# CHAPTER IV

# RESULTS AND DISCUSSION

This chapter discusses the performance analysis of select Index and Non-Index stocks of Banking and IT sectors. The results of the analysis are organized based on the research objectives, which are considered for evaluation. To validate the findings, the researcher has calculated the risk-return of the select Index and Non-Index stocks, stock delivery position, high and low value of the stocks, Economic Value Added (EVA) and Market Value Added (MVA) of the select stocks, financial and valuation ratios of select stocks, Factor analysis and Path analysis. The data consolidation process was executed through Microsoft Excel. Statistical analysis have been performed by using IBM and Amos software version 24.0, pooled regression model was evaluated through EViews software version 9.0.

**Analysis and Interpretation**

The results and discussion of the current study on Performance Analysis of Select Index and Non-Index stocks in Banking and IT Sectors are discussed under the following heads:

4.1 Performance of select Index and Non-Index stocks in Banking and IT Sectors.

4.2 Stock delivery position of select Index and Non-Index stocks in Banking and IT Sectors.

4.3 Financial indicators of select Index and Non-index stocks for suitable investment.

4.4 Inter-relationship between Economic Value Added and Market Value Added of Index and Non-Index stocks of banking and IT sectors.

4.5 Impact of Financial and Valuation Ratios on Market Valued Added and Share Prices of Both Selected Index and Non-index Stocks in Banking and IT Sectors.

## 4.1 PERFORMANCE OF SELECT INDEX AND NON-INDEX STOCKS IN BANKING AND IT SECTORS

The performance analysis of select Index and Non-Index stocks clearly depicts the growth rate and risk-return pattern for individual stock of select Index and Non-Index stocks price, based on the historical data. Historical prices for a total of ten years were collected for forty companies of Index and Non-Index stocks, listed under Banking and IT sectors. In order to analyze the data, statistical tools such as Mean, Standard Deviation, Coefficient of Variance, Linear Growth Rate (LGR) and CAPM have been used. To measure the risk-return relationship of Share Price to the Market Index, Beta has been used. Beta is a statistical measure of the volatility of a stock versus the overall market. It is generally used as both a measure of systematic risk and a performance measure. The market is described as having a Beta of 1. The Beta for a stock describes how much the price of the stock moves in relation to the market. If a stock has a Beta above 1, it is more volatile than the overall market. If the Beta is below 1, the stock either has lower volatility than the market or it is a volatile asset whose price movements are not highly correlated with the overall market. The Beta coefficient is calculated by dividing the covariance of the stock return versus the market return by the variance of the market. The market against which Beta should be measured is often represented by a stock index.

CAPM is a general equilibrium market model developed to analyze the relationship between risk and required rate of return on assets when they are held in well-diversified portfolio.

### 4.1.1 Performance of Index and Non-Index Stocks in Banking Sector

Performance of Index and Non-Index in Banking Sector has been analyzed and presented under the following heads:

(i) Performance of Index stocks in Banking Sector.
(ii) Performance of Non-Index stocks in Banking Sector.

### (i) Performance of Index Stocks in Banking Sector

The select banks namely Axis Bank, Bank of Baroda, Bank of India, Canara Bank, Federal Bank, HDFC Bank, ICICI Bank, YES Bank, Punjab National Bank and State Bank of India have been analyzed and their performance is given in Table 3.

**Table 3**

**Performance of Index Stocks in Banking Sector**

**(Values in Rupees)**

| Year | Axis Bank | Bank of Baroda | Bank of India | Canara Bank | Federal Bank | HDFC Bank | ICICI Bank | YES Bank | PNB | SBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-2007 | 79.75 | 48.06 | 154.89 | 241.49 | 15.83 | 185.02 | 143.89 | 111.38 | 91.96 | 94.97 |
| 2007-2008 | 157.10 | 64.99 | 287.99 | 267.15 | 26.78 | 276.38 | 204.91 | 203.72 | 111.21 | 173.96 |
| 2008-2009 | 118.20 | 51.86 | 262.40 | 187.74 | 17.34 | 220.62 | 106.97 | 99.19 | 89.34 | 127.89 |
| 2009-2010 | 186.51 | 98.41 | 345.46 | 328.19 | 24.08 | 316.95 | 159.16 | 198.57 | 157.86 | 195.43 |
| 2010-2011 | 266.80 | 168.13 | 432.20 | 569.19 | 37.31 | 431.92 | 203.94 | 300.59 | 229.09 | 269.79 |
| 2011-2012 | 226.70 | 158.62 | 360.82 | 479.18 | 40.20 | 479.74 | 185.13 | 304.06 | 197.32 | 211.92 |
| 2012-2013 | 237.91 | 147.85 | 315.10 | 417.52 | 46.18 | 611.25 | 200.88 | 402.99 | 157.88 | 214.12 |
| 2013-2014 | 244.21 | 119.90 | 215.68 | 281.33 | 39.09 | 658.66 | 209.17 | 369.91 | 120.08 | 178.87 |
| 2014-2015 | 450.41 | 183.19 | 266.75 | 398.44 | 65.38 | 906.47 | 313.33 | 660.82 | 185.14 | 270.54 |
| 2015-2016 | 492.58 | 160.19 | 140.31 | 263.89 | 59.33 | 1055.56 | 273.08 | 780.60 | 126.43 | 234.15 |
| **MEAN** | 246.02 | 120.12 | 278.16 | 343.41 | 37.15 | 514.26 | 200.04 | 343.18 | 146.63 | 197.16 |
| **SD** | 132.86 | 51.10 | 91.31 | 119.62 | 16.70 | 293.49 | 59.63 | 224.47 | 46.84 | 56.42 |
| **CV** | 54.01 | 42.54 | 32.82 | 34.83 | 44.94 | 57.07 | 29.81 | 65.41 | 31.94 | 28.62 |
| **LGR** | 39.471 | 14.034 | -4.097 | 10.706 | 5.089 | 93.130 | 15.388 | 67.836 | 5.756 | 13.223 |
| **CAPM** | 2.917 | 2.043 | 2.556 | 2.681 | 2.869 | 4.132 | 1.772 | 0.655 | 2.973 | 2.612 |

**Source: Computed Data**

**Note :**

| | |
|---|---|
| | Bank wise - High performance |
| | Year wise - High performance |
| | Both year wise and bank wise - High performance |

**Figure 5 Performances of Index Stocks in Banking Sector**

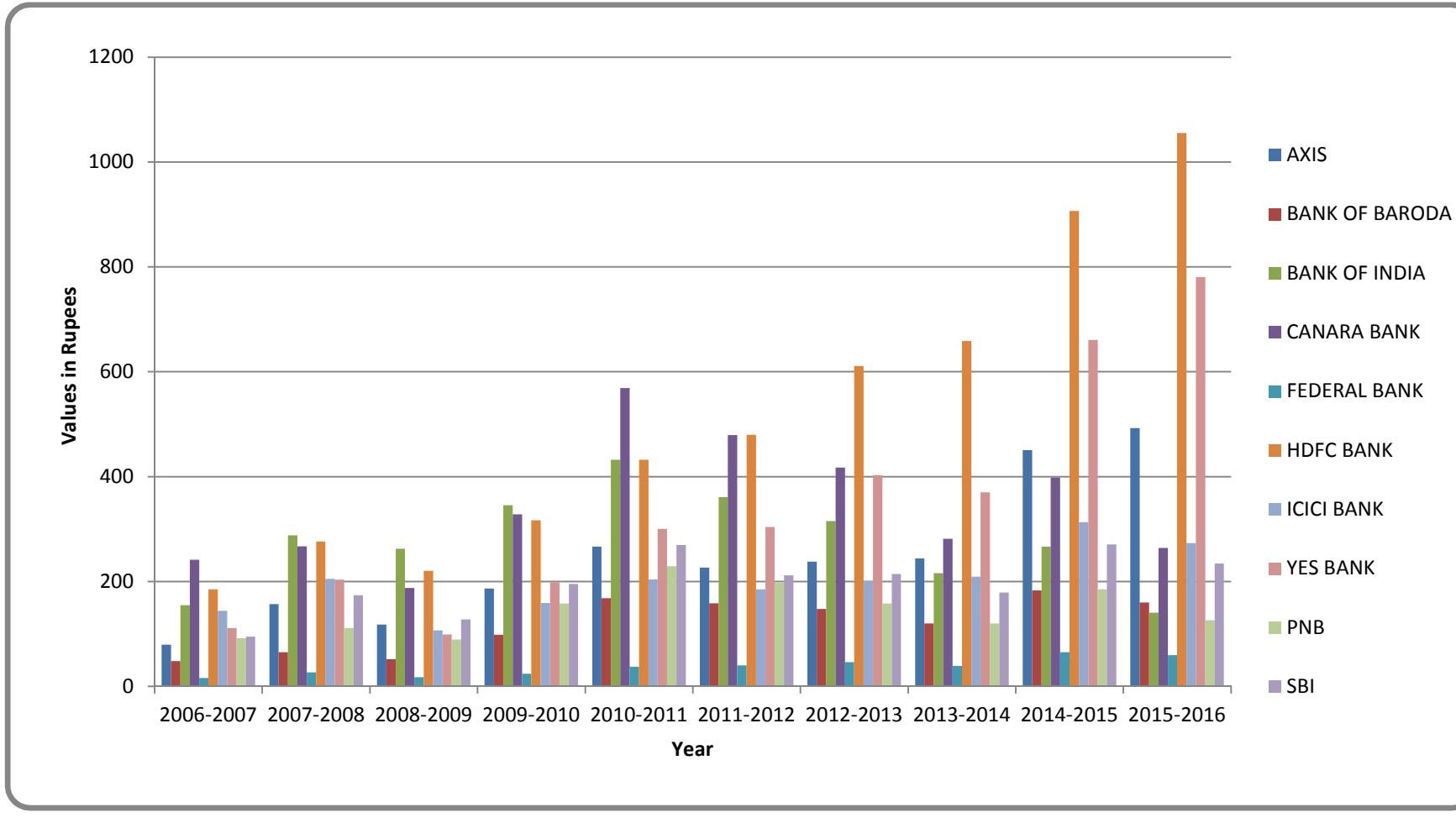
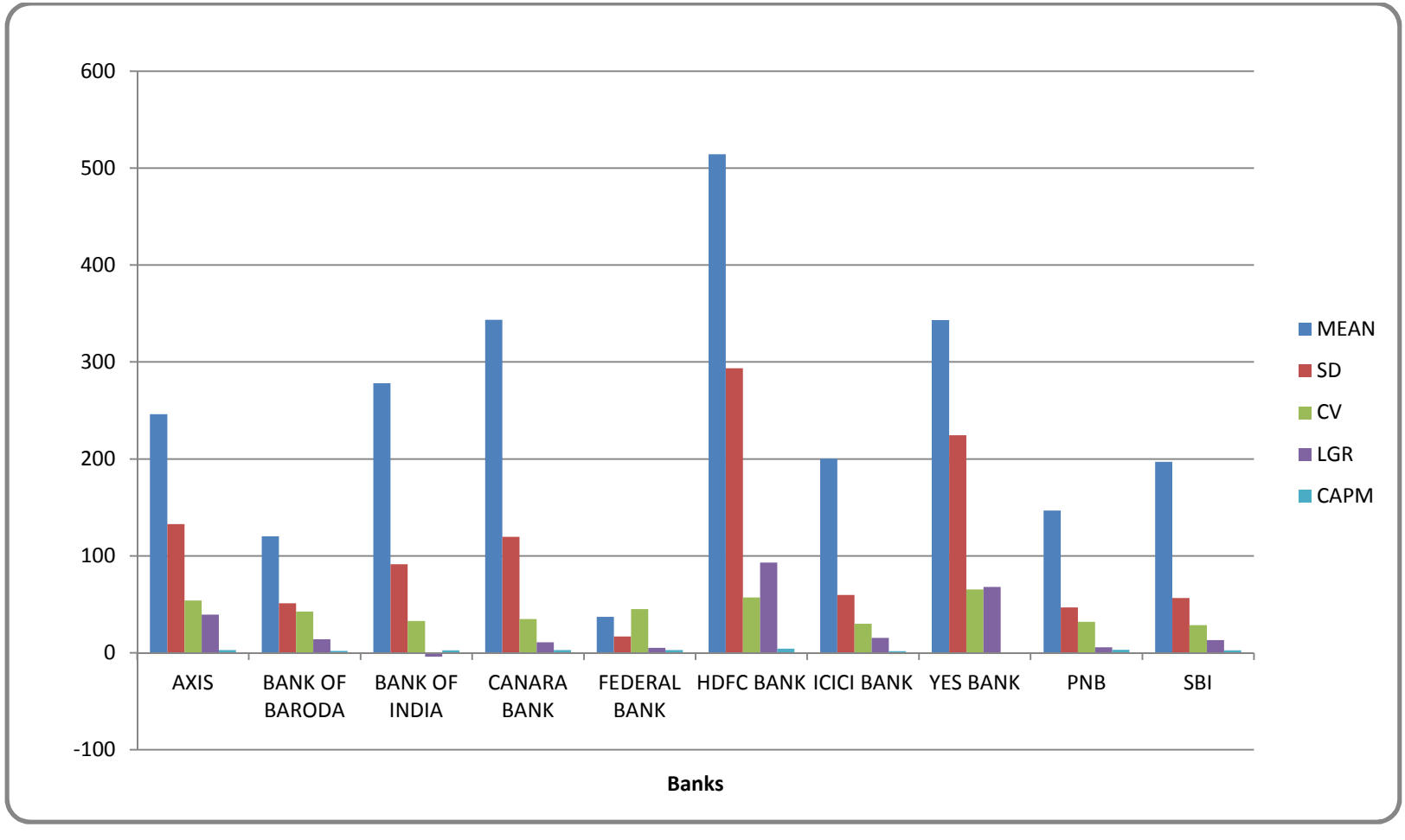


