

EVA BASED PERFORMANCE MEASUREMENT: A CASE STUDY OF SBI AND ICICI BANK

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Abstract

Maximizing the shareholders wealth is the primary objective of financial management. The returns which they receive on their investments made by the shareholders measures the shareholders wealth. Returns what the shareholders receive are of two types, first is in the form of dividends and the second in the form of capital appreciation reflected in the market value of the shares of which market value is the dominant part. There are number of factors which influences the market value of the shares of which, may not be fully influenced by the management of the firm. Expectations of the shareholders regarding the return on investment is one factor which has a significant influence on the market value. Some measures like return on equity, earnings per share, operating profit margin, return on capital employed and net profit margin exist to evaluate the performance of the business. The shareholders require at least a minimum rate of return on their investment depending on the risk in the investment. The problem of these measures is that they lack in comparison. So the concept Economic value added (EVA) was developed to overcome these problems. The report studies the profile of the Indian banks to explain the relationships of the shareholder investments and corporate performances. Here in this report a study was made on the two banks I.e SBI a public sector bank and ICICI a private sector bank and analysis has been made using the tool Economic value added (EVA).

Keywords

- Net operating profit after taxes(NOPAT)
- Invested capital
- Capital charge
- Cost of capital
- Beta
- Economic value added(EVA)



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Introduction-

Economic value added(EVA) is a measurement tool which estimates the economic profit or performance of the firm or organization. The main objective under EVA for the management is to increase the value of shareholders

Stern Stewart and co.. of USA has got a registered trademark for this by name “EVA”, an acronym for Economic Value Added. EVA as a residual income measure of financial performance is simply the operating profit after tax less a charge for the capital, equity as well as debt, used in the business. Because EVA includes balance sheet as well as profit and loss efficiency as well as opportunity cost of investor capital- it is better linked to changes in shareholders wealth and is superior to traditional metrics such as PAT or percentages rate of return measures such as ROCE or ROE. In addition, EVA is a management tool to focus managers on the impact of their decisions in increasing shareholders wealth. These include both strategic decisions such as what investments to make, which business to exist, what financial structure is optimal: as well as operational decisions involving trade-offs between profit and asset efficiency such as whether to make in house or outsource , repair or replace a piece of equipment , whether to make short or long productions runs etc..

Most importantly the real key to increase in shareholders wealth is to integrate the EVA framework in four key areas: to measure business performance: to guide managerial decision making: business literacy throughout the organization. To better align managers interests with shareholders.

The EVA framework needs to be holistically applied in an integrated approach- simply measuring EVA is not enough it must become also become the basis of key management decisions as well as to be linked to senior managements variable compensations.

Defining shareholders value and wealth creation

From the economists viewpoint, value is created when managements generates revenues over and above the economic costs to generate these revenues. Under this value-based view, values is only created when revenues exceeds all costs including capital charge. This value accrues mostly to the shareholders because they are the residual owners of the firm. Shareholders expect management to generate value over and above the costs of consumed resources, including the cost of using capital.

.If supplies of capital do not receive the fair returns to compensate them for the risk they are taking, they will withdraw their capital in search of better returns, since value will be lost. A company which is destroying value will always struggle to expand the finance in terms of attracting further capital since it will be hamstrung by higher interest rates on bank loans or debt demanded by creditors and a share price that stands at a discount at an underlying value of the assets.

Wealth creations refer to change in the wealth of shareholders on a periodic (annual) basis. Changes in stock prices, dividends paid and equity raised during the period is applicable to shareholders wealth and exchange listed firms. As stock prices reflect investor expectations about creating wealth for the shareholders, future cash flows requires; that the firm undertake investments decisions that have a positive net present value (NPV).

Although used interchangeably, there is subtle difference between value creation and wealth creation. The wealth prospective relies mainly on stock market information, while value prospective is based on measuring value directly from accounting-based information with some adjustments. For a publicly traded firm these two concepts are identical when (i) management provides all pertinent information to capital markets and (ii) the markets believe and have confidence in management.

