

Relationship Between Economic Value Added and Market Value Added: An Empirical Study of BSE S&P Sensex Companies for 2016-2017

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ABSTRACT

Shareholders' wealth maximization is regarded to be the prime goal of organizations. MVA is generally believed to be representative of shareholder value creation. It is perceived by managers of corporations that MVA can be maximized by maximizing EVA. EVA is endogenous to the organization whereas MVA is exogenous to the organization. In this study EVA has been treated as independent variable and MVA as dependent variable. Through Correlation and regression analysis the relationship between EVA and MVA has been studied. The outcome of the analysis indicates that there is no significant relationship between EVA and MVA of BSE S&P Sensex Companies during 2016-2017.

1. Introduction

The term EVA[®] is of recent origin. It is the registered trade mark of Stern Stewart & Co USA. It was postulated in the year 1990. It is a modified version of residual income concept. EVA an alternative technique of measuring corporate performance is gaining popularity and is perceived as a better measure than traditional performance measurement techniques, such as Return on Investments. Traditional financial measurement has been often criticized for not taking into account cost of debt and cost of equity, whereas EVA[®] incorporates them, and also includes certain adjustments that reduces the accounting distortions.

Market Value Added (MVA), which is considered to be best indicator of Shareholder Wealth Creation, is an excess of Market Value over the Economic Value of the company. Market Value is a product of share price and number of shares issued by the company. Economic Value is the Future Value of invested equity compounded at the expected rate of return of shareholders.

The managers of the organizations believe that the MVA can be maximized by maximizing EVA of the company. Thus, implying existence of a significant relationship between EVA and MVA.

This paper applies the concept of EVA and MVA to companies included in Bombay Stock Exchange (BSE) S&P Sensex and evaluates the relationship between EVA and MVA.

2. Literature Review

There have been several studies conducted to study the linkage between EVA and MVA over last three and a half decade. These prior studies have concluded differing outcomes. Some studies have shown to have significant relation between EVA and MVA, whereas some have shown no linkage between EVA and MVA. Selected studies reviewed for conducting this study are as under.

Stewart (1991), was the first to conduct a study on EVA and his studies argued that the ability of change in EVA to explain the change in MVA is quite high.

Stern, Stewart and Chew (1995) examined the relationship between the EVA and MVA and reported that the change in EVA over a period of five years explained 50% change in MVA. They concluded that there is a significant link between EVA growth and growth in MVA.

John H. Hall & Johannes de Wet (2003), studied the Relationship between EVA, MVA and Leverage. The authors adopted spreadsheet model to study the relationships. Their study concluded that changes in EVA and MVA represents the direct quantification of shareholder wealth creation.

Pratiwi Putri Wibowo & Ruben Garcia Berasategui (2008), examined the relationship between EVA and MVA with reported earnings of 40 Indonesian companies listed on Indonesian Stock Exchange from year 2004 to 2007. The authors found that EVA and MVA had correlation, however there was still not enough evidence that EVA could be used to explain the reported earnings effectively other than MVA.

Aloy Niresh, J & Alfred M (2014), examined the association between EVA, MVA and Leverage of 6 quoted private Sri Lankan banks over three years, 2011 to 2013 by applying correlation and regression method. Their study revealed that there was weak and statistically insignificant association between EVA, MVA and Leverage during the period of their study.

Babak Panahi, Christopher Nigel Preece, Wan Normeza Wan Zakaria & John Rogers (2014), investigated the Correlation of EVA and MVA with Stock Price of 40 Companies listed in Tehran Stock Market. The authors used multiple regression model for their investigation. The study concluded that there is a positive interdependence of EVA and MVA with stock price. The study also emphasized existence of correlation between EVA and MVA.

Mr. K. Kiran Kumar & Dr D.A.R. Subramanyam (2017), in their study on Shareholders' Value Analysis examined the superior proficiency between EVA & MVA in relation to Stock Market Returns of selected Cement companies actively traded on BSE during the financial period 2006 to 2015. The authors concluded the study by stating that EVA and MVA played significant roles in the financial performance of select cement companies and found EVA as best superior measure for creating shareholder value.