**Figure 6 Summary Statistics of Index Stocks in Banking Sector**



It is observed from the Table 3 that the closing market price of Axis Bank shows an increasing trend with the mean value of ₹ 246.02 and there has been a significant linear growth rate of 39.471 per cent during the study period. It is further observed that the price has increased from ₹ 79.75 to ₹ 450.41 during the year 2014 – 2015 which is higher improvement when compared to the previous year ₹ 244.21. At the same time, it is inferred from co-efficient of variance that there is a stable and strong linear growth in the share prices at 54.01 per cent, which is supported by the standard deviation. The result of descriptive analysis shows that the market price of Axis Bank shows a positive and strong linear growth with a significant level. The Capital Assets Pricing Model shows that the share price of Axis Bank yields a return of 2.917 per cent.

Bank of Baroda shows a fluctuating trend with the mean value of 120.12 and there has been a significant linear growth rate of 14.034. It is also observed that the highest range of price was ₹ 183.19 in the year 2014 – 2015 followed by ₹ 160.19 during the year 2015 – 2016. The expected rate of return of Bank of Baroda is 2.043 per cent.

In the case of Bank of India, the stock price shows an increasing trend from 2006 – 2007 to 2010 - 2011, the closing market price range from ₹ 154.89 to ₹ 432.20. It is further observed that there is a slight decrease in the year 2011 – 2012. The mean value per share is ₹ 278.16 during the study period. It also indicates the negative linear growth rate of 4.097 per cent.

It is observed from Canara Bank that the highest closing market price was ₹ 569.19 during the year 2010 – 2011 followed by the year 2011 – 2012 with the average price of ₹ 479.18. The mean value of Canara Bank is ₹343.41 and the C.V value is 34.83 per cent. It is also clearly observed that the linear growth rate is 10.706 per cent. The CAPM is 2.681 per cent during the study period.

According to Federal Bank, it shows a fluctuating trend with the highest closing market price of ₹ 65.38 during the year 2014 – 2015 and the lowest value of ₹ 15.83 in the year 2006 – 2007 with the mean value of ₹ 37.15 and the

co-efficient of variance denotes 44.94. The linear growth rate is 5.089 per cent with the CAPM of 2.869 per cent. HDFC Bank shows an increasing trend during the study period ranges from 2006 – 2016 of ₹ 185.02 to ₹1055.56. It is clearly observed that the mean value is ₹ 514.26 with the co-efficient of variation of 57.07 per cent. The significant linear growth rate of HDFC Bank is 93.130 per cent with the CAPM value of 4.132 per cent, which is found to be higher when compared to the stock price of the select banks for this study.

It is observed that the closing market price of ICICI Bank has a fluctuating trend during the study period with the mean value of ₹ 200.04. The highest market price of share was ₹ 313.33 during the year 2014 – 2015 and lowest rate was ₹ 106.97 in the year 2008 – 2009. The linear growth rate of ICICI Bank is 15.388 per cent with the CAPM value of 1.772 per cent.

YES Bank depicts the highest closing market price of ₹ 780.60 in the year 2015 – 2016 and the lowest value of ₹ 99.19 in the year 2008 – 2009. The mean value observed is that of ₹ 343.18 with the co-efficient of variation of 65.41 per cent. The linear growth rate is significant at 67.836 per cent and the CAPM is 0.655 per cent during the study period.

In the case of Punjab National Bank, the closing mean price was high i.e. ₹126.43 in the year 2015 – 2016 and the low price of ₹89.34 during the year 2008 – 2009. The overall mean value of the bank share price is ₹146.63 and the co-efficient variation is in the range of 31.94 per cent. The linear growth rate is 5.75 per cent with the CAPM of 2.97 per cent.

The closing market price of State Bank of India during the year 2014 – 2015 marks the highest value of ₹ 270.54 and the lowest value of ₹ 94.97 during the year 2006 – 2007. The mean value ₹ 197.16 and the co-efficient of variation indicate the value of 28.62 per cent. The linear growth rate of the market price of the SBI share is 13.223 per cent and the capital asset pricing model is 2.612 per cent.

Table 3 also reveals the performance of individual banks in Bank Index during the study period. HDFC Bank has the highest percentage of the linear growth rate of 93.130 when compared to all the other banks. The Capital Asset Pricing Model also supports the Bank with the range of 4.132, which indicates the high rate of return to the shareholder. HDFC bank holds the leading position in Brandz Top ten most valuable Indian brands in the year 2016. It is due to the objective of the bank to reward the shareholders and retain capital in order to maintain a healthy capital adequacy ratio. It indicates the track record of steady increase in dividend distribution over its history with the dividend pay-out ratio ranging between 20 and 25 per cent.

Punjab National Bank marks the second highest rate of return 2.97 per cent, followed by Axis Bank (2.91), Federal Bank (2.86), Canara Bank (2.68), SBI (2.61), Bank of India (2.55), Bank of Baroda (2.04), ICICI Bank (1.77) and Yes Bank (0.65). Bank of India is having a negative linear growth rate than all the other banks during the study period. Yes Bank stands in the last position (0.65) in the CAPM.

### (ii) Performance of Non-Index Stocks in Banking Sector

The select banks namely CUB, Corporation Bank, Dena Bank, IDBI Bank, IOB, Indus Ind Bank, KVB, Oriental Bank, South Indian Bank and UBI have been analyzed and their performance is given in Table 4.