Review of literature-

CHITRA GUNASHEKAR GOUNDER AND DR.M.VENKATESHWARLU(2017): have studied on “SHAREHOLDERS VALUE CREATION-AN EMPHERICAL ANALYSIS OF INDIAN BANKING SECTOR” the research concluded that economic measure is more accurate to create shareholders value. This study also reveals that in case of public sector banks and overall Indian banks, more the EVA the more the shareholders wealth maximization. In case of private sector banks the more the dividend per share the more the shareholders value created.

JAGDISH R.RAIYANI & NILESH K.JOSHI(2011): have studied on “EVA BASED PERFORMANCE MEASUREMENT : A CASE STUDY OF SBI AND HDFC BANK” the research concluded that the public sector banks lead the private banks when NOPAT is emphasized in terms of analysis.SBI rule the market in terms of creating shareholders value in terms of amount, where in the private sector HDFC was at the top spot in terms of percentage.

DR.SHIVAPPA AND MRS.JYOTI.N.TALREJA: have conducted study on “PERFORMANCE EVALUATION OF SELECTED BANKS USING EVA” the research concluded that the shareholders can use EVA values to decide on their investment decisions in different banks. From the shareholders point of view, bank performance can be valued using EVA.

GEORGY T.FRAKER(2006): have studied on “ USING EVA TO MEASURE AND IMPROVE BANK PERFORMANCE” the research concluded that EVA can be a important tool that bankers can use to measure and improve financial performance of their banks. Use of EVA by bank management lead them to different decisions that if management relied only on other measures solely.

ROJI GEORGE(2005): have studied on “COMPUTATION OF EVA IN INDIAN BANKS” the research concluded that the study reveals that public sector banks outperform private sector banks even though their cost of capital is higher than private banks. Public sector banks could use EVA as their unique selling proposition in marketing while approaching the capital market.

BABLI DIHIMAN AND SHIPRA PRUTHI: have studied on “EVA-A STUDY OF SELECTED COMPANIES IN INDIA” the research concluded that the companies which are destroying the wealth of shareholders have a high equity cost and the profit is not enough to cover the equity cost. It means that companies are investing in funds in less profitable projects. In the list of top EVA destroying companies UPTC Ltd and Tata communications is the top wealth destroying companies.

Limitations of traditional methods

Accounting based measures such as Book value, Return on net worth (RONW) Returns on equity, Price Earnings etc have failed to provide clarification of understanding major variables that derive value, except to some extent returns on capital invested. Through window dressings smart and mischievous management have easily influenced these methods and they don't help investors understand the intricate process of value creation and also incorporate time value of money.

Investors and researchers would like to measure the historical data for determining how current decisions will affect the firm's future performance but these managements with accounting measures measure the current performance of the company.

EVA raises a point that the shareholders of the bank expect a certain rate of return for taking risk of investing in a bank.

Need for the study-- Every business requires to win stakeholders confidence by presenting their reports in the most sophisticated manner. The measurement tools like fund flow statements analysis, cash flow statements analysis, ratio analysis, common size statements Return on capital employed (ROCE), Return on Net worth (RONW), Return on investment (ROI), Earning per share (EPS) are the most popular traditional used techniques to measure the performance. In the recent years many modern techniques have also gained popularity like Balanced score card, value added statements, Economic value Added (EVA) Cash value Added, Shareholders Value Added etc. Economic value added has gained popularity to measure performance from shareholders point of view out of modern techniques available.. Through this

paper an attempt is made to calculate EVA for two banks selected each one from public and private sector. The main objectives of this paper are to determine the value added by the banks to shareholders wealth using Economic Value added and to calculate Beta and analyze the Risk of SBI and ICICI.

Objectives of the study-

1. To measure the Net operating profit after tax(NOPAT), Risk(BETA), Return on invested capital(ROIC),Weighted average cost of capital(WACOC), of select bank i.e ICICI Bank and SBI Bank.
- 2.To evaluate the financial performance of ICICI bank using EVA.
- 3.To evaluate the financial performance of SBI bank using EVA.
- 4.To compare EVA of SBI and ICICI .

Methodology of study- The study is mainly based on secondary data, all the data of two Indian public and private sector banks i.e SBI and ICICI Bank that are listed on the national stock exchange are collected from respective annual reports, publications of RBI and from the various websites.