3. Objectives

The Objectives of study are as under

1. To study the financial performance of the BSE S&P Sensex companies during the financial year 2016-2017 using EVA and MVA as a performance measurement tools.
2. To Rank the BSE S&P Sensex companies based on the EVA and MVA performances
3. To study the relation between EVA and MVA and make conclusions

4. Methodology

This study is a quantitative research conducted based on the secondary data. The share price of 28 BSE S&P Sensex companies and BSE S&P Sensex values for the period 1st April 2016 to 31st March 2017 has been taken from BSE website. Based on the share price data and the Sensex values, natural logarithmic return for the said period has been calculated. The natural logarithmic returns so calculated has been used for calculating beta coefficient of the Sensex companies. Subsequently the cost of equity i.e. Expected Return on Equity is calculated by applying Capital Asset Pricing Model.

The Reserve Bank of India (RBI) bank rate of 6.25% prevalent during the period of study has been taken as risk free return for the study. The NOPAT and TCE has been computed from the audited financial statements of the companies for the accounting year 2016-17. The Cost of Debt has been computed by relating the finance cost of the company with the average long-term debt of the company.

Corporate tax rate of 30% has been applied to ascertain the Cost of Debt after Tax. The Average Equity has been calculated by taking the average of Equity and Other Equity at the beginning of accounting period and end of the accounting period as per the audited financial statements of the company. Average Debt too is calculated by taking average of long-term debt at the beginning of accounting period and end of the accounting period. Finally, EVA[®] of Sensex companies is been calculated by applying the EVA[®] formula given by Stern Stewart & Co USA.

Market capitalizations are calculated by multiplying the weighted average closing share price of the company on BSE as on 1st April 2016 and 31st March 2017 with the Number of Issued and Subscribed Shares as on respective dates.

The Economic Value is calculated by compounding the Average Equity during 2016-17 at the rate of Expected Return

on Equity for 2016-2017. The MVA is calculated by deducting Economic Value from difference in Market Capitalization between 31st March 2017 and 1st April 2016.

Correlation and Regression analysis has been adopted to study the relation between EVA and MVA. The face value of issued and subscribed share capital is different for different companies. Thus, EVA and MVA per share equivalent to Re. 1.00 face value is been taken for regression analysis. The EVA and MVA per share is derived by dividing EVA and MVA by number of issued and subscribed shares as on 31st March 2017. The EVA and MVA per share equivalent to Re. 1.00 face value per share is derived by dividing the EVA and MVA per share by the face value of each share.

Note: S&P Sensex constitutes 30 stocks. Tata Motors Ltd represents two types of stocks in the Sensex viz. Tata Motors Ltd (with regular voting rights) and Tata Motors Ltd – DVR (Differential Voting Rights). Thus, study has not considered Tata Motors Ltd. DVR. Further the company 'Coal India Limited' is eliminated from the study due to non-availability of audited financial statements of the company.

5. Hypothesis

Null Hypothesis (H₀): There is no significant relationship between MVA and EVA of BSE S&P Sensex Companies.

Alternate Hypothesis (H₁): There is no significant relationship between MVA and EVA of BSE S&P Sensex Companies.

6. Data Analysis and Results

6.1 EVA and MVA Analysis

The EVA[®] and MVA of the 28 BSE S&P Sensex companies determined by adopting the methodology described is been presented in Table - 1 to Table - 11 as under.

