	-10.19
Oct-17	28,284.00	196.7	4.66	52.42
Nov-17	28,631.42	176.15	1.23	-10.45
Dec-17	28,856.77	171.5	0.79	-2.64
Jan-18	30,986.13	171.25	7.38	-0.15
Feb-18	28,313.85	101.35	-8.62	-40.82
Mar-18	27,197.88	95.45	-3.94	-5.82
Apr-18	28,651.87	95.2	5.35	-0.26
May-18	30,007.14	83.6	4.73	-12.18
Jun-18	29,250.56	75.95	-2.52	-9.15

From the above table, it is interpreted that the index return is negative and the Punjab National Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

PNB return has the highest return of 52.42% during the month of Oct2017 and the lowest return of -40.82% during the month of Feb 2018.

TABLE 10 BANKEX & UNION BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	Union Bank	X	Y
May-17	26,547.35	155.5	4.83	-9.01
Jun-17	26,277.96	147.3	-1.01	-5.27
Jul-17	28,386.54	157.9	8.02	7.20
Aug-17	27,440.82	135.85	-3.33	-13.96
Sep-17	27,025.26	126.65	-1.51	-6.77
Oct-17	28,284.00	176.7	4.66	39.52
Nov-17	28,631.42	164.35	1.23	-6.99
Dec-17	28,856.77	144.35	0.79	-12.17
Jan-18	30,986.13	136.35	7.38	-5.54
Feb-18	28,313.85	105.35	-8.62	-22.74
Mar-18	27,197.88	94.1	-3.94	-10.68
Apr-18	28,651.87	95.5	5.35	1.49
May-18	30,007.14	90.3	4.73	-5.45
Jun-18	29,250.56	82	-2.52	-9.19

From the above table, it is interpreted that the index return is negative and the Union Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Union Bank return has the highest return of 39.52% during the month of Oct 2017 and the lowest return of -22.74% during the month of Feb 2018.

TABLE 11 BANKEX & IOB
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	IOB	X	Y
May-17	26,547.35	26.45	4.83	-8.79
Jun-17	26,277.96	24.8	-1.01	-6.24
Jul-17	28,386.54	25.05	8.02	1.01
Aug-17	27,440.82	22.45	-3.33	-10.38
Sep-17	27,025.26	22.3	-1.51	-0.67
Oct-17	28,284.00	25.4	4.66	13.90
Nov-17	28,631.42	24.15	1.23	-4.92
Dec-17	28,856.77	22.25	0.79	-7.87
Jan-18	30,986.13	22.7	7.38	2.02
Feb-18	28,313.85	19.55	-8.62	-13.88
Mar-18	27,197.88	17.25	-3.94	-11.76
Apr-18	28,651.87	18.3	5.35	6.09
May-18	30,007.14	16.2	4.73	-11.48
Jun-18	29,250.56	14.1	-2.52	-12.96

From the above table, it is interpreted that the index return is negative and the IOB Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

IOB return has the highest return of 13.90% during the month of Oct 2017 and the lowest return of -13.88% during the month of Feb 2018.

TABLE 12 BANKEX & YES BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	YES Bank	X	Y
May-17	26,547.35	1,431.90	4.83	-12.19
Jun-17	26,277.96	1,461.85	-1.01	2.09
Jul-17	28,386.54	1,809.80	8.02	23.80
Aug-17	27,440.82	1,755.75	-3.33	-2.99
Sep-17	27,025.26	350	-1.51	-80.07
Oct-17	28,284.00	314.35	4.66	-10.19
Nov-17	28,631.42	306.8	1.23	-2.40
Dec-17	28,856.77	315.05	0.79	2.69
Jan-18	30,986.13	354.45	7.38	12.51
Feb-18	28,313.85	322.25	-8.62	-9.08
Mar-18	27,197.88	304.9	-3.94	-5.38
Apr-18	28,651.87	362.05	5.35	18.74
May-18	30,007.14	346.2	4.73	-4.38
Jun-18	29,250.56	339.6	-2.52	-1.91

From the above table, it is interpreted that the index return is negative and the Yes Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Yes Bank return has the highest return of 23.90% during the month of July 2017 and the lowest return of -80.07% during the month of Sep 2017.