Calculation of Economic value added(EVA)

Any profit earned over and above the cost of capital is called economic value added(EVA). The basic proposition is that return on capital employed(ROCE) should be greater than cost of capital(Ko).

Eva focusses on clear surplus in contradiction to the profits available to the shareholders using traditional method . Companies use it as a performance indicator and as basis for executive compensation.

Cost of capital is deducted from profit before interest but after tax for deriving surplus.

NOPAT= Net Profit +Provisions and contingencies+Interest on Borrowings (less (Taxes)

Incremental NOPAT = NOPAT -NOPAT (t-1)

Invested capital =Total equity & Reserves +borrowings

Return on Invested Capital = NOPAT/ Invested Capital

Calculation of beta = $n \sum xy - (\sum x)(\sum y) \div n \sum x^2 - (\sum x)^2$

Cost of Equity (Ke) = $R_f + \beta(R_m - R_f)$

COST OF DEBT(Kd) =Total interest expense -interest on deposit/total borrowings.

Weighted average cost of capital(WACOC) = Weighted cost of debt/weighted cost of debt.

Capital charge = Cost of capital*capital invested

Economic value added (EVA) = NOPAT- WACC*Capital employed

Where NOPAT =Net operating profit before interest and after tax

WACC= Weighted average cost of capital

Capital employed= Total equity and reserves + Total borrowings

It is argued that EVA is a powerful performance measurement tool where if a company is able to serve its shareholders then it can serve better all the other stakeholders also.

Tools and techniques of analysis-The data from the reports have been analyzed by using various tools and techniques with a view to evaluate the performance of the banks. I have calculated the indicators for conducting overall analysis on two banks financial performance for the period 2012-2013 to 2016-2017.

Scope of the study-This study is limited to only two banks out of many banks in Indian Banking Sector and for 5 years i.e 2012-2013 to 2016-2017.

DATA ANALYSIS AND INTERPRETATION

Economic value added(%)

EVA-As a measure of value creation through management of profits

ECONOMIC VALUE ADDED STATEMENT OF SBI

SBI Particulars/Years	2012-13	2013-14	2014-15	2015-16	2016-17
Average capital employed	268066	301413	333588	368465	474394
Weight of debt	0.63	0.61	0.61	0.61	0.67
Weight of equity	0.37	0.39	0.39	0.39	0.33
Beta (b)	1.54	1.71	1.44	1.73	0.90
Risk free (Rf)	7.79	8.89	7.98	7.17	6.19
Market risk premium (Rm)	0.87	1.52	2.84	-0.66	1.81
Cost of equity	0.184	0.218	0.058	0.135	0.101
Cost of debt	0.046	0.050	0.040	0.035	0.025
WACOC	0.097	0.114	0.026	0.074	0.050
ROIC (NOPAT/CAPITAL EMPLOYED)	0.090	0.095	0.09	0.089	0.08
EVA (ROIC-WACOC)	-0.007	-0.019	0.064	0.015	0.03

Economic value added(%)

EVA-As a measure of value creation through management of profits

ECONOMIC VALUE ADDED STATEMENT OF ICICI

ICICI Particulars/Years	2012-13	2013-14	2014-15	2015-16	2016-17
Average capital employed	212042	227965	252839	261718	244458
Weight of debt	0.70	0.69	0.69	0.69	0.60
Weight of equity	0.30	0.31	0.31	0.32	0.40
Beta (b)	1.24	3.05	3.28	1.88	1.19
Risk free (Rf)	7.79	8.89	7.98	7.17	6.19
Market risk premium (Rm)	0.87	1.52	2.84	-0.66	1.81
Cost of equity	0.163	0.316	0.248	0.218	0.115
Cost of debt	0.064	0.063	0.056	0.057	0.064
WACOC	0.094	0.139	0.115	0.109	0.084
ROIC (NOPAT/CAP EM- PLOYED)	0.07	0.07	0.08	0.09	0.10
EVA (ROIC-WACOC)	-0.024	-0.069	-0.035	-0.019	0.016

Economic value added(in Rs)

(EVA-As a measure of value creation through management of capital)

This scenario is used by the following consequence -

NOPAT including net operating profit

fit less tax subtracting capital charge comprising of cost of capital multiplied by capital employed gives the title at a substantial exposure.