TABLE – 1
Post Tax Cost of Debt (2016-2017)

Companies	Finance Cost	Average Debt	Post Tax Cost of Debt
Adani Ports	□ 1,442	□ 13,204	7.65%
Asian Paint	□ 1	□ 37	1.09%
Axis Bank	□ 26,449	□ 5,16,181	3.59%
Bajaj Auto	□ -	□ -	0.00%
Bharati Airtel	□ 5,255	□ 45,900	8.01%
Dr Reddy Lab	□ 57	□ 740	5.41%
HDFC Bank	□ 36,167	□ 6,74,531	3.75%
HDFC	□ 20,896	□ 1,71,494	8.53%
Hero Motocorp	□ -	□ -	0.00%
Hind. Unilever	□ -	□ -	0.00%
ICICI Bank	□ 32,419	□ 6,16,914	3.68%
Indusind Bank	□ 8,343	□ 1,33,511	4.37%
Infosys Ltd	□ -	□ -	0.00%
ITC Ltd	□ 7	□ 26	20.11%
Kotak Bank	□ 9,573	□ 1,69,070	3.96%
L & T Ltd	□ 1,318	□ 7,723	11.95%
M & M	□ 146	□ 1,865	5.46%

NTPC Ltd	□ 3,597	□ 91,218	2.76%
ONGC Ltd	□ 3	□ 38	5.41%
Power Grid Corp	□ 6,304	□ 1,05,568	4.18%
Reliance Ind.	□ 2,723	□ 78,277	2.44%
SBI	□ 1,13,659	□ 22,08,256	3.60%
Sun Pharma	□ 224	□ 13,417	1.17%
Tata Motors	□ 1,590	□ 4,515	24.65%
Tata Steel	□ 2,689	□ 24,311	7.74%
TCS	□ 16	□ 47	23.83%
Wipro	□ 392	□ 1,146	23.94%
Yes Bank	□ 10,627	□ 1,62,430	4.58%

Note: Rupees in Crores

ITC Ltd	□ 43,499	□ 26	□ 43,525
Kotak Bank	□ 29,917	□ 1,69,070	□ 1,98,986
L & T Ltd	□ 44,074	□ 7,723	□ 51,797
M & M	□ 24,046	□ 1,865	□ 25,911
NTPC Ltd	□ 93,762	□ 91,218	□ 1,84,981
ONGC Ltd	□ 1,75,657	□ 38	□ 1,75,695
Power Grid	□ 46,809	□ 1,05,568	□ 1,52,377
Reliance Ind.	□ 2,71,156	□ 78,277	□ 3,49,432
SBI	□ 1,66,280	□ 22,08,256	□ 23,74,536
Sun Pharma	□ 21,381	□ 13,417	□ 34,799
Tata Motors	□ 22,036	□ 4,515	□ 26,551
Tata Steel	□ 50,423	□ 24,311	□ 74,734
TCS	□ 71,518	□ 47	□ 71,565
Wipro	□ 43,966	□ 1,146	□ 45,112
Yes Bank	□ 17,920	□ 1,62,430	□ 1,80,350

Rupees in Crores

TABLE – 2
Cost of Equity (2016-2017)

Companies	Beta	Cost of Equity (K _e)
Adani Ports	1.3630	19.48%
Asian Paint	0.8167	14.18%
Axis Bank	0.9338	15.32%
Bajaj Auto	0.8214	14.23%
Bharati Airtel	0.7416	13.45%
Dr Reddy Labs	0.3923	10.06%
HDFC Bank	0.5712	11.80%
HDFC	1.0159	16.11%
Hero Motocorp	0.9510	15.48%
Hind. Unilever	0.5894	11.97%
ICICI Bank	1.4611	20.44%
Indusind Bank	0.9102	15.09%
Infosys Ltd	0.5786	11.87%
ITC Ltd	0.6630	12.69%
Kotak Bank	0.6693	12.75%
L & T Ltd	1.0397	16.35%
M & M	0.8566	14.57%
NTPC Ltd	0.5622	11.71%
ONGC Ltd	0.5966	12.04%
Power Grid Corp	0.5832	11.91%
Reliance Ind.	0.5333	11.43%
SBI	1.1116	17.04%
Sun Pharma	0.6371	12.44%
Tata Motors	1.5131	20.94%
Tata Steel	1.2646	18.53%
TCS	0.5391	11.48%
Wipro	0.4129	10.26%
Yes Bank	1.0941	16.87%

TABLE – 3
Average Capital Employed (2016-2017)