TABLE 13 BANKEX & ALLAHABAD BANK
SHARE PRICE FROM MAY 2017 TO JUNE 2018

Month	Bankex	ALLAHABAD BANK	X	Y
May-17	26,547.35	70.05	4.83	-14.78
Jun-17	26,277.96	67.9	-1.01	-3.07
Jul-17	28,386.54	74.7	8.02	10.01
Aug-17	27,440.82	69.05	-3.33	-7.56
Sep-17	27,025.26	65.85	-1.51	-4.63
Oct-17	28,284.00	78.4	4.66	19.06
Nov-17	28,631.42	76.6	1.23	-2.30
Dec-17	28,856.77	73.4	0.79	-4.18
Jan-18	30,986.13	66.65	7.38	-9.20
Feb-18	28,313.85	52.7	-8.62	-20.93
Mar-18	27,197.88	48.35	-3.94	-8.25
Apr-18	28,651.87	49.1	5.35	1.55
May-18	30,007.14	41.9	4.73	-14.66
Jun-18	29,250.56	41.75	-2.52	-0.36

From the above table, it is interpreted that the index return is negative and the Allahabad Bank stock return is also negative. This is because the stock price fell continuously during the period. The Bankex returns has reached highest of 8.02% in the month of July 2017 and the lowest of -8.62% during the month of February 2018.

Allahabad Bank return has the highest return of 19.06% during the month of Oct 2017 and the lowest return of -20.93% during the month of Feb 2018.

TABLE 16 CORRELATION BETWEEN BANKEX AND BOB SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	-5.07	23.29	25.67	-24.45
Jun-17	-1.01	-9.49	1.03	90.14	9.63
Jul-17	8.02	2.79	64.39	7.80	22.41
Aug-17	-3.33	-16.88	11.10	284.87	56.23
Sep-17	-1.51	-0.11	2.29	0.01	0.17
Oct-17	4.66	23.53	21.69	553.53	109.58
Nov-17	1.23	-0.47	1.51	0.22	-0.58
Dec-17	0.79	-5.06	0.62	25.58	-3.98
Jan-18	7.38	-2.21	54.45	4.89	-16.32
Feb-18	-8.62	-9.53	74.38	90.73	82.15
Mar-18	-3.94	0.14	15.53	0.02	-0.56
Apr-18	5.35	4.54	28.58	20.57	24.25
May-18	4.73	-7.80	22.37	60.90	-36.91
Jun-18	-2.52	-17.69	6.36	313.09	44.61

$r = 0.49$ $r^2 = 0.24$

The correlation between Bankex and BOB Bank is 0.49 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.24 shows that there is 24% of variation in BOB stock return as compared to the return on the Bankex.

TABLE 17 CORRELATION BETWEEN BANKEX AND CANARA BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	-1.13	23.29	1.27	-5.44
Jun-17	-1.01	-0.06	1.03	0.00	0.06
Jul-17	8.02	0.12	64.39	0.01	0.95
Aug-17	-3.33	-0.08	11.10	0.01	0.26
Sep-17	-1.51	-0.09	2.29	0.01	0.14
Oct-17	4.66	0.31	21.69	0.10	1.46
Nov-17	1.23	-0.08	1.51	0.01	-0.10
Dec-17	0.79	-0.03	0.62	0.00	-0.03
Jan-18	7.38	-0.05	54.45	0.00	-0.40
Feb-18	-8.62	-0.12	74.38	0.02	1.06
Mar-18	-3.94	-0.12	15.53	0.01	0.46
Apr-18	5.35	0.01	28.58	0.00	0.03
May-18	4.73	-0.03	22.37	0.00	-0.15
Jun-18	-2.52	-0.02	6.36	0.00	0.05

$r = -0.024$ $r^2 = 0.006$

The correlation between Bankex and Canara Bank is -0.024 Thus we find that there is a negative correlation between the above two returns.

Correlation coefficient of 0.006 shows that there is 0.6% of variation in Canara Bank stock return as compared to the return on the Bankex.