EVA=NOPAT-(WACC*Invested Capital)

Bank\Years	NOPAT					Capital charge					EVA				
	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	243	288	302	329	385	260	346	867	272	237	88	14	345	197	313
	72	52	22	29	49	02	62	3	66	19	15	79	00	75	50
ICICI	143	169	197	229	245	199	323	290	285	205	50	-	-	419	145
	02	95	50	04	26	31	71	76	27	34	0	80	863	3	02
												93			

FINDINGS

- Invested capital is more in SBI when compared to ICICI.
- Beta values are calculated to find the risk co-efficient of the banks, it is observed that SBI 's risk factor is less when compared to ICICI risk factor.
- It was also observed that the risk factor of ICICI bank is higher in 2012-13 and 2013-14 where it crossed 3% and it indicates higher risk for the shareholders but it did not generate any higher returns to the shareholders which means management has failed in performance.
- In SBI bank the return on invested capital is greater than cost of capital only in latest 3 years it means the bank had good profits and satisfied the shareholders wealth except in 2012 and 2013 where the EVA was also negative.
- The year in which ICICI bank had positive EVA the ROIC was greater than cost of capital i.e in year 2017.
- It was seen during the analysis that SBI ruled the market in terms of creating shareholders value in terms of percentage and added value to the shareholders wealth in latest years except 2012 and 2013 where it is negative.
- It was also seen that ICIC had positive EVA percentage only in 2017 i.e latest year and rest of the years it had a negative where it didn't create and value to the shareholders wealth.
- It was observed through the analysis that in terms of amount SBI had positive EVA for the 5 years and added value to the shareholders wealth and it will create a good impact on shareholders investments.
- For ICICI, in terms of amount it was observed that it added value to the shareholders in the latest years though it had negative EVA in the beginning.

Limitations of the study- The analysis is purely based on the secondary data. So any error in the secondary data might also affect the study undertaken.

CONCLUSION

As Banking sector in India is in bounds and leaps of growth, it is their duty to increase the shareholders wealth and encourage the investors in investing in banking industry. For doing this banks need attain the objective of wealth maximization that they are adding value to the shareholders wealth and not deteriorating it. By using EVA they can measure their performance from shareholders point.

In analysis we can notice that ICICI banks risk factor (B) Was more but it didn't had good returns it means that it didn't follow the fundamentals. The EVA both in terms of percentage and amount, the SBI a public sector bank is higher because the invested capital and returns were high in SBI and it had generated consistent NOPAT.

Although ICICI bank had generated consistent NOPAT, it didn't generate good returns.

Finally we can conclude that SBI bank has ruled the market in adding value to the shareholders wealth. But for ICICI it performance was bit down and did not add proper value to its shareholders.

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ANNEXURE

NET OPERATING PROFIT

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	34817	36141	43173	47041	55069
ICICI	20431	24278	28213	32720	35036

TAX

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	10445	10842	12951	14112	16520
ICICI	6129	7283	8463	9816	10510

NOPAT

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	24372	28852	30222	32929	38549
ICICI	14302	16995	19750	22904	24526

INCREMENTAL NOPAT

Banks/Years	2013-14	2014-15	2015-16	2016-17
SBI	4480	1370	2707	5620
ICICI	2693	2755	3154	1622

Invested capital

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	268066	301413	333588	368465	474394
ICICI	212042	227965	252839	261718	244458

Incremental Invested Capital

Banks/Years	2013-14	2014-15	2015-16	2016-17
SBI	33347	32175	34877	105929
ICICI	15923	24874	8879	17260

RETURN ON INVESTED CAPITAL

Banks/Years	NOPAT	Capital Employed
	2012-13	
SBI	24372	268066
ICICI	14302	212042
	2013-14	
SBI	28852	201403
ICICI	16995	227965
	2014-15	
SBI	30222	333588
ICICI	19750	252839
	2015-16	
SBI	32929	368465
ICICI	22904	261718
	2016-17	
SBI	38549	474394
ICICI	24526	244458

ROIC

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	0.090	0.095	0.09	0.089	0.08
ICICI	0.07	0.07	0.08	0.09	0.10