Companies	Average Equity	Average Debt	Avg. Capital Employed
Adani Ports	□ 14,801	□ 13,204	□ 28,005
Asian Paint	□ 6,438	□ 37	□ 6,476
Axis Bank	□ 54,464	□ 5,16,181	□ 5,70,644
Bajaj Auto	□ 15,150	□ -	□ 15,150
Bharati Airtel	□ 1,06,468	□ 45,900	□ 1,52,368
Dr Reddy Lab	□ 11,840	□ 740	□ 12,579
HDFC Bank	□ 81,070	□ 6,74,531	□ 7,55,601
HDFC	□ 36,883	□ 1,71,494	□ 2,08,377
Hero Motocorp	□ 9,473	□ -	□ 9,473
Hind. Unilever	□ 5,831	□ -	□ 5,831
ICICI Bank	□ 94,843	□ 6,16,914	□ 7,11,757
Indusind Bank	□ 19,171	□ 1,33,511	□ 1,52,682
Infosys Ltd	□ 64,550	□ -	□ 64,550

TABLE – 4
Total Cost of Capital Employed (2016-2017)

Companies	Cost of Equity	Post Tax Cost of Debt	Total Cost of Capital
Adani Ports	□ 2,883	□ 1,010	□ 3,893
Asian Paint	□ 913	□ 0	□ 913
Axis Bank	□ 8,344	□ 18,531	□ 26,875
Bajaj Auto	□ 2,156	□ -	□ 2,156
Bharati Airtel	□ 14,320	□ 3,677	□ 17,997
Dr Reddy Lab	□ 1,191	□ 40	□ 1,231
HDFC Bank	□ 9,566	□ 25,295	□ 34,861
HDFC	□ 5,942	□ 14,628	□ 20,570
Hero Motocorp	□ 1,466	□ -	□ 1,466
Hind. Unilever	□ 698	□ -	□ 698
ICICI Bank	□ 19,386	□ 22,702	□ 42,088
Indusind Bank	□ 2,893	□ 5,834	□ 8,727
Infosys Ltd	□ 7,662	□ -	□ 7,662
ITC Ltd	□ 5,520	□ 5	□ 5,525
Kotak Bank	□ 3,814	□ 6,695	□ 10,510
L & T Ltd	□ 7,206	□ 923	□ 8,129
M & M	□ 3,504	□ 102	□ 3,605
NTPC Ltd	□ 10,980	□ 2,518	□ 13,497
ONGC Ltd	□ 21,149	□ 2	□ 21,151
Power Grid	□ 5,575	□ 4,413	□ 9,988
Reliance Ind.	□ 30,993	□ 1,910	□ 32,903
SBI	□ 28,334	□ 79,497	□ 1,07,831
Sun Pharma	□ 2,660	□ 157	□ 2,817
Tata Motors	□ 4,614	□ 1,113	□ 5,727
Tata Steel	□ 9,343	□ 1,882	□ 11,225
TCS	□ 8,210	□ 11	□ 8,221
Wipro	□ 4,511	□ 274	□ 4,785
Yes Bank	□ 3,023	□ 7,439	□ 10,462

Rupees in Crores

TABLE – 5
Economic Value Added (EVA) - (2016-2017)

Companies	NOPAT	Total Cost of Capital	EVA
Adani Ports	□ 3,381	□ 3,893	□ -512
Asian Paint	□ 1,874	□ 913	□ 960
Axis Bank	□ 30,128	□ 26,875	□ 3,254
Bajaj Auto	□ 5,336	□ 2,156	□ 3,180
Bharati Airtel	□ 9,811	□ 17,997	□ -8,185
Dr Reddy Lab	□ 1,121	□ 1,231	□ -110
HDFC Bank	□ 35,501	□ 34,861	□ 640