TABLE 18 CORRELATION BETWEEN BANKEX AND ICICI BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	17.16	23.29	294.58	82.82
Jun-17	-1.01	-11.09	1.03	123.08	11.26
Jul-17	8.02	4.08	64.39	16.69	32.78
Aug-17	-3.33	-1.42	11.10	2.03	4.74
Sep-17	-1.51	-6.95	2.29	48.36	10.53
Oct-17	4.66	8.30	21.69	68.97	38.68
Nov-17	1.23	2.62	1.51	6.85	3.21
Dec-17	0.79	2.01	0.62	4.06	1.59
Jan-18	7.38	12.40	54.45	153.87	91.53
Feb-18	-8.62	-11.18	74.38	124.93	96.39
Mar-18	-3.94	-11.20	15.53	125.35	44.13
Apr-18	5.35	2.17	28.58	4.72	11.62
May-18	4.73	0.40	22.37	0.16	1.91
Jun-18	-2.52	-3.54	6.36	12.51	8.92

$r = 0.79$ $r^2 = 0.62$

The correlation between Bankex and ICICI Bank is 0.79 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.62 shows that there is 62% of variation in ICICI Bank stock return as compared to the return on the Bankex.

TABLE 19 CORRELATION BETWEEN BANKEX AND HDFC BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

May-17	4.83	5.91	23.29	34.97	28.54
Jun-17	-1.01	1.16	1.03	1.34	-1.17
Jul-17	8.02	7.93	64.39	62.96	63.67
Aug-17	-3.33	-0.47	11.10	0.22	1.56
Sep-17	-1.51	1.58	2.29	2.50	-2.39
Oct-17	4.66	0.32	21.69	0.10	1.49
Nov-17	1.23	2.39	1.51	5.72	2.94
Dec-17	0.79	1.16	0.62	1.35	0.91
Jan-18	7.38	7.09	54.45	50.24	52.30
Feb-18	-8.62	-6.11	74.38	37.31	52.68
Mar-18	-3.94	0.41	15.53	0.16	-1.60
Apr-18	5.35	2.81	28.58	7.90	15.02
May-18	4.73	9.85	22.37	97.03	46.59
Jun-18	-2.52	-1.32	6.36	1.73	3.32

$r = 0.85$ $r^2 = 0.73$

The correlation between Bankex and HDFC Bank is 0.85 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.73 shows that there is 73% of variation in HDFC Bank stock return as compared to the return on the Bankex.

TABLE 20 CORRELATION BETWEEN BANKEX AND IDBI BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May 17	4.83	-23.19	23.29	537.79	-111.91
Jun-17	-1.01	-10.93	1.03	119.37	11.09
Jul-17	8.02	11.14	64.39	124.15	89.41
Aug-17	-3.33	-7.16	11.10	51.28	23.86
Sep-17	-1.51	-4.90	2.29	24.01	7.42
Oct-17	4.66	19.66	21.69	386.38	91.55
Nov-17	1.23	-3.35	1.51	11.22	-4.11
Dec-17	0.79	-1.24	0.62	1.53	-0.97
Jan-18	7.38	0.84	54.45	0.70	6.16
Feb-18	-8.62	23.61	74.38	557.54	-203.63
Mar-18	-3.94	-3.15	15.53	9.92	12.42
Apr-18	5.35	-8.44	28.58	71.28	-45.14
May18	4.73	-1.13	22.37	1.29	-5.36
Jun-18	-2.52	-16.06	6.36	257.76	40.48

$r = -0.08$ $r^2 = 0.0056$

The correlation between Bankex and IDBI Bank is -0.08 Thus we find that there is a negative correlation between the above two returns.

Correlation coefficient of 0.56 shows that there is 56% of variation in IDBI Bank stock return as compared to the return on the Bankex.

TABLE 21 CORRELATION BETWEEN BANKEX AND SBI SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	-0.31	23.29	0.10	-1.50
Jun-17	-1.01	-5.18	1.03	26.84	5.26
Jul-17	8.02	14.24	64.39	202.67	114.23
Aug-17	-3.33	-11.26	11.10	126.84	37.52
Sep-17	-1.51	-8.51	2.29	72.40	12.89
Oct-17	4.66	20.51	21.69	420.76	95.54
Nov-17	1.23	4.79	1.51	22.95	5.88
Dec-17	0.79	-3.42	0.62	11.68	-2.69
Jan-18	7.38	1.05	54.45	1.10	7.75
Feb-18	-8.62	-14.07	74.38	197.93	121.33
Mar-18	-3.94	-6.94	15.53	48.16	27.35
Apr-18	5.35	-1.52	28.58	2.31	-8.12
May-18	4.73	9.30	22.37	86.45	43.98
Jun-18	-2.52	-3.68	6.36	13.52	9.27

$r = 0.77$ $r^2 = 0.59$

The correlation between Bankex and SBI Bank is 0.77 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.59 shows that there is 59% of variation in SBI Bank stock return as compared to the return on the Bankex.