BETA

Banks/Years	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	1.54	1.91	1.44	1.73	0.90
ICICI	1.24	3.35	3.28	1.88	1.19

CALCULATIONS OF BETA

SBI

2012-2013	NIFTY (X)			SBI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	5295.55	-	-	2079.25	-	-	-	-	
Apr	5248.15	-474	-0.9	2138.1	58.85	2.83	0.81	-2.54	
May	4924.25	-3239	-6.17	2056.5	-81.6	-3.81	38.06	23.50	1.54
Jun	5278.90	35465	7.20	2159	102.5	4.79	51.84	34.48	
Jul	5229	-49.9	-0.95	2005.1	-153.9	-7.12	0.90	6.76	
Aug	5285.50	29.5	0.96	1837.35	-167.75	-8.36	0.31	-4.68	
Sep	5703.30	444.8	8.50	2240.6	403.25	21.94	72.25	186.49	
Oct	5619.70	-83.6	-1.47	2110.25	-130.1	-5.80	2.16	4.17	
Nov	5879.85	260.15	4.63	2170.3	60.05	2.84	21.43	13.14	
Dec	5901.20	21.35	0.37	2381.5	215.2	9.92	0.13	3.67	
Jan	6045.65	144.45	2.45	2438	52.5	2.20	6	5.39	
Feb	5834.35	-211.3	-3.50	2080.9	-357.1	-14.64	12.25	51.24	
Mar	5647.75	-186.6	-3.20	2072	-8.9	0.42	10.24	1.34	
Σ			10.46			4.37	216.38	322.96	

SBI

2015-2016	NIFTY (X)			SBI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	8491	-	-	267.05	-	-	-	-	
Apr	8181.50	-309.5	-3.65	269.75	2.7	1.01	13.32	-3.68	
May	8433.65	251.5	3.08	278.15	8.4	3.11	9.48	9.57	
Jun	8368.50	65.15	0.8	262.75	-15.4	-5.53	0.0064	-4.42	1.73
Jul	8532.85	-164.35	-1.97	270.05	7.3	2.77	3.88	5.45	
Aug	7971.30	-561.55	-6.60	247.35	-22.7	-8.40	43.56	55.44	
Sep	7148.90	-22.4	0.3	237.12	-10.2	-4.12	0.09	1.23	
Oct	8065.80	116.9	1.47	237.05	-0.10	-0.04	2.16	0.05	
Nov	7935.25	-130.55	-1.61	250.2	13.15	5.54	2.59	-8.91	
Dec	7946.35	11.1	0.14	224.45	-2.75	-10.29	0.01	-1.44	
Jan	7563.55	-382.3	-4.81	179.9	-44.55	-19.84	23.13	95.43	
Feb	6987.05	-576.5	-7.62	158.75	-21.5	-11.75	58.06	89.53	
Mar	7738.40	757.35	10.8	194.25	34.5	22.36	116.64	241.48	
Σ			-7.93			-25.18	272.92	479.73	

SBI

2016-2017	NIFTY (X)			SBI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	7738.40	-	-	194.25	-	-	-	-	
Apr	7849.80	111.4	1.43	189	-5.25	-2.7	2.04	-3.86	
May	8160.10	310.3	3.95	204.95	15.95	8.43	15.60	33.29	0.90
Jun	8287.75	127.65	1.96	218.8	13.85	6.75	2.43	10.53	
Jul	8638.50	350.75	4.23	229.4	10.6	4.84	17.89	20.47	
Aug	8786.20	147.7	1.70	252.5	23.1	10.06	2.89	17.10	
Sep	8611.15	-170.05	-1.99	251.25	-1.25	-0.49	3.96	-0.97	
Oct	8625.70	14.55	0.17	257.26	6.35	2.52	0.02	0.42	
Nov	8224.50	-401.2	-0.47	258.35	-0.75	0.29	0.22	-0.13	
Dec	8185.80	-38.7	0.47	250.2	-8.15	3.15	0.22	-1.48	
Jan	8561.30	375.5	4.60	260.35	10.15	4.05	21.16	18.63	
Feb	8879.60	318.3	3.71	269.2	8.85	3.89	13.76	12.57	
Mar	9173.75	294.15	3.31	293.4	24.2	8.98	10.95	29.72	
Σ			21.73			49.27	91.14	136.29	