**Table 4**

**Performance of Non-Index Stocks in Banking Sector**

**(Values in Rupees)**

| Year | CUB | COR. Bank | DENA Bank | IDBI Bank | IOB | Indus Ind Bank | KVB | Oriental Bank | SBI | UBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-2007 | 9.71 | 63.77 | 32.93 | 75.85 | 102.60 | 44.84 | 132.97 | 213.41 | 6.09 | 113.73 |
| 2007-2008 | 19.43 | 71.14 | 60.38 | 124.95 | 139.99 | 78.32 | 199.21 | 231.09 | 12.51 | 157.33 |
| 2008-2009 | 14.69 | 47.56 | 39.20 | 68.69 | 80.88 | 49.97 | 155.82 | 148.14 | 7.49 | 140.47 |
| 2009-2010 | 20.41 | 77.61 | 64.90 | 110.17 | 95.05 | 112.66 | 200.86 | 226.61 | 12.43 | 242.06 |
| 2010-2011 | 36.96 | 121.58 | 105.17 | 139.75 | 126.93 | 234.54 | 375.69 | 389.67 | 21.22 | 334.94 |
| 2011-2012 | 39.13 | 90.82 | 81.00 | 113.19 | 111.25 | 271.93 | 387.21 | 293.67 | 23.03 | 250.93 |
| 2012-2013 | 48.99 | 82.53 | 99.23 | 95.01 | 76.82 | 368.90 | 449.88 | 278.07 | 24.27 | 213.78 |
| 2013-2014 | 49.40 | 57.62 | 60.24 | 66.10 | 49.61 | 428.09 | 366.53 | 192.03 | 21.58 | 143.20 |
| 2014-2015 | 83.33 | 66.03 | 63.72 | 77.43 | 61.28 | 691.35 | 514.09 | 276.98 | 27.58 | 200.37 |
| 2015-2016 | 92.83 | 45.41 | 40.36 | 72.22 | 34.31 | 907.60 | 455.93 | 144.61 | 20.91 | 153.41 |
| **MEAN** | 41.49 | 72.41 | 64.71 | 94.33 | 87.87 | 318.82 | 323.82 | 239.43 | 17.71 | 195.02 |
| **SD** | 28.27 | 22.53 | 24.47 | 26.20 | 33.78 | 290.00 | 138.80 | 73.71 | 7.46 | 67.26 |
| **CV** | 68.13 | 31.12 | 37.81 | 27.78 | 38.44 | 90.96 | 42.86 | 30.79 | 42.12 | 34.49 |
| **LGR** | 8.829 | -1.010 | 1.662 | -2.729 | -8.438 | 89.411 | 41.957 | -0.122 | 2.101 | 3.050 |
| **CAPM** | 2.223 | 1.564 | 1.564 | 0.544 | 1.973 | 0.210 | 5.020 | 1.744 | 3.014 | 2.841 |

**Source: Computed Data**

**Note:**

Bank wise - High performance

Year wise - High performance

Both year wise and bank wise -High performance

**Figure 7 Performance of Non-Index Stocks in Banking Sector**

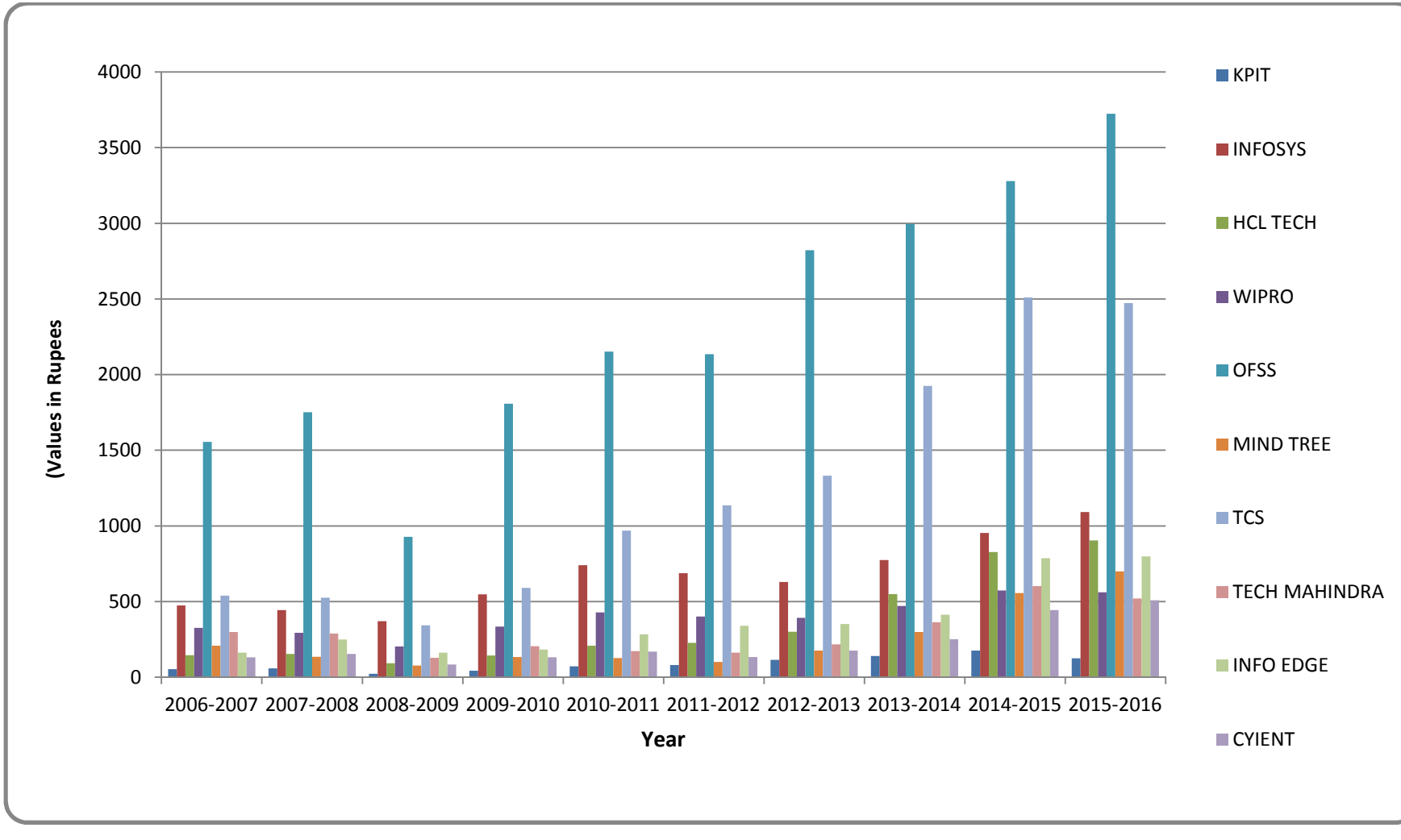


**Figure 8 Summary Statistics of Non-Index Stocks in Banking Sector**

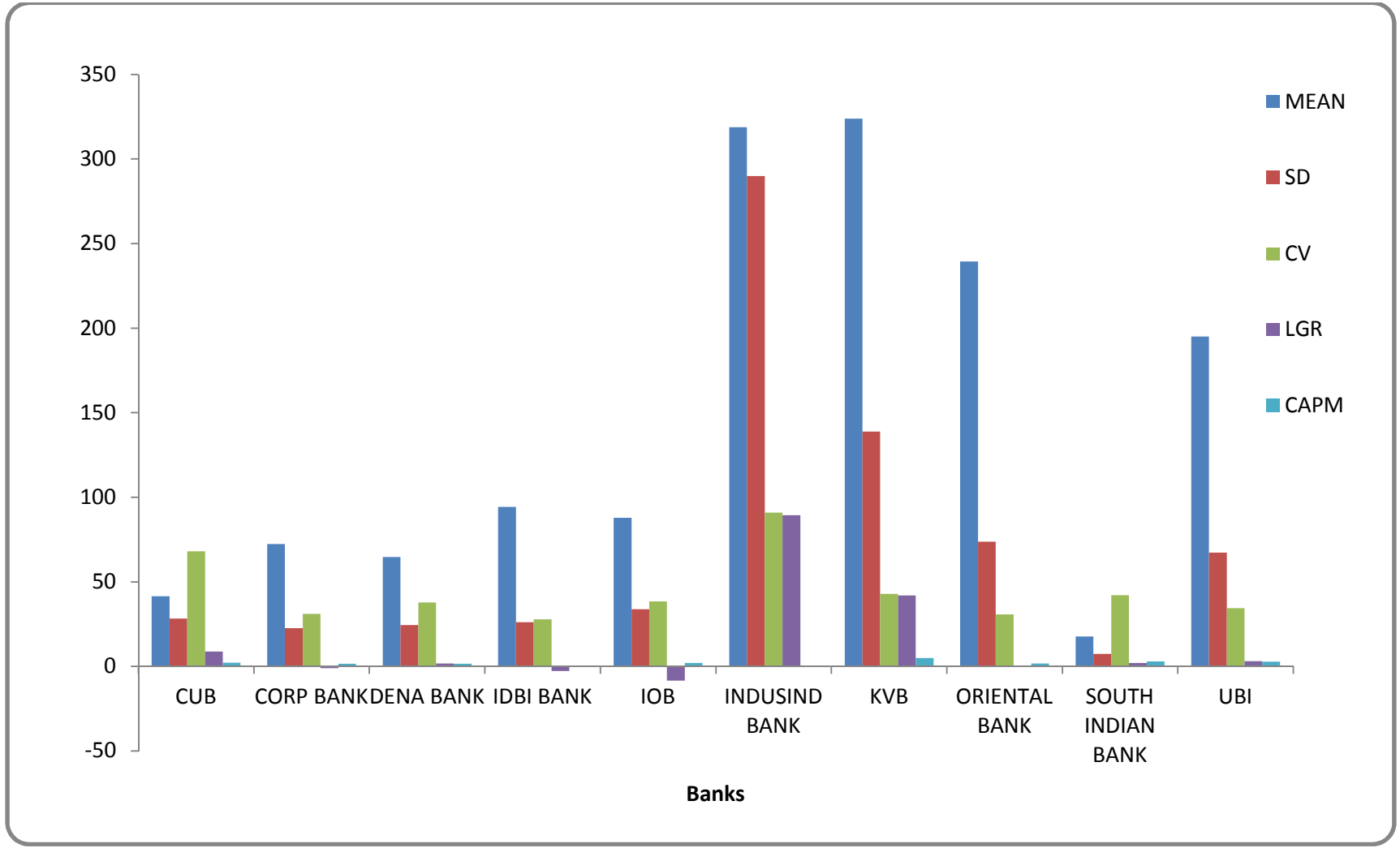


Table 4 presents the performance of Non-Index stocks in the Banking Sectors listed by NSE. It is observed that the closing price of CUB shows an increasing trend with the mean value of ₹ 41.49. It is also indicating the high closing market value ₹ 92.83 during the year 2015 – 2016 and the lowest value of closing price during the year 2006-2007 being of ₹ 9.71. During the year 2014 – 2015, the share price of bank increased nearly double the rate of ₹ 83.33 followed by the rate of ₹ 49.40 in the year 2013 – 2014. The significant linear growth rate of CUB Bank is 8.82 per cent and the expected rate of return is 2.22 per cent during the study period.