HDFC	□ 31,623	□ 20,570	□ 11,053
Hero Motocorp	□ 3,261	□ 1,466	□ 1,795
Hind. Unilever	□ 4,247	□ 698	□ 3,549
ICICI Bank	□ 29,554	□ 42,088	□ -12,534
Indusind Bank	□ 7,848	□ 8,727	□ -880
Infosys Ltd	□ 13,257	□ 7,662	□ 5,595
ITC Ltd	□ 10,857	□ 5,525	□ 5,332
Kotak Bank	□ 19,136	□ 10,510	□ 8,627
L & T Ltd	□ 5,653	□ 8,129	□ -2,476
M & M	□ 3733	□ 3,605	□ 128
NTPC Ltd	□ 11,190	□ 13,497	□ -2,308
ONGC Ltd	□ 17,653	□ 21,151	□ -3,498
PowerGrid Corp	□ 11,063	□ 9,988	□ 1,075
Reliance Inds.	□ 30,450	□ 32,903	□ -2,453
SBI	□ 86,900	□ 1,07,831	□ -20,932
Sun Pharma	□ 134	□ 2,817	□ -2,683
Tata Motors	□ -492	□ 5,727	□ -6,219
Tata Steel	□ 5,632	□ 11,225	□ -5,593
TCS	□ 21,057	□ 8,221	□ 12,836
Wipro	□ 7,755	□ 4,785	□ 2,970
Yes Bank	□ 9,770	□ 10,462	□ -692

Rupees in Crores

Asian Paint	□ 874.28	9591,97,790	□ 83,860
Axis Bank	□ 446.75	2382831826	□ 1,06,454
Bajaj Auto	□ 2,403.88	289367020	□ 69,560
Bharati Airtel	□ 337.16	3997400102	□ 1,34,776
Dr Reddy Lab	□ 2,989.25	170607653	□ 50,999
HDFC Bank	□ 1,064.03	2528186517	□ 2,69,007
HDFC	□ 1,101.41	1579846340	□ 1,74,006
Hero Motocorp	□ 2,949.90	199690088	□ 58,906
Hind. Unilever	□ 864.35	2163936971	□ 1,87,039
ICICI Bank	□ 235.97	5814768430	□ 1,37,209
Indusind Bank	□ 960.71	594986335	□ 57,161
Infosys Ltd	□ 1,209.21	2296944664	□ 2,77,748
ITC Ltd	□ 333.89	8047206991	□ 2,68,685
Kotak Bank	□ 682.53	1834382158	□ 1,25,203
L & T Ltd	□ 1,235.33	931478845	□ 1,15,068
M & M	□ 1,194.30	621092384	□ 74,177
NTPC Ltd	□ 129.62	8245464400	□ 1,06,877
ONGC Ltd	□ 209.92	8555490120	□ 1,79,593
PowerGrid	□ 138.86	5231589648	□ 72,648
Reliance Inds.	□ 1,033.45	3240376321	□ 3,34,877
SBI	□ 194.96	7762777042	□ 1,51,346
Sun Pharma	□ 815.26	2406728499	□ 1,96,211
Tata Motors	□ 380.61	2887203602	□ 1,09,890
Tata Steel	□ 316.46	971215439	□ 30,735
TCS	□ 2,465.98	1970427941	□ 4,85,904
Wipro	□ 564.06	2470713290	□ 1,39,364
Yes Bank	□ 858.70	420531641	□ 36,111