ICICI

2012-2013	NIFTY (X)			ICICI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	5295.55	-	-	890.20	-	-	-	-	
Apr	5248.15	-474	-0.9	882.35	-7.85	-0.9	0.81	0.81	
May	4924.25	-3239	-6.17	783.25	-99.1	-11.23	38.06	69.30	1.24
Jun	5278.90	35465	7.20	899.50	116.25	14.84	51.84	106.84	
Jul	5229	-49.9	-0.95	961.40	61.9	6.9	0.90	-6.55	
Aug	5285.50	29.5	0.96	902.15	-59.25	-6.16	0.31	3.45	
Sep	5703.30	444.8	8.50	1058.80	156.65	17.36	72.25	147.56	
Oct	5619.70	-83.6	-1.47	1052.20	-6.6	-0.6	2.16	0.89	
Nov	5879.85	260.15	4.63	1099.85	47.65	4.52	21.43	21	
Dec	5901.20	21.35	0.37	1138.25	38.40	3.5	0.13	1.30	
Jan	6045.65	144.45	2.45	1191.15	52.9	4.64	6	11.36	
Feb	5834.35	-211.3	-3.50	1040.40	-150.75	-12.7	12.25	-44.50	
Mar	5647.75	-186.6	-3.20	1045.20	4.8	0.5	10.24	-1.6	
Σ			10.46			59.05	216.38	309.86	

ICICI

2013-2014	NIFTY (X)			ICICI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	5647.75	-	-	1045.20	-	-	-	-	
Apr	5930.20	282.45	5	1163.65	118.45	11.33	25	56.65	
May	5985.95	55.75	0.94	1154.45	-9.2	-0.79	0.88	0.74	3.05
Jun	5842.20	-143.75	-2.4	1070.75	-83.7	-7.25	5.76	17.4	
Jul	5742.00	-100.2	-1.72	909.05	-161.7	-15.10	2.95	5.07	
Aug	5471.80	-270.2	-4.70	803.75	-105.3	-11.6	22.09	103.8	
Sep	5735.30	263.5	4.81	883.65	79.9	9.94	23.16	111.39	
Oct	6299.15	563.85	9.83	1120.95	237.3	26.9	96.62	264.42	
Nov	6176.10	-123.05	-1.96	1068.65	52.3	-4.67	3.84	9.15	
Dec	6304	127.9	2.07	1098.75	30.1	2.81	4.28	5.81	
Jan	6089.50	-214.5	-3.40	987.70	111.05	-10.10	11.56	-34.34	
Feb	6276.95	187.45	3.07	1043.85	56.15	5.70	9.42	17.49	
Mar	6704.20	427.25	6.80	1245.05	201.2	19.27	46.24	131.03	
Σ			18.34			26.44	251.8	722.95	

ICICI

2014-2015	NIFTY (X)			ICICI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	6704.20	-	-	1245.05	-	-	-	-	
Apr	6696.40	-7.8	-0.11	1243.40	-1.65	-0.13	0.01	0.014	
May	7229.95	533.55	7.96	1418.05	174.65	14.04	63.36	111.75	3.28
Jun	7600.35	381.4	5.28	1418.15	0.10	0.007	27.87	0.03	
Jul	7721.30	109.95	1.44	1471.25	53.1	3.74	2.07	5.38	
Aug	7954.35	233.05	3.01	1556.80	85.55	5.81	9.06	17.48	
Sep	7964.80	10.45	0.13	1433.55	-123.25	-7.91	0.01	1.02	
Oct	8322.20	357.4	4.49	1614.05	180.5	12.59	20.01	56.52	
Nov	8588.25	266.05	3.19	1754.40	140.35	8.70	10.17	27.75	
Dec	8282.70	-305.55	-3.56	353.10	-1401.3	-79.87	12.67	284.33	
Jan	8808.90	526.2	6.35	360.70	7.6	2.15	40.32	-13.65	
Feb	8901.85	92.95	10.56	346.15	-14.55	-4.03	111.51	42.55	
Mar	8491	-410.85	-4.61	315.50	-13.65	-8.9	21.25	41.02	
Σ			34.13			-53.80	318.31	574.19	