TABLE 22 CORRELATION BETWEEN BANKEX AND PNB SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May17	4.83	-11.13	23.29	123.90	-53.71
Jun-17	-1.01	-8.63	1.03	74.44	8.75
Jul-17	8.02	18.26	64.39	333.60	146.56
Aug-17	-3.33	-11.41	11.10	130.09	38.00
Sep-17	-1.51	-10.19	2.29	103.93	15.44
Oct-17	4.66	52.42	21.69	2,748.02	244.16
Nov-17	1.23	-10.45	1.51	109.15	-12.83
Dec-17	0.79	-2.64	0.62	6.97	-2.08
Jan-18	7.38	-0.15	54.45	0.02	-1.08
Feb-18	-8.62	-40.82	74.38	1,666.07	352.02
Mar-18	-3.94	-5.82	15.53	33.89	22.94
Apr-18	5.35	-0.26	28.58	0.07	-1.40
May18	4.73	-12.18	22.37	148.47	-57.64
Jun-18	-2.52	-9.15	6.36	83.74	23.07

$r = 0.61$ $r^2 = 0.37$

The correlation between Bankex and PNB Bank is 0.61 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.37 shows that there is 37% of variation in PNB Bank stock return as compared to the return on the Bankex.

TABLE 23 CORRELATION BETWEEN BANKEX AND UNION BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May17	4.83	-9.01	23.29	81.20	-43.48
Jun-17	-1.01	-5.27	1.03	27.81	5.35
Jul-17	8.02	7.20	64.39	51.79	57.74
Aug-17	-3.33	-13.96	11.10	195.01	46.52
Sep-17	-1.51	-6.77	2.29	45.86	10.26
Oct-17	4.66	39.52	21.69	1,561.70	184.06
Nov-17	1.23	-6.99	1.51	48.85	-8.59
Dec-17	0.79	-12.17	0.62	148.09	-9.58
Jan-18	7.38	-5.54	54.45	30.71	-40.90
Feb-18	-8.62	-22.74	74.38	516.91	196.07
Mar-18	-3.94	-10.68	15.53	114.03	42.09
Apr-18	5.35	1.49	28.58	2.21	7.95
May-8	4.73	-5.45	22.37	29.65	-25.76
Jun-18	-2.52	-9.19	6.36	84.49	23.18

$r = 0.56$ $r^2 = 0.32$

The correlation between Bankex and Union Bank is 0.56 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.32 shows that there is 32% of variation in Union Bank stock return as compared to the return on the Bankex.

TABLE 24 CORRELATION BETWEEN BANKEX AND IOB SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	-8.79	23.29	77.32	-42.43
Jun-17	-1.01	-6.24	1.03	38.91	6.33
Jul-17	8.02	1.01	64.39	1.02	8.09
Aug-17	-3.33	-10.38	11.10	107.73	34.58
Sep-17	-1.51	-0.67	2.29	0.45	1.01
Oct-17	4.66	13.90	21.69	193.25	64.75
Nov-17	1.23	-4.92	1.51	24.22	-6.04
Dec-17	0.79	-7.87	0.62	61.90	-6.19
Jan-18	7.38	2.02	54.45	4.09	14.92
Feb-18	-8.62	-13.88	74.38	192.56	119.67
Mar-18	-3.94	-11.76	15.53	138.41	46.37
Apr-18	5.35	6.09	28.58	37.05	32.54
May-18	4.73	-11.48	22.37	131.69	-54.28
Jun-18	-2.52	-12.96	6.36	168.04	32.68

$r = 0.63$ $r^2 = 0.40$

The correlation between Bankex and IOB Bank is 0.63 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.40 shows that there is 40% of variation in IOB Bank stock return as compared to the return on the Bankex.