Rupees in Crores

Table – 6
Economic Value as on 31/03/2017

Companies	Average Equity	Expected RoE	Economic Value
Adani Ports	□ 14,801	19.48%	□ 17,684
Asian Paint	□ 6,438	14.18%	□ 7,351
Axis Bank	□ 54,464	15.32%	□ 62,808
Bajaj Auto	□ 15,150	14.23%	□ 17,306
Bharati Airtel	□ 1,06,468	13.45%	□ 1,20,788
Dr Reddy Lab	□ 11,840	10.06%	□ 13,031
HDFC Bank	□ 81,070	11.80%	□ 90,636
HDFC	□ 36,883	16.11%	□ 42,825
Hero Motocorp	□ 9,473	15.48%	□ 10,939
Hind. Unilever	□ 5,831	11.97%	□ 6,529
ICICI Bank	□ 94,843	20.44%	□ 1,14,229
Indusind Bank	□ 19,171	15.09%	□ 22,064
Infosys Ltd	□ 64,550	11.87%	□ 72,212
ITC Ltd	□ 43,499	12.69%	□ 49,019
Kotak Bank	□ 29,917	12.75%	□ 33,731
L & T Ltd	□ 44,074	16.35%	□ 51,280
M & M	□ 24,046	14.57%	□ 27,550
NTPC Ltd	□ 93,762	11.71%	□ 1,04,742
ONGC Ltd	□ 1,75,657	12.04%	□ 1,96,806
PowerGrid Corp	□ 46,809	11.91%	□ 52,384
Reliance Inds.	□ 2,71,156	11.43%	□ 3,02,149
SBI	□ 1,66,280	17.04%	□ 1,94,614
Sun Pharma	□ 21,381	12.44%	□ 24,041
Tata Motors	□ 22,036	20.94%	□ 26,650
Tata Steel	□ 50,423	18.53%	□ 59,767
TCS	□ 71,518	11.48%	□ 79,728
Wipro	□ 43,966	10.26%	□ 48,477
Yes Bank	□ 17,920	16.87%	□ 20,943

Rupees in Crores

Table – 7
Market Capitalization as on 1/04/2016

Companies	Market Price / Share (01/04/2016)	No of Shares	Market Cap.
Adani Ports	□ 243.30	2070951761	□ 50,386

Table – 8
Market Capitalization as on 31/03/2017

Companies	Market Price / Share (31/03/2017)	No of Shares	Market Cap.
Adani Ports	□ 338.57	2070951761	□ 70,116
Asian Paint	□ 1,070.49	9591,97,790	□ 1,02,681
Axis Bank	□ 497.53	2395036109	□ 1,19,160
Bajaj Auto	□ 2,818.28	289367020	□ 81,552
Bharati Airtel	□ 348.44	3997400102	□ 1,39,285
Dr Reddy Lab	□ 2,624.93	165741713	□ 43,506
HDFC Bank	□ 1,442.56	2562545717	□ 3,69,663
HDFC	□ 1,506.62	1588672140	□ 2,39,353
Hero Motocorp	□ 3,215.35	199696838	□ 64,210
Hind. Unilever	□ 916.28	2164349639	□ 1,98,315
ICICI Bank	□ 280.26	5824476135	□ 1,63,237
Indusind Bank	□ 1,412.01	598148705	□ 84,459
Infosys Ltd	□ 1,022.89	2296944664	□ 2,34,952
ITC Ltd	□ 280.77	12147383071	□ 3,41,062
Kotak Bank	□ 871.05	1840897877	□ 1,60,351
L & T Ltd	□ 1,576.12	932965803	□ 1,47,047
M & M	□ 1,284.62	621092384	□ 79,787
NTPC Ltd	□ 165.62	8245464400	□ 1,36,561
ONGC Ltd	□ 185.59	12833235180	□ 2,38,172
Power Grid	□ 197.04	5231589648	□ 1,03,083
Reliance Inds.	□ 1,306.17	3251278100	□ 4,24,672
SBI	□ 292.20	7973504442	□ 2,32,986
Sun Pharma	□ 687.53	2399260815	□ 1,64,956
Tata Motors	□ 468.26	2887348428	□ 1,35,203
Tata Steel	□ 483.40	971215439	□ 46,949
TCS	□ 2,426.44	1970427941	□ 4,78,113
Wipro	□ 512.95	2430900565	□ 1,24,693
Yes Bank	□ 1,540.70	456485813	□ 70,331

Rupees in Crores

Table – 9
Market Value Added (MVA) - (2016-2017)