ICICI

2015-2016	NIFTY (X)			ICICI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	8491	-	-	315.50	-	-	-	-	1.88
Apr	8181.50	-309.5	-3.65	331.15	15.65	4.97	13.32	-18.14	
May	8433.65	251.5	3.08	314.50	16.65	5.02	9.48	15.46	
Jun	8368.50	65.15	0.8	308	-6.5	-2.06	0.0064	-1.64	
Jul	8532.85	-164.35	-1.97	302.40	-5.6	-1.81	3.88	3.56	
Aug	7971.30	-561.55	-6.60	277.90	-24.5	-8.10	43.56	53.46	
Sep	7148.90	-22.4	0.3	268.10	-9.8	-3.52	0.09	1.05	
Oct	8065.80	116.9	1.47	277.00	8.9	3.32	2.16	4.88	
Nov	7935.25	-130.55	-1.61	274.75	2.25	-0.81	2.59	1.30	
Dec	7946.35	11.1	0.14	261.35	-13.4	-4.89	0.01	-0.68	
Jan	7563.55	-382.3	-4.81	230.15	-31.2	-11.9	23.13	57.23	
Feb	6987.05	-576.5	-7.62	190.05	-40.1	-17.42	58.06	132.24	
Mar	7738.40	757.35	10.8	236.65	46.6	24.51	116.64	264.70	
Σ			-7.93			-12.69	272.92	513.90	

ICICI

2016-2017	NIFTY (X)			ICICI (Y)			X ²	XY	BETA (b)
	Closing Price	Change (Rs.)	Change (%)	Closing Price	Change (Rs.)	Change (%)			
Mar	7738.40	-	-	236.65	-	-	-	-	1.19
Apr	7849.80	111.4	1.43	236.95	0.30	0.12	2.04	0.17	
May	8160.10	310.3	3.95	244.50	7.55	3.19	15.60	12.60	
Jun	8287.75	127.65	1.96	240.5	-3.95	-1.61	2.43	-2.51	
Jul	8638.50	350.75	4.23	262.90	32.35	9.30	17.89	39.33	
Aug	8786.20	147.7	1.70	258	-4.9	-1.36	2.89	-3.16	
Sep	8611.15	-170.05	-1.99	252.15	-5.85	-2.26	3.96	4.49	
Oct	8625.70	14.55	0.17	277.05	24.9	9.87	0.02	1.67	
Nov	8224.50	-401.2	-0.47	262.55	-11.5	-4.15	0.22	1.95	
Dec	8185.80	-38.7	0.47	255.30	-10.25	-3.85	0.22	1.80	
Jan	8561.30	375.5	4.60	272	16.7	6.54	21.16	30.08	
Feb	8879.60	318.3	3.71	276.35	4.35	1.60	13.76	5.93	
Mar	9173.75	294.15	3.31	276.85	0.50	0.18	10.95	0.59	
Σ			21.73			17.07	91.14	92.94	

2012-13	Closing Price	Change	Change (%)
Mar	5295.55	-	-
Apr	5248.15	-474	-0.9
May	4924.25	-3239	-6.17
Jun	5278.90	35465	7.20
Jul	5229	-49.9	-0.95
Aug	5285.50	29.5	0.96
Sep	5703.30	444.8	8.50
Oct	5619.70	-83.6	-1.47
Nov	5879.85	260.15	4.63
Dec	5901.20	21.35	0.37
Jan	6045.65	144.45	2.45
Feb	5834.35	-211.3	-3.50
Mar	5647.75	-186.6	-3.20

Rm=0.87 Ke(ICICI)=16.37 Ke(SBI)=18.44

2013-14	Closing Price	Change	Change (%)
Mar	5647.75	-	-
Apr	5930.20	282.45	5
May	5985.95	55.75	0.94
Jun	5842.20	-143.75	-2.4
Jul	5742.00	-100.2	-1.72
Aug	5471.80	-270.2	-4.70
Sep	5735.30	263.5	4.81
Oct	6299.15	563.85	9.83
Nov	6176.10	-123.05	-1.96
Dec	6304	127.9	2.07