TABLE 25 CORRELATION BETWEEN BANKEX AND YES BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May17	4.83	-12.19	23.29	148.62	-58.83
Jun-17	-1.01	2.09	1.03	4.37	-2.12
Jul-17	8.02	23.80	64.39	566.54	190.99
Aug-17	-3.33	-2.99	11.10	8.92	9.95
Sep-17	-1.51	-80.07	2.29	6,410.48	121.25
Oct-17	4.66	-10.19	21.69	103.75	-47.44
Nov-17	1.23	-2.40	1.51	5.77	-2.95
Dec-17	0.79	2.69	0.62	7.23	2.12
Jan-18	7.38	12.51	54.45	156.40	92.28
Feb-18	-8.62	-9.08	74.38	82.53	78.35
Mar-18	-3.94	-5.38	15.53	28.99	21.22
Apr-18	5.35	18.74	28.58	351.33	100.20
May18	4.73	-4.38	22.37	19.17	-20.71
Jun-18	-2.52	-1.91	6.36	3.63	4.81

$r = 0.08$ $r^2 = 0.01$

The correlation between Bankex and YES Bank is 0.08 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.01 shows that there is 1% of variation in YES Bank stock return as compared to the return on the Bankex.

TABLE 26 CORRELATION BETWEEN BANKEX AND ALLAHABAD BANK SHARE PRICE FOR THE PERIOD MAY 2017 TO JUNE 2018

Month	X	Y	X ²	Y ²	XY
May-17	4.83	-14.78	23.29	218.48	-71.33
Jun-17	-1.01	-3.07	1.03	9.42	3.11
Jul-17	8.02	10.01	64.39	100.29	80.36
Aug-17	-3.33	-7.56	11.10	57.21	25.20
Sep-17	-1.51	-4.63	2.29	21.48	7.02
Oct-17	4.66	19.06	21.69	363.23	88.77
Nov-17	1.23	-2.30	1.51	5.27	-2.82
Dec-17	0.79	-4.18	0.62	17.45	-3.29
Jan-18	7.38	-9.20	54.45	84.57	-67.86
Feb-18	-8.62	-20.93	74.38	438.07	180.50
Mar-18	-3.94	-8.25	15.53	68.13	32.53
Apr-18	5.35	1.55	28.58	2.41	8.29
May-18	4.73	-14.66	22.37	215.03	-69.36
Jun-18	-2.52	-0.36	6.36	0.13	0.90

$r = 0.43$ $r^2 = 0.19$

The correlation between Bankex and Allahabad Bank is 0.43 Thus we find that there is a positive correlation between the above two returns.

Correlation coefficient of 0.19 shows that there is 19% of variation in Allahabad Bank stock return as compared to the return on the Bankex.

BETA ANALYSIS

Beta is the slope of the characteristic regression line. Beta describes the relationship between the stock’s return and the index returns.

Beta =+1.0 one percent change in market index return. It indicates that the stock moves in tandem with the market.

TABLE 27 BETA VALUES OF BANKING SECTOR FOR THE PERIOD (MAY 2017 – JUNE 2018)

NAME OF THE BANK	BETA VALUES
ANDHRA BANK	$\beta = 0.55$
AXIS BANK	$\beta = 0.74$
BANK OF BARODA	$\beta = 1.02$
CANARA BANK	$\beta = (0.05)$
ICICI BANK	$\beta = 1.43$
HDFC BANK	$\beta = 0.72$
IDBI BANK	$\beta = (0.25)$
STATE BANK OF INDIA	$\beta = 1.56$
PUNJAB NATIONAL BANK	$\beta = 2.60$
UNION BANK	$\beta = 1.69$
IOB BANK	$\beta = 1.06$
YES BANK	$\beta = 1.88$
ALLAHABAD BANK	$\beta = 0.90$

- i. ANDHRA Bank: Beta for Andhra Bank is 0.55% which indicates risk less volatile in line with the Bankex.
- ii. AXIS Bank: Beta for Axis Bank is 0.74% which indicates risk less volatile in line with the Bankex.
- iii. BOB: Beta for BOB Bank is 1.02% which indicates risk much in line with the Bankex.