Companies	Change in Market Cap.	Economic Value	Market Value Added
Adani Ports	□ 19,730	□ 17,684	□ 2,046
Asian Paint	□ 18,821	□ 7,351	□ 11,470
Axis Bank	□ 12,706	□ 62,808	□ -50,102
Bajaj Auto	□ 11,992	□ 17,306	□ -5,314
Bharati Airtel	□ 4,509	□ 1,20,788	□ -1,16,279
Dr Reddy Lab	□ -7,493	□ 13,031	□ -20,524
HDFC Bank	□ 1,00,656	□ 90,636	□ 10,020
HDFC	□ 65,347	□ 42,825	□ 22,522
Hero Motocorp	□ 5,304	□ 10,939	□ -5,635
Hind. Unilever	□ 11,276	□ 6,529	□ 4,747
ICICI Bank	□ 26,028	□ 1,14,229	□ -88,201
Indusind Bank	□ 27,298	□ 22,064	□ 5,234
Infosys Ltd	□ -42,796	□ 72,212	□ -1,15,008
ITC Ltd	□ 72,377	□ 49,019	□ 23,358
Kotak Bank	□ 35,148	□ 33,731	□ 1,417
L & T Ltd	□ 31,979	□ 51,280	□ -19,301
M & M	□ 5,610	□ 27,550	□ -21,940
NTPC Ltd	□ 29,684	□ 1,04,742	□ -75,058
ONGC Ltd	□ 58,579	□ 1,96,806	□ -1,38,227
Power Grid	□ 30,435	□ 52,384	□ -21,949
Reliance Inds.	□ 89,795	□ 3,02,149	□ -2,12,354
SBI	□ 81,640	□ 1,94,614	□ -1,12,974
Sun Pharma	□ -31,255	□ 24,041	□ -55,296
Tata Motors	□ 25,313	□ 26,650	□ -1,337
Tata Steel	□ 16,214	□ 59,767	□ -43,553
TCS	□ -7,791	□ 79,728	□ -87,519
Wipro	□ -14,671	□ 48,477	□ -63,148
Yes Bank	□ 34,220	□ 20,943	□ 13,277

Rupees in Crores

Table - 10
Per Share MVA and EVA (2016-2017)

Companies	MVA per Share	EVA per Share
Adani Ports	□ 10	□ -2
Asian Paint	□ 120	□ 10
Axis Bank	□ -209	□ 14
Bajaj Auto	□ -184	□ 110
Bharati Airtel	□ -291	□ -20
Dr Reddy Lab	□ -1,238	□ -7
HDFC Bank	□ 39	□ 2
HDFC	□ 142	□ 70
Hero Motocorp	□ -282	□ 90
Hind. Unilever	□ 22	□ 16
ICICI Bank	□ -151	□ -22
Indusind Bank	□ 88	□ -15
Infosys Ltd	□ -501	□ 24
ITC Ltd	□ 19	□ 4
Kotak Bank	□ 8	□ 47
L & T Ltd	□ -207	□ -27
M & M	□ -353	□ 2
NTPC Ltd	□ -91	□ -3
ONGC Ltd	□ -108	□ -3
PowerGrid Corp	□ -42	□ 2
Reliance Inds.	□ -653	□ -8
SBI	□ -142	□ -26
Sun Pharma	□ -230	□ -11
Tata Motors	□ -5	□ -22
Tata Steel	□ -448	□ -58