Jan	6089.50	-214.5	-3.40
Feb	6276.95	187.45	3.07
Mar	6704.20	427.25	6080

Rm=1.52 Ke(ICICI)=31.05 Ke(SBI)=21.5

2014-15	Closing Price	Change	Change (%)
Mar	6704.20	-	-
Apr	6696.40	-7.8	-0.11
May	7229.95	533.55	7.96
Jun	7600.35	381.4	5.28
Jul	7721.30	109.95	1.44
Aug	7954.35	233.05	3.01
Sep	7964.80	10.45	0.13
Oct	8322.20	357.4	4.49
Nov	8588.25	266.05	3.19
Dec	8282.70	-305.55	-3.56
Jan	8808.90	526.2	6.35
Feb	8901.85	92.95	10.56
Mar	8491	-410.85	-4.61

Rm=2.84 Ke(ICICI)=24.83 Ke(SBI)=0.58

2015-16	Closing Price	Change	Change (%)
Mar	8491	-	-
Apr	8181.50	-309.5	-3.65
May	8433.65	251.5	3.08
Jun	8368.50	65.15	0.8
Jul	8532.85	-164.35	-1.97
Aug	7971.30	-561.55	-6.60

Sep	7148.90	-22.4	0.3
Oct	8065.80	116.9	1.47
Nov	7935.25	-130.55	-1.61
Dec	7946.35	11.1	0.14
Jan	7563.55	-382.3	-4.81
Feb	6987.05	-576.5	-7.62
Mar	7738.40	757.35	10.8

Rm=-0.66 Ke(ICICI)=21.89 Ke(SBI)=13.54

2016-17	Closing Price	Change	Change (%)
Mar	7738.40	-	-
Apr	7849.80	111.4	1.43
May	8160.10	310.3	3.95
Jun	8287.75	127.65	1.96
Jul	8638.50	350.75	4.23
Aug	8786.20	147.7	1.70
Sep	8611.15	-170.05	-1.99
Oct	8625.70	14.55	0.17
Nov	8224.50	-401.2	-0.47
Dec	8185.80	-38.7	0.47
Jan	8561.30	375.5	4.60
Feb	8879.60	318.3	3.71
Mar	9173.75	294.15	3.31

Rm=1.81 Ke(ICICI)=11.4 Ke(SBI)=10.13

Bank/Years	2012-13		2013-14		2014-15		2015-16		2016-17	
	In-terest paid	Borrow-ings	In-terest paid	Borrow-ings	In-terest paid	Borrow-ings	In-terest paid	Borrow-ings	In-terest paid	Borrow-ings
SBI	6857	317693	7928	224190	8846	205150	9691	183130	10309	169182
ICICI	9320	145341	9834	154759	9757	172417	9966	174807	9547	147556
Kd (SBI)	0.046		0.050		0.040		0.035		0.025	
Kd (ICICI)	0.064		0.063		0.056		0.057		0.064	

Bank/Year	Cost Of Equity					Cost Of Debt				
	2012-13	2013-14	2014-15	2015-16	2016-17	2012-13	2013-14	2014-15	2015-16	2016-17
SBI	0.184	0.215	0.058	0.135	0.101	0.046	0.050	0.040	0.035	0.025
ICICI	0.163	0.310	0.248	0.218	0.115	0.064	0.063	0.056	0.057	0.064
	Weight Of Equity					Weight Of Debt				
SBI	0.37	0.39	0.39	0.39	0.33	0.63	0.61	0.61	0.61	0.67
ICICI	0.30	0.31	0.31	0.32	0.40	0.70	0.69	0.69	0.69	0.60

Capital charge

Banks	WACOC	Capital Invested	Capital Charge
2012-13			
SBI	0.097	268066	26002
ICICI	0.094	212042	19931
2013-14			
SBI	0.114	301413	34662
ICICI	0.139	227965	32371
2014-15			
SBI	0.026	333588	8673
ICICI	0.115	252839	29076
2015-16			

SBI	0.074	368465	27266
ICICI	0.109	261718	28527
2016-17			
SBI	0.050	474394	23719
ICICI	0.084	244458	20534