Corporation Bank shows the high stock price value of ₹ 121.58 during the year 2010 – 2011 followed by 2011 – 2012 with the rate of ₹ 90.82. The lowest closing stock price was ₹ 47.56 during the year 2008 – 2009. It is also observed that the closing price shows a fluctuating trend during the study period, with the mean value of ₹ 72.41. The linear growth rate shows a negative value of 1.01 per cent and the expected rate of return is 1.56 per cent.

It is clearly observed that the closing market price of Dena Bank reflected a fluctuating trend with the highest stock price of ₹ 105.17 during the year 2010 – 2011 and the lowest value marks ₹ 32.93 during the year 2006 – 2007 with the mean value of 64.71. The linear growth rate of Dena Bank is found to be 1.66 per cent and the expected rate of return is 1.564 per cent.

IDBI Bank shows highest and lowest closing market value of ₹139.75 and ₹66.10 during the year 2010 – 2011 and 2013 – 2014 respectively. It is also observed that the mean value is ₹ 94.33 with the co-efficient of variation is 27.78 per cent. The linear growth rate is indicating the negative of growth of 2.72 per cent and the expected rate of return is 0.54 per cent.

It is observed that the closing market price of IOB has taken a fluctuating trend with the mean value of ₹ 87.87 and there has been an insignificant linear growth rate of -8.43 per cent during the study period. It is further observed that the highest and lowest price at a rate of ₹ 139.99 and ₹ 34.31 during the year

2007– 2008 and 2015 – 2016 respectively. At the same time, it is inferred that the value of co-efficient of variance indicating 38.44 per cent and the rate of return expected is 1.97 per cent.

It is revealed that the closing price of Indus Ind Bank shows increasing trend with the mean value of ₹ 318.82. The highest closing market value of share price is ₹ 907.60 and the lowest value is ₹ 44.84 during the year 2015 – 2016 and 2006 – 2007 respectively. The co-efficient of variation indicating 90.96 and the expected rate of return is 0.21 per cent. The linear growth rate shows that the growth rate is 89.41 per cent which is significant.

It is evident from the Table 4 that there is a fluctuating trend in KVB with the mean value of ₹ 323.82. The highest and lowest closing market prices of share are ₹ 514.09 and ₹132.97 during the year 2014 – 2015 and 2006 – 2007. The co-efficient of variation is 42.86 per cent. There is a significant linear growth rate of 41.95 per cent and expected market return of the share is 5.02 per cent.

The highest and lowest closing share prices of Oriental Bank are ₹ 389.67 and ₹ 144.61 respectively during the study period with the mean value of ₹ 239.43. The co-efficient of variation is 30.79 per cent. There is an insignificant negative linear growth during the study period is 0.12 per cent with the expected rate of return of 1.74 per cent.

It is observed that the highest and lowest closing market price of South Indian Bank is ₹ 27.58 and ₹ 6.09 during the study period 2014 – 2015 and 2006 – 2007 with the mean value of ₹ 17.71. The co-efficient of variation is 42.12 per cent. The linear growth rate of the bank shows a significant growth at the rate of 2.10 per cent with the expected growth rate of 3.01 per cent.

United Bank of India shows a fluctuating trend with the mean value of ₹ 195.02. The highest and lowest closing prices of market share are ₹ 334.94 and ₹ 113.73 respectively during the study period. The co-efficient of variation is 34.49 per cent with the significant linear growth rate of 3.05 per cent. The expected market rate of return is 2.84 per cent.

Table 4 also reveals that the performance of individual banks in Non-Index listed by NSE during the study period. KVB has the highest expected rate of return being 5.02 per cent when compare to other banks not only in Non-Index and also Bank Index. This result shows that there is a high market rate of return expected in Non-Index Bank. Based on CAPM model, KVB scored highest value followed by South Indian Bank (3.01), UBI (2.84), CUB (2.22), IOB (1.97), Oriental Bank (1.74), Corporate Bank and Dena Bank (1.56), Indus Ind Bank (0.21), IDBI Bank (0.54). Most of the banks in Non-Index category have improvements in closing price during the year 2010-2011. There is a negative growth rates in Corporate Bank (1.01), IDBI (2.72), IOB (8.43) and Oriental Bank (0.12). All banks have positive expected rate of return in Non-Index category during the study period 2006-2016.

### 4.1.2 Performance of Select Index and Non-Index Stocks of IT Sector

Performance of Index and Non-Index stocks in IT sector have been analyzed and presented under the following heads:

(i) Performance of Index stocks in IT sector

(ii) Performance of Non-Index stocks in IT sector

#### (i) Performance of Index Stocks in IT Sector

The select Index stocks in IT sector namely KPIT Ltd., INFOSYS Ltd., HCL TECH Ltd., WIPRO Ltd., OFSS Ltd., Mind Tree Ltd., TCS Ltd., Tech Mahindra Ltd., INFO EDGE Ltd. and Cyient Ltd., have been analyzed and their performance is given below

## Table 5

## Performance of Index Stocks in IT Sector

(Value in Rupees)

| Year | KPIT | Infosys | HCL Tech | Wipro | OFSS | Mind Tree | TCS | Tech Mahindra | Info Edge | Cyient |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-2007 | 53.40 | 474.07 | 145.05 | 325.76 | 1555.81 | 207.70 | 538.33 | 298.36 | 162.27 | 130.67 |
| 2007-2008 | 57.94 | 444.24 | 153.37 | 292.95 | 1751.46 | 135.24 | 524.74 | 289.06 | 249.45 | 153.96 |
| 2008-2009 | 21.95 | 370.70 | 92.82 | 202.97 | 928.04 | 77.60 | 343.25 | 128.62 | 162.01 | 84.18 |
| 2009-2010 | 42.54 | 547.35 | 143.81 | 334.03 | 1807.30 | 133.50 | 589.46 | 204.95 | 182.50 | 131.31 |
| 2010-2011 | 72.58 | 740.87 | 208.81 | 428.19 | 2152.05 | 126.07 | 968.18 | 172.47 | 283.36 | 169.32 |
| 2011-2012 | 80.80 | 687.55 | 227.46 | 400.71 | 2135.14 | 100.36 | 1136.57 | 162.17 | 340.17 | 134.04 |
| 2012-2013 | 113.96 | 629.77 | 300.94 | 391.85 | 2822.33 | 175.89 | 1331.25 | 217.45 | 352.08 | 176.23 |
| 2013-2014 | 139.69 | 774.87 | 549.16 | 470.24 | 2995.34 | 299.34 | 1925.83 | 364.03 | 412.94 | 251.21 |
| 2014-2015 | 176.10 | 953.33 | 827.63 | 573.39 | 3279.00 | 556.18 | 2509.61 | 602.34 | 786.95 | 443.85 |
| 2015-2016 | 125.54 | 1091.37 | 904.45 | 561.65 | 3723.42 | 698.97 | 2472.75 | 520.23 | 798.73 | 507.60 |
| **MEAN** | 88.45 | 671.41 | 355.35 | 398.17 | 2314.99 | 251.08 | 1234.00 | 295.97 | 373.04 | 218.24 |
| **SD** | 48.69 | 228.46 | 298.44 | 116.48 | 867.14 | 210.62 | 811.43 | 157.92 | 236.70 | 143.10 |
| **CV** | 55.05 | 34.03 | 83.99 | 29.25 | 37.46 | 83.88 | 65.76 | 53.36 | 63.45 | 65.57 |
| **LGR** | 13.864 | 68.692 | 86.825 | 33.748 | 264.036 | 51.989 | 252.185 | 32.691 | 68.551 | 38.523 |
| **CAPM** | 2.723 | 5.422 | 3.729 | 4.791 | 3.840 | 3.743 | 4.617 | 1.536 | 2.598 | 3.118 |