TCS	□ -444	□ 65
Wipro	□ -260	□ 12
Yes Bank	□ 291	□ -15

Table – 11
MVA and EVA Per Re. 1.00 Face Value

Companies	Face Value per Share	MVA Per Re 1.00 Face Value	EVA Per Re 1.00 Face Value
Adani Ports	□ 2	□ 4.94	□ -1.24
Asian Paint	□ 1	□ 119.58	□ 10.01
Axis Bank	□ 2	□ -104.59	□ 6.79
Bajaj Auto	□ 10	□ -18.37	□ 10.99
Bharati Airtel	□ 5	□ -58.18	□ -4.10
Dr Reddy Lab	□ 5	□ -247.66	□ -1.33
HDFC Bank	□ 2	□ 19.55	□ 1.25
HDFC	□ 2	□ 70.88	□ 34.79
Hero Motocorp	□ 2	□ -141.10	□ 44.93
Hind. Unilever	□ 1	□ 21.93	□ 16.40
ICICI Bank	□ 2	□ -75.72	□ -10.76
Indusind Bank	□ 10	□ 8.75	□ -1.47
Infosys Ltd	□ 5	□ -100.14	□ 4.87
ITC Ltd	□ 1	□ 19.23	□ 4.39
Kotak Bank	□ 5	□ 1.54	□ 9.37
L & T Ltd	□ 2	□ -103.44	□ -13.27
M & M	□ 5	□ -70.65	□ 0.41
NTPC Ltd	□ 10	□ -9.10	□ -0.28
ONGC Ltd	□ 5	□ -21.54	□ -0.55
Power Grid	□ 10	□ -4.20	□ 0.21
Reliance Inds.	□ 10	□ -65.31	□ -0.75
SBI	□ 1	□ -141.69	□ -26.25
Sun Pharma	□ 1	□ -230.47	□ -11.18
Tata Motors	□ 2	□ -2.32	□ -10.77
Tata Steel	□ 10	□ -44.84	□ -5.76
TCS	□ 1	□ -444.16	□ 65.14
Wipro	□ 2	□ -129.89	□ 6.11
Yes Bank	□ 10	□ 29.08	□ -1.52

6.2 Hypothesis Testing

The correlation and regression analysis has been conducted to test the hypothesis. The results of the analysis are presented in Table – 12 to Table – 12

Table - 12
Ranks Per Re. 1.00 Face Value

Companies	MVA Rank	EVA Rank
Adani Ports	8	18
Asian Paint	1	6
Axis Bank	22	8
Bajaj Auto	13	5
Bharati Airtel	16	22
Dr Reddy Lab	27	19
HDFC Bank	5	12
HDFC	2	3
Hero Motocorp	24	2
Hind. Unilever	4	4
ICICI Bank	19	24
Indusind Bank	7	20
Infosys Ltd	20	10
ITC Ltd	6	11
Kotak Bank	9	7
L & T Ltd	21	27

M & M	18	13
NTPC Ltd	12	15
ONGC Ltd	14	16
PowerGrid Corp	11	14
Reliance Inds.	17	17
SBI	25	28
Sun Pharma	26	26
Tata Motors	10	25
Tata Steel	15	23
TCS	28	1
Wipro	23	9
Yes Bank	3	21
Rank Correlation	0.19	

Coefficients	-53.09370353	-1.82920431
Std. Error	21.21619506	1.154324047
t Stat	-2.502508267	-1.58465408
P-value	1.8950%	12.5134%

Table - 13
Regression Statistics

Multiple R	0.296775
R Square	0.0880754
Adjusted R Square	0.0530014
Standard Error	108.825
Observations	28

Table - 14
Analysis of Variance

	df	SS	MS	F	Sig. F
Regression	1	29738.998	29738.998	2.5111286	0.1251342
Residual	26	307914.92	11842.882		
Total	27	337653.92			

Table - 15
Coefficients and P Value

	Intercept	EVA / Re 1 FV
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In this study the EVA per share of Re. 1 Face Value is considered as independent variable and the MVA per share of Re. 1 Face Value is considered as dependent variable. The Multiple R of 0.296775 signifies a weak relationship between EVA and MVA of BSE S&P Sensex Companies. Further the P Value at confidence level of 95% is more than 5% which indicates that there is no significant relationship between the EVA and MVA of BSE S&P Sensex Companies. The rank correlation of 0.19 indicates weak correlation between EVA and MVA. Thus, the study rejects the Alternate Hypothesis and accepts the Null Hypothesis.

7. Conclusions

The study reveals that there is no significant relationship between EVA and MVA of BSE S&P Sensex Companies. Thus, it may be deduced that there is no linkage between the EVA of the Companies and its MVA. Therefore, it may be concluded that EVA does not affect MVA. The MVA is independent of EVA. The MVA is a function of factors others than EVA. It can be concluded that Capital Markets in India during 2016-2017 did not consider EVA as an important element for valuing shares of companies. It may be noted that the findings of this study are specific to 28 BSE S&P Sensex companies covering financial year 2016-2017, so the conclusions are specific.

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