- iv. CANARA Bank: Beta for CANARA Bank is -0.0005% which indicates risk less volatile in line with the Bankex.
- v. ICICI Bank: Beta for ICICI Bank is 1.43% which indicates risk much in line with the Bankex.
- vi. HDFC Bank: Beta for HDFC Bank is 0.72% which indicates risk less volatile in line with the Bankex.
- vii. IDBI Bank: Beta for IDBI Bank is -0.25% which indicates risk less volatile in line with the Bankex.
- viii. SBI : Beta for SBI Bank is 1.56% which indicates risk much in line with the Bankex
- ix. PNB: Beta for PNB Bank is 2.60% which indicates risk more volatile in line with the Bankex
- x. UNION Bank: Beta for UNION Bank is 1.69 % which indicates risk much in line with the Bankex
- xi. IOB: Beta for IOB Bank is 1.06% which indicates risk much in line with the Bankex.
- xii. YES Bank: Beta for YES Bank is 1.88 % which indicates risk much in line with the BANKEX.
- xiii. ALLAHABAD Bank: Beta for Allahabad Bank is 0.90% which indicates risk less volatile in line with the Bankex

ALPHA ANALYSIS OF THE BANKS ON2017 – 18::

NAME OF THE BANK	BETA VALUES
ANDHRA BANK	$\alpha=-5.43$
AXIS BANK	$\alpha=-0.73$
BANK OF BARODA	$\alpha=-4.26$
CANARA BANK	$\alpha=-0.04$
ICICI BANK	$\alpha=-1.37$
HDFC BANK	$\alpha=1.51$
IDBI BANK	$\alpha=-1.45$
STATE BANK OF INDIA	$\alpha=-2.14$
PUNJAB NATIONAL BANK	$\alpha=-6.70$
UNION BANK	$\alpha=-6.19$
IOB BANK	$\alpha=-5.92$
YES BANK	$\alpha=-7.06$
ALLAHABAD BANK	$\alpha=-5.27$

The positive value of alpha is a healthy sign. Positive alpha value would yield profitable return. Those who banks are got positive sign it considered to be healthy return and those who banks are got negative sign it considered to be unhealthy returns.

- i. ANDHRA Bank: Andhra bank has negative alpha of 5.43% thereby indicating the probability of getting low or no returns.
- ii. AXIS Bank: Axis bank has negative alpha of 0.73% thereby indicating the probability of getting low or no returns.
- iii. BOB: BOB bank has negative alpha of -4.26% thereby indicating the probability of getting low or no returns.
- iv. CANARA Bank: Negative alpha of -0.04% thereby indicating the probability of getting low or no returns.

- v. ICICI Bank: ICICI Bank has negative alpha of -1.37% thereby indicating the probability of getting low or no returns
- vi. HDFC: HDFC Bank has positive sign of 1.51% therefore it will yield profitable returns.
- vii. IDBI Bank: IDBI Bank has negative alpha of -1.45% thereby indicating the probability of getting low or no returns.
- viii. SBI: SBI Bank has negative alpha of -2.14% thereby indicating the probability of getting low or no returns.
- ix. PNB: PNB Bank has negative alpha of -6.70% thereby indicating the probability of getting low or no returns.
- x. UNION Bank: UNION Bank has negative alpha of -6.19% thereby indicating the probability of getting low or no returns.
- xi. IOB: IOB Bank has negative alpha of -5.92% thereby indicating the probability of getting low or no returns.
- xii. YES Bank: YES Bank has negative alpha of -7.06% thereby indicating the probability of getting low or no returns.
- xiii. ALLAHABAD Bank: Allahabad Bank has negative alpha of -5.27% thereby indicating the probability of getting low or no returns.

SUGGESTIONS

- i. When calculating the real index, more number of banks can be included.
- ii. When calculating index, the developing banking share prices can be included, because it will help to find the real growth of the banking sector and index.
- iii. It is found that Axis, ICICI, BOI, IDBI and SBI have highly volatility in the Bankex. It is risky for the investors.

CONCLUSION

The study has revealed the relationship between Bankex index and banking sector scrips and also helps to identify how risk affects the index movement in the share market and fluctuation in the Bankex. The outcome of this study will help the investors for making their investment decisions and also help the bankers to analyse the movement of their scrips along with Bankex sector.

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