**Source: Computed Data**

**Note:**

Bank wise - High performance

Year wise - High performance

Both year wise and bank wise - High performance

**Figure 9 Performance of Index Stocks in IT Sector**

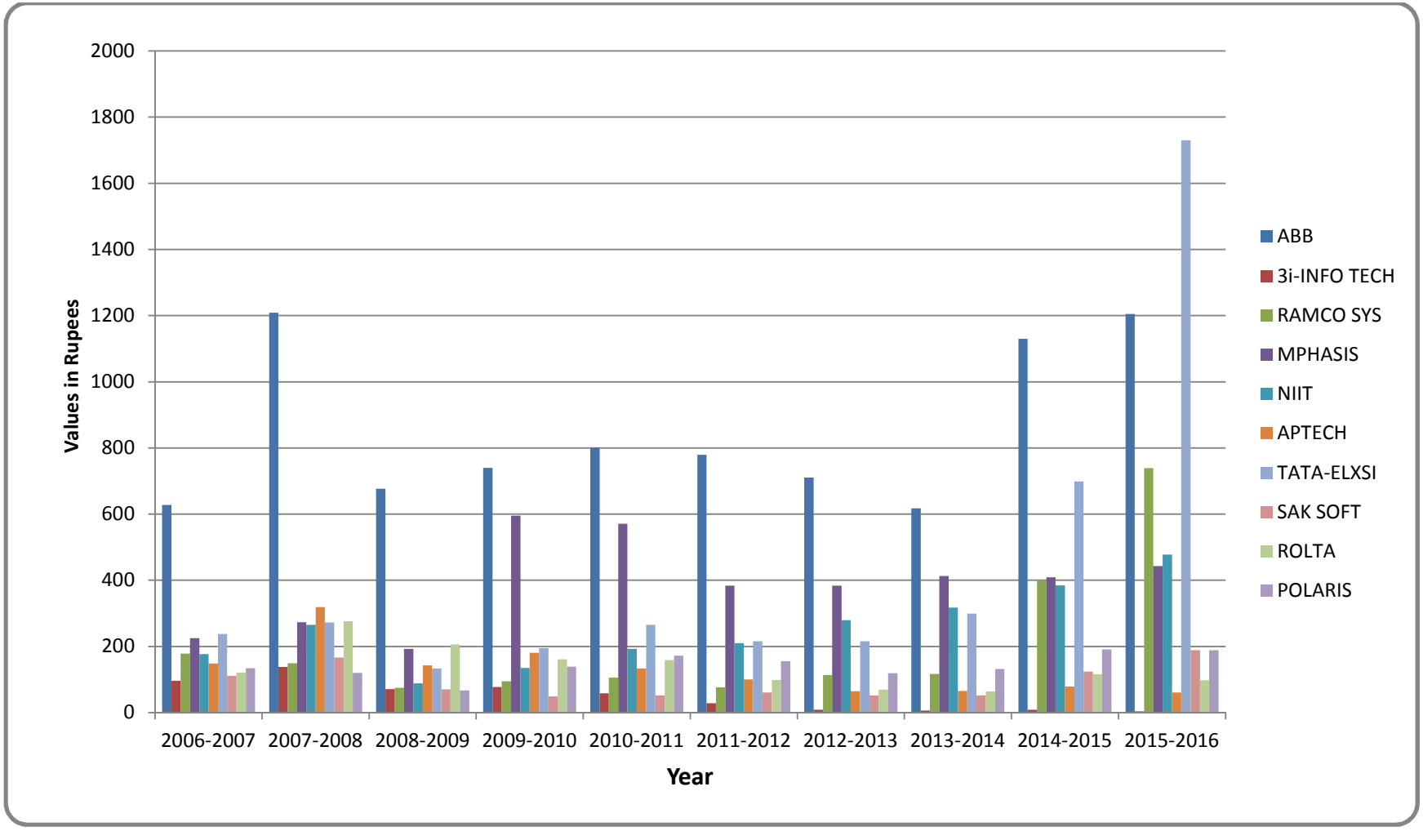
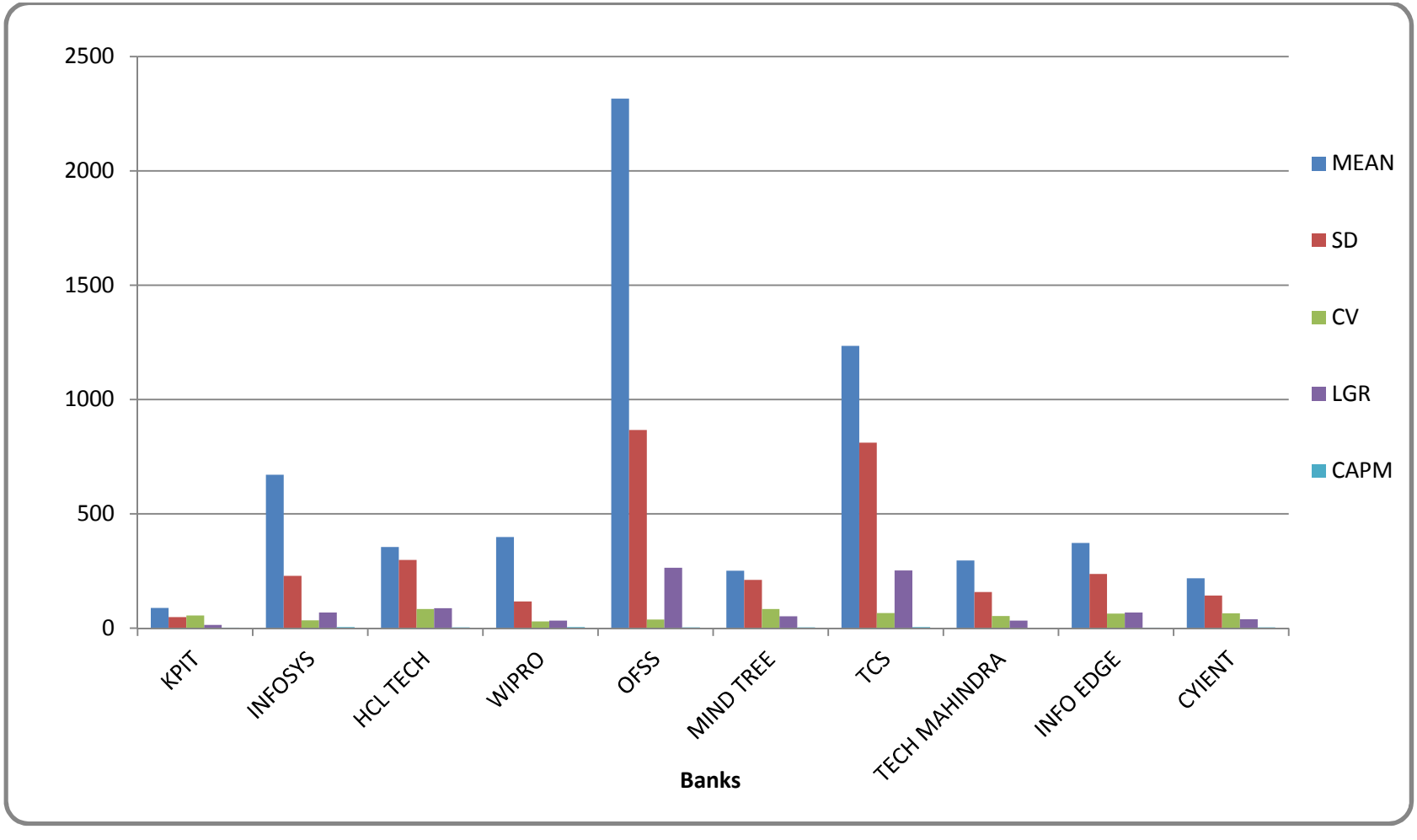


**Figure 10 Summary Statistics of Index Stocks in IT Sector**



It is clearly observed from Table 5 that the closing market price of KPIT Ltd., has increasing trend except during the study period 2008 – 2009 and 2015 – 2016. It is further observed that the highest closing value of market price of share is ₹ 176.10 during the year 2014 – 2015 and the lowest value of ₹ 21.95 in the year 2008 – 2009. The mean value of the stock price is ₹ 88.45 and also have co-efficient of variance 55.05 per cent during the study period. There is a significant linear growth rate of 13.86 per cent. The expected rate of return of KPIT Ltd. in the market is 2.72 per cent.

It is observed that the closing market price of INFOSYS Technology Ltd.. had a fluctuating trend from 2006 – 2007 to 2011 – 2012 and an increasing trend from 2013 – 2014 to 2015 – 2016 with the mean value of ₹ 671.41. The highest closing price of market share is ₹1091.3 and the lowest value is ₹ 370.70 during the years 2015 – 2016 and 2008 – 2009 respectively. The co-efficient of variation is 34.03 per cent and the bank have significant linear growth rate of 68.69 per cent. The expected rate of return is 5.42 per cent.

It is advocated from Table 5 that HCL TECH Ltd. has the highest and the lowest closing share prices of ₹ 904.45 in the year 2015 – 2016 and ₹ 92.82 in the year 2008 – 2009 respectively with the mean value of ₹ 355.35. It is further observed that there has an increasing trend during the study period except 2008 – 2009. The co-efficient of variation indicates the range of 83.99 per cent and it has a linear growth rate of 86.82 per cent. The expected rate of return is 3.72 per cent during the study period.

It is apparent that the closing price of market share of WIPRO Ltd., shows a fluctuating trend with the mean value of ₹ 398.17. The highest value of closing price was ₹ 573.39 and lowest closing price of ₹ 202.97 during the years 2014– 2015 and 2008-2009 respectively. The co-efficient of variation is indicating the range of 29.25 per cent and linear growth rate of 33.74 per cent. The capital asset pricing model represents the expected rate of return of 4.79 per cent.

OFSS Ltd. shows an increasing trend during the study period except 2008 – 2009 and 2011 – 2012 with the mean value of 2314.99 and the co-efficient of variance is 37.46 per cent. The highest closing market price was 3723.42 and the lowest closing price value was 928.04.The liner growth rate is significant at 264.03 per cent with the expected rate of return 3.84 per cent.

It is also observed that the closing market price of Mind Tree Ltd.. shows a fluctuating trend with the mean value of ₹ 251.08 and the co-efficient of variance indicating the range of 83.88 per cent during the study period. The highest closing price is ₹ 698.97 and lowest closing price is ₹ 77.60 during the years 2015– 2016 and 2008 – 2009 respectively. The linear growth rate is 51.98 per cent. The capital asset pricing model represents the expected rate of return of 3.74 per cent.

It is clear from Table 5 that TCS Ltd. depicts an increasing trend during the study period but there was a decline rates in the years 2007 – 2008 and 2015 – 2016. The highest closing market price of the share is ₹ 2509.61 and the lowest market price of ₹ 343.25 during the years 2014– 2015 and 2008 –2009 respectively. The co-efficient of variance represent a range of 65.76 per cent during the study period. The linear growth rate of TCS is 252.18 per cent and the expected rate of return is 4.61 per cent.

It is evident from Table 5 that Tech Mahindra Ltd.. has a fluctuating trend with a mean value of ₹ 295.97 and a co-efficient of variation of 53.36 per cent during the study period. The highest close market price of share was ₹ 602.34 and the lowest value of ₹ 128.62 during the years 2014 – 2015 and 2008 – 2009 respectively. The liner growth rate represents growth of 32.691 per cent and expected rate of return is 1.536 per cent.

Info Edge Ltd. shows an increasing trend except in the year 2008 – 2009 with the mean value of ₹ 373.04 and the co-efficient of variance of 63.45 per cent. The highest closing market price is ₹ 798.73 and the lowest

closing price value is ₹ 162.01. The liner growth rate is 68.55 per cent with the expected rate of return of 2.59 per cent.

It is also observed that the closing market price of CYIENT Ltd. shows a fluctuating trend with the mean value of ₹ 218.24 and the co-efficient of variance indicating the range of 65.57 per cent during the study period. The highest value is ₹ 507.60 and the lowest closing price of ₹ 84.18 during the years 2015 – 2016 and 2008 – 2009 respectively. The linear growth rate is 38.52 per cent. The capital asset pricing model represent the expected rate of return is 3.11 per cent.

Table 5 also reveals the performance of individual companies in IT Index listed by NSE during the study period. Infosys Ltd. (5.42) has the highest expected rate of return when compare to other companies in IT Index and banks Index and Non-Index were listed by NSE. Based on CAPM model, Infosys Ltd. has highest value followed by Wipro Ltd. (4.79), TCS Ltd. (4.61), OFSS Ltd. (3.84), Mind Tree Ltd. (3.74), HCL Tech Ltd. (3.72), Cyient Ltd. (3.11), KPIT Ltd. (2.72), Info Edge Ltd. (2.59) and Tech Mahindra Ltd. (1.53).

**(ii) Performance of Non- Index Stocks in IT Sector**

The select Non-Index stocks in IT sector namely ABB Ltd.., 3i-Info Tech Ltd., Ramco system Lt., Mphasis Ltd., NIIT Ltd., Aptech Ltd., Tata - Elxsi Ltd., SakSoft Ltd., Rolta India Ltd., and Polaris Technology Ltd,. have been analyzed and their performance is given in Table 6

## Table 6

## Performance of Non-Index Stocks in IT Sector

**(Values in Rupees)**

| Year | ABB | 3i-InfoTech | Ramco Sys | Mphasis | NIIT | Aptech | Tata-Elxsi | SakSoft | Rolta | Polaris |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-2007 | 627.66 | 96.28 | 178.00 | 224.62 | 177.06 | 148.59 | 237.44 | 111.12 | 120.84 | 133.84 |
| 2007-2008 | 1208.84 | 138.43 | 148.87 | 273.26 | 265.36 | 318.97 | 272.13 | 166.86 | 275.98 | 119.95 |
| 2008-2009 | 676.67 | 71.00 | 74.69 | 192.36 | 88.46 | 142.45 | 133.46 | 70.17 | 206.38 | 67.15 |
| 2009-2010 | 739.45 | 76.91 | 95.04 | 595.36 | 134.90 | 180.98 | 194.56 | 48.51 | 161.08 | 138.59 |
| 2010-2011 | 800.58 | 58.18 | 105.54 | 571.02 | 192.52 | 133.04 | 265.40 | 52.13 | 158.88 | 171.69 |
| 2011-2012 | 779.14 | 28.42 | 76.47 | 383.62 | 209.65 | 100.56 | 215.72 | 60.68 | 98.43 | 155.58 |
| 2012-2013 | 710.30 | 8.77 | 113.28 | 383.90 | 279.57 | 64.89 | 215.55 | 52.18 | 69.08 | 119.44 |
| 2013-2014 | 617.63 | 6.04 | 116.95 | 413.12 | 317.61 | 65.08 | 299.38 | 52.03 | 63.69 | 131.76 |
| 2014-2015 | 1130.10 | 8.26 | 399.22 | 409.31 | 384.45 | 79.24 | 699.09 | 123.85 | 116.13 | 191.21 |
| 2015-2016 | 1204.94 | 4.15 | 738.94 | 442.95 | 477.26 | 60.64 | 1730.20 | 188.30 | 97.75 | 188.81 |
| **MEAN** | **849.53** | **49.64** | **204.70** | **388.95** | **252.68** | **129.44** | **426.29** | **92.58** | **136.82** | **141.80** |
| **SD** | **237.08** | **46.11** | **210.38** | **132.82** | **117.82** | **78.54** | **483.53** | **52.04** | **65.74** | **37.21** |
| **CV** | **27.91** | **92.88** | **102.78** | **34.15** | **46.63** | **60.68** | **113.43** | **56.21** | **48.05** | **26.24** |
| **LGR** | 25.698 | -13.935 | 42.654 | 19.390 | 31.105 | -19.620 | 104.645 | 1.954 | -14.404 | 7.534 |
| **CAPM** | 3.792 | 0.856 | 0.738 | 6.713 | 2.098 | -0.081 | 2.084 | 3.563 | 0.245 | 1.224 |

**Source: Computed Data**

Bank wise - High performance

Year wise - High performance

This represent both year wise and bank wise high performance

**Figure 11 Performance of Non-Index Stocks in IT Sector**

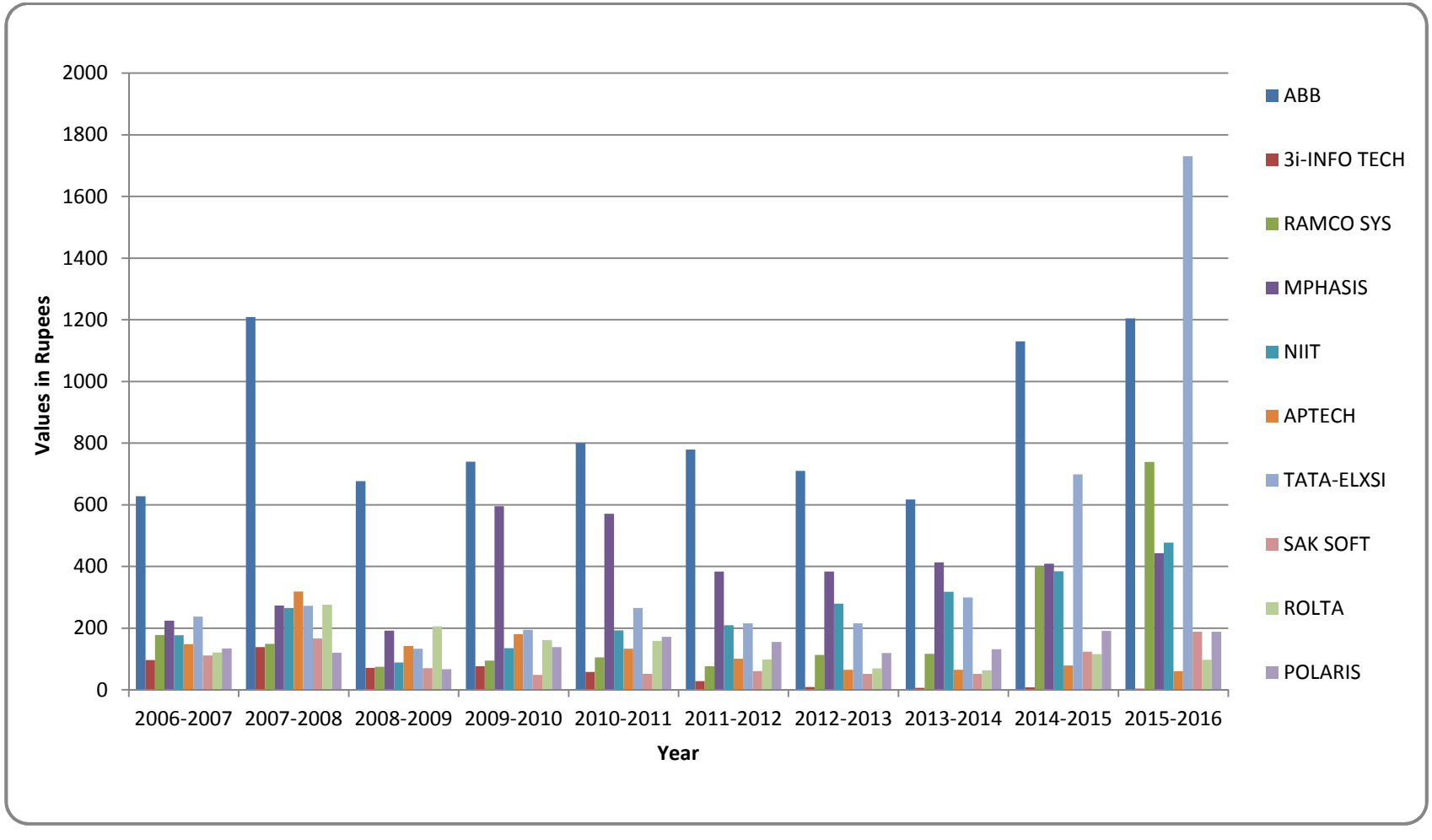
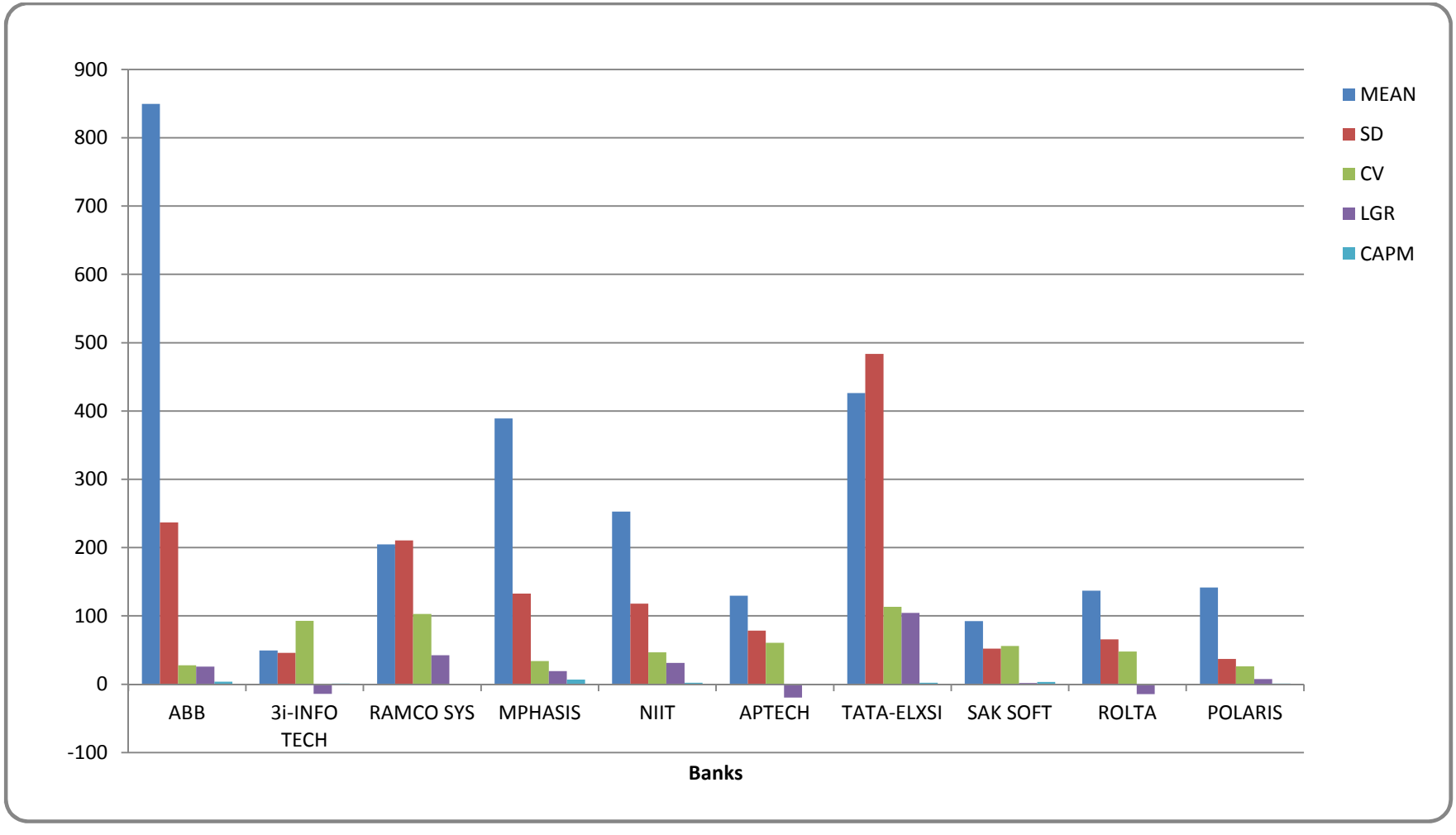


**Figure 12 Summary Statistics of Non-Index Stocks in IT Sector**



It is observed from Table 6 that the closing market price of ABB Ltd. shows a fluctuating trend with the mean value of ₹ 849.53 and there has been a significant linear growth rate of 25.69 percent during the study period. It further reveals that the price has increased to ₹ 1204.94 during the year 2015 – 2016 which is higher improvement when compared to ₹ 617.63 in the year 2013 – 2014. At the same time, it is inferred from CV that there is a variation of 27.91 per cent which is supported by the standard deviation. The result of descriptive analysis shows that the market price of ABB Ltd.. has a positive side and strong linear growth which is also found to be significant. The CAPM yields the expected rate of return of 3.79 per cent.

3i-Info Tech Ltd. shows a fluctuating trend with the mean value of ₹ 49.64 and there has been an insignificant linear growth rate of 13.93 per cent. It is also observed that the highest price range is ₹ 138.43 during the year 2007–2008 followed by ₹ 96.28 during the year 2006 – 2007. The study depicts that 3i-Info Tech Ltd.. share price yields the return of 0.85 per cent.

In the case of Ramco Sys Ltd. it has a fluctuating trend during the study period. The highest closing market price is ₹ 738.94 and the lowest value is ₹ 74.69 during the year 2014 – 2015 and 2008 – 2009 respectively. The mean value per share is ₹ 204.70 during the study period. It also indicates the significant linear growth rate of 42.65 per cent and CAPM model which yielded the expected rate of return of 0.73 per cent.

It is evident from Table 6 that the highest closing market price of M Phasis Ltd.. is ₹ 565.36 during the year 2009 – 2010 followed by the year 2015 – 2016 with the price of ₹ 442.95. The lowest closing market share price value is ₹ 192.36 in the year 2008 – 2009. The mean value of M Phasis Ltd. is ₹ 388.95 and the CV value is 34.15 per cent. It is also clearly observed that the linear growth rate is 19.39 per cent. The CAPM is 6.71 per cent during the study period.

NIIT shows an Increasing trend except in the year 2008 – 2009 with the mean value of ₹ 2314.99 and the co-efficient of variance is 46.63 per cent. The highest closing market price is 477.26 and the lowest closing price value is ₹ 88.46. The liner growth rate 31.10 per cent with the expected rate of return 2.09 per cent.

It is observed that the closing market price of Aptech Ltd. has fluctuating trend during the study period with the mean value of ₹129.44. The highest market price of share is ₹ 318.97 during the year 2007– 2008 and lowest rate is ₹ 60.64 in the year 2015 – 2016. The linear growth rate of Aptech Ltd. shows an insignificant growth of 19.62 per cent and the CAPM value also indicating the negative return of 0.08 per cent.

Tata-Elxsi Ltd. is concerned the highest closing market price of ₹1730.20 during the year 2015 – 2016 and the lowest value of ₹133.46 during the year 2008 – 2009. The mean value observed is that of 426.29 with the co-efficient of variation of 113.43 per cent. The linear growth rate is significant at 104.64 per cent and the CAPM is 2.08 per cent during the study period.

In the case of Sak Soft Ltd. the closing mean price were high i.e. ₹188.30 during the year 2015 – 2016 and the low price of ₹ 48.51 during the year 2009 – 2010. The overall mean value of the closing share price is 92.58 and the co-efficient variation is in the range of 56.21 per cent. The linear growth rate of the share price is 1.95 per cent with the CAPM 3.56 per cent.

The closing market price of Rolta Ltd. during the year 2007 – 2008 marks the highest value of ₹ 275.98 and the lowest value being ₹ 63.69 during the year 2013 – 2014. The mean value of the share price is ₹ 136.82 and the co-efficient of variation indicate the value of 48.05 per cent. The linear growth rate of share price is 14.40 per cent and the CAPM is 0.24 per cent.

In the case of Polaris Ltd.. it has a fluctuating trend during the study period. The highest closing market price is ₹191.21 and the lowest value is ₹ 67.15 during the year 2014 – 2015 and 2008 – 2009 respectively. The mean

value per share is ₹ 141.80 during the study period. It also indicates that the significant linear growth rate is 7.53 per cent and CAPM model which yield the expected rate of return is 1.22 per cent.

Table 6 depicts the performance of individual IT companies in Non-Index during the study period. CAPM shows the highest value in Mphasis Ltd. being 6.71 per cent. This is the highest expected rate of return in both Bank and IT sectors during the study period. ABB Ltd. (3.79) marks second highest rate of return followed by Sak Soft Lt. (3.56), NIIT Ltd. (2.09), Tata - Elxsi Ltd. (2.08), Polaris Ltd. (1.22), 3i-InfoTech Ltd. (0.85), Ramco Ltd. (0.73), Rolta Ltd. (0.24) and Aptech Ltd. (-0.08) during the study period. The best performance based on Capital Asset Pricing Model MPHASIS Ltd. (IT-Non-Index) shareprice yields the high expected rate of return is 6.71 per cent. It is therefore concluded that the investors should concentrate on individual stocks rather than overall market indices while making investment decisions.

**Summary**

Overall it is noticed that the performance of both Index and Non-Index stocks of Banking and IT sectors played a significant role in the portfolio development and investment decision. With the help of CAPM yield and LGR, able to understand the expected rate of return during ten years period for the select Banking and IT sectors.

## 4.2 Stock Delivery Position of Select Index and Non-Index Stocks in Banking and IT Sectors

This study focuses on evaluating the relationship between Index and Non-Index stocks performance based on the stock delivery position and the high and low values for fifty two weeks. As such, stock delivery position may be considered as one of the quickest decision making tools towards the purchase or sale of stocks. Similarly, fifty two weeks high and low values may also be considered as decision point to purchase or sale of the stock. Descriptive statistic are applied for stock delivery position of select Index and Non-Index stocks of Banking and IT sectors and presented under the following heads:.

4.2.1 Deliverable Quantity to Traded Quantity.

4.2.2 Stock Delivery Position

4.2.3 Fifty - Two Weeks Stock Performance

4.2.4 Independent t-test

### 4.2.1 Percentage of Deliverable Quantity to Traded Quantity.

The details of Deliverable Quantity to Traded Quantity is analyzed and presented as follows:

(i) Stock Delivery Position of Bank Index stocks
(ii) Stock Delivery Position of Bank Non-Index stocks
(iii) Stock Delivery Position of IT Index stocks
(iv) Stock Delivery Position of IT Non-Index stocks

### (i) Stock Delivery Position of Bank Index stocks

Table 7 describes the Descriptive statistics towards the Index stock delivery position of banking sector during the study period.

**Table 7**

**Stock Delivery Position of Bank Index Stocks**

**(Values in Percentage)**

| Year | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Mean | S.D | CAGR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2006-07** | 74.26 | 73.02 | 74.08 | 75.53 | 74.87 | 78.37 | 74.79 | 70.49 | 69.52 | 67.12 | 71.60 | 71.12 | **72.90** | **3.06** | **-0.39** |
| **2007-08** | 68.99 | 73.84 | 75.19 | 69.79 | 66.34 | 78.78 | 78.11 | 78.68 | 67.42 | 70.74 | 75.15 | 78.64 | **73.47** | **4.65** | **1.20** |
| **2008-09** | 64.97 | 67.17 | 64.53 | 62.06 | 64.14 | 58.91 | 50.46 | 63.69 | 61.94 | 70.43 | 62.11 | 60.49 | **62.57** | **4.87** | **-0.65** |
| **2009-10** | 53.68 | 58.49 | 51.96 | 61.88 | 61.32 | 49.13 | 50.05 | 41.86 | 58.03 | 62.49 | 67.82 | 63.70 | **56.70** | **7.46** | **1.57** |
| **2010-11** | 53.97 | 54.64 | 47.85 | 49.97 | 58.68 | 57.42 | 62.83 | 64.55 | 63.70 | 71.88 | 58.50 | 71.01 | **59.58** | **7.55** | **2.53** |
| **2011-12** | 52.24 | 55.93 | 53.37 | 60.41 | 62.54 | 61.58 | 63.04 | 62.23 | 57.25 | 60.52 | 59.67 | 63.17 | **59.33** | **3.77** | **1.74** |
| **2012-13** | 55.78 | 53.72 | 55.30 | 58.13 | 57.40 | 59.99 | 59.37 | 60.94 | 51.49 | 50.32 | 57.72 | 53.52 | **56.14** | **3.38** | **-0.38** |
| **2013-14** | 45.51 | 57.93 | 57.22 | 51.83 | 57.38 | 48.34 | 48.57 | 51.67 | 47.74 | 53.33 | 51.15 | 52.32 | **51.91** | **4.04** | **1.28** |
| **2014-15** | 44.23 | 41.43 | 42.10 | 48.47 | 56.33 | 47.35 | 43.94 | 25.73 | 49.94 | 43.30 | 60.49 | 50.94 | **46.19** | **8.66** | **1.29** |
| **2015-16** | 47.02 | 39.70 | 50.96 | 43.70 | 54.27 | 57.87 | 61.90 | 46.74 | 48.72 | 50.00 | 52.07 | 62.00 | **51.24** | **6.87** | **2.55** |

**Source: Computed Data**

Monthly Increase in the stock delivery position

Yearly Increase in the stock delivery position

Both monthly and yearly Increase in the stock delivery position

It is evidenced from Table 7 that the stock delivery position is particularly analyzed on a monthly as well as annual basis in order to predict its relationship with months and years. The key finding is that the high mean delivery position of 73.47 per cent is during the year 2007 – 08. Further the result clearly indicates that there has a fluctuating trend in delivery position on a monthly basis. It is also

observed that the maximum stock delivery position arise during the year 2006 – 2007 and 2007 – 2008.

### (ii) Stock Delivery Position of Bank Non- Index Stocks

Stock Delivery Position of Non-Index stocks of banking sector have been presented in Table 8.

**Table 8**

**Stock Delivery position of Bank Non-Index Stocks**

**(Values in Percentage)**

| Banking | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Mean | S.D | CAGR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2006-07** | 77.74 | 78.45 | 79.92 | 69.12 | 62.31 | 83.38 | 92.28 | 88.95 | 77.78 | 76.43 | 74.22 | 79.72 | **78.36** | **7.98** | 0.23 |
| **2007-08** | 70.08 | 72.23 | 72.63 | 75.23 | 73.84 | 72.96 | 78.63 | 75.08 | 73.81 | 68.79 | 73.36 | 79.72 | **73.96** | **3.31** | 1.18 |
| **2008-09** | 78.15 | 76.97 | 78.75 | 75.67 | 64.90 | 64.79 | 72.59 | 62.97 | 72.45 | 70.97 | 80.58 | 80.87 | **72.71** | **5.86** | 0.31 |
| **2009-10** | 71.39 | 74.50 | 58.02 | 46.89 | 50.58 | 62.12 | 64.20 | 31.58 | 63.58 | 63.42 | 65.50 | 73.75 | **60.13** | **12.00** | 0.30 |
| **2010-11** | 70.03 | 72.81 | 69.31 | 62.61 | 70.86 | 67.49 | 73.16 | 70.03 | 74.49 | 67.48 | 70.90 | 69.74 | **70.45** | **3.61** | -0.04 |
| **2011-12** | 86.97 | 88.64 | 81.98 | 81.73 | 81.07 | 80.85 | 84.04 | 85.22 | 83.80 | 87.41 | 96.12 | 76.17 | **85.49** | **4.35** | -1.20 |
| **2012-13** | 84.00 | 86.39 | 85.41 | 84.76 | 83.68 | 86.89 | 89.55 | 90.55 | 85.56 | 89.98 | 94.82 | 88.11 | **87.85** | **3.60** | 0.44 |
| **2013-14** | 91.03 | 86.34 | 84.38 | 86.74 | 87.56 | 83.14 | 74.56 | 79.29 | 83.26 | 82.49 | 83.65 | 92.68 | **83.24** | **4.68** | 0.16 |
| **2014-15** | 74.77 | 78.22 | 75.38 | 68.95 | 75.99 | 73.33 | 66.67 | 46.95 | 85.61 | 82.47 | 86.34 | 76.42 | **75.47** | **11.51** | 0.20 |
| **2015-16** | 87.94 | 84.76 | 85.77 | 86.95 | 83.89 | 87.67 | 85.50 | 88.13 | 89.16 | 92.87 | 91.78 | 85.22 | **87.47** | **2.76** | -0.29 |

**Source: Computed Data**

Monthly Increase in the stock delivery position

Yearly Increase in the stock delivery position

Both monthly and yearly Increase in the stock delivery position

Table 8 presents the descriptive statistics of delivery position towards Non-Index stocks of banking sector. Key findings state that high mean delivery position of 87.85 per cent is observed during the year 2012 – 2013. Further the result indicates that high delivery position often occurred during the year 2015 –2016 with reference to Non-Index stocks of banking sector.

### (iii) Stock Delivery Position of IT Index Stocks

The summary statistics of delivery position towards Index stocks of Information Technology (IT) sector have been presented in Table 9.

**Table 9**

**Stock Delivery Position of IT Index Stocks**

**(Values in Percentage)**

| Banking | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Mean | S.D | CAGR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 41.37 | 45.55 | 46.25 | 51.31 | 49.33 | 57.22 | 55.55 | 61.21 | 52.66 | 56.61 | 52.99 | 53.20 | 51.94 | 5.59 | 2.31 |
| 2007-08 | 44.88 | 38.90 | 45.06 | 44.03 | 40.82 | 45.53 | 49.46 | 41.48 | 46.05 | 31.05 | 35.87 | 32.74 | 41.32 | 5.68 | -2.83 |
| 2008-09 | 26.06 | 32.71 | 32.02 | 33.14 | 31.51 | 34.43 | 36.16 | 38.46 | 33.73 | 36.00 | 32.98 | 43.59 | 34.23 | 4.23 | 4.79 |
| 2009-10 | 37.79 | 38.02 | 36.66 | 42.26 | 43.11 | 40.98 | 34.56 | 29.79 | 39.16 | 26.98 | 31.61 | 42.37 | 36.94 | 5.25 | 1.05 |
| 2010-11 | 27.46 | 37.09 | 36.43 | 33.70 | 35.23 | 33.39 | 31.08 | 33.60 | 34.93 | 36.36 | 36.59 | 37.74 | 34.46 | 2.91 | 2.93 |
| 2011-12 | 56.13 | 46.65 | 47.18 | 50.73 | 54.87 | 44.49 | 46.89 | 37.26 | 37.00 | 42.79 | 38.49 | 45.04 | 45.63 | 6.27 | -1.98 |
| 2012-13 | 41.87 | 33.22 | 36.83 | 42.07 | 45.31 | 46.77 | 50.44 | 44.17 | 45.72 | 41.48 | 50.04 | 52.35 | 44.19 | 5.58 | 2.05 |
| 2013-14 | 41.06 | 39.03 | 35.19 | 35.46 | 34.18 | 36.42 | 42.33 | 42.39 | 41.54 | 43.71 | 37.90 | 47.12 | 39.69 | 3.97 | 1.26 |
| 2014-15 | 42.87 | 42.05 | 36.80 | 31.47 | 39.15 | 38.91 | 40.85 | 27.75 | 40.14 | 42.02 | 48.77 | 45.96 | 39.73 | 5.75 | 0.63 |
| 2015-16 | 44.22 | 43.32 | 41.94 | 38.80 | 49.68 | 43.14 | 43.12 | 41.07 | 50.54 | 41.63 | 44.91 | 51.68 | 44.50 | 4.04 | 1.43 |

**Source: Computed Data**

Monthly Increase in the stock delivery position

Yearly Increase in the stock delivery position

Both monthly and yearly Increase in the stock delivery position

The finding shows that high mean delivery position of 51.94 per cent was observed in the year 2006 – 07 followed by 2011 – 2012 (45.63 per cent). The result indicates that high delivery position had not occurred often on any specified month with reference to Index stocks of IT sector. The lowest mean value of stock delivery was 34.23 during the year 2008 – 2009.

### (iii) Stock Delivery Position of IT Non-Index Stocks

The summary statistics of delivery position towards Non-Index stocks of IT sector was analyzed and presented in Table 10.

**Table 10**

**Stock Delivery Position of IT Non-Index Stocks**

**(Values in Percentage)**

| Banking | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Mean | S.D | CAGR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2006-07** | 77.59 | 77.91 | 76.79 | 74.68 | 76.18 | 83.54 | 87.45 | 85.78 | 77.22 | 79.59 | 86.04 | 84.59 | **80.61** | **4.53** | 0.79 |
| **2007-08** | 79.01 | 74.87 | 82.24 | 83.69 | 77.27 | 71.81 | 81.98 | 85.82 | 84.42 | 88.69 | 89.19 | 86.69 | **82.14** | **5.46** | 0.85 |
| **2008-09** | 83.40 | 85.11 | 84.29 | 79.65 | 80.36 | 84.13 | 76.04 | 78.86 | 78.19 | 74.05 | 76.46 | 75.71 | **79.69** | **3.80** | -0.88 |
| **2009-10** | 71.36 | 75.54 | 69.13 | 66.95 | 68.63 | 69.24 | 71.67 | 45.08 | 77.81 | 79.86 | 80.64 | 78.99 | **71.24** | **9.55** | 0.93 |
| **2010-11** | 71.93 | 75.73 | 81.88 | 80.60 | 84.75 | 74.11 | 83.13 | 81.04 | 75.46 | 81.97 | 89.60 | 82.08 | **80.19** | **5.01** | 1.21 |
| **2011-12** | 80.25 | 80.91 | 77.39 | 82.41 | 80.46 | 78.74 | 81.22 | 84.73 | 74.42 | 75.87 | 83.38 | 72.29 | **79.34** | **3.73** | -0.95 |
| **2012-13** | 65.24 | 64.52 | 77.00 | 79.26 | 73.75 | 67.03 | 75.99 | 78.20 | 69.40 | 80.77 | 75.52 | 79.02 | **73.81** | **5.78** | 1.76 |
| **2013-14** | 69.37 | 70.21 | 71.40 | 70.53 | 68.09 | 65.16 | 60.33 | 61.80 | 57.45 | 59.42 | 62.93 | 68.89 | **65.46** | **4.90** | -0.06 |
| **2014-15** | 55.67 | 68.05 | 59.10 | 55.25 | 55.46 | 49.44 | 56.93 | 36.59 | 49.25 | 56.48 | 64.81 | 64.84 | **55.99** | **8.41** | 1.40 |
| **2015-16** | 48.06 | 58.65 | 49.77 | 52.56 | 57.98 | 66.26 | 65.14 | 74.39 | 71.40 | 62.12 | 62.17 | 72.55 | **61.75** | **8.74** | 3.81 |

**Source: Computed Data**

Monthly Increase in the stock delivery position

Yearly Increase in the stock delivery position

Both monthly and yearly Increase in the stock delivery position

The result states that high mean delivery position (82.14) Per cent has observed in the year 2007 – 2008 and the low mean value 55.99 in the year 2014 – 2015. Further the result clearly indicates that high delivery position did not occur on a monthly basis specifically with reference to Non-Index stocks of IT sector. The high delivery ratio arises during the month of February.

### 4.2.2 Stock Delivery Position – *t*-test Analysis

Table 11 describes the result of t-test analysis between Index and Non-Index stocks based on the delivery positions.

**$H_0$: There is no significant difference in delivery ratio of select Index and Non-Index stocks of Banking and IT sectors**

**Table 11**

**Stock Delivery Position of Index and Non-Index Stocks of Banking and IT Sectors: Results of t-test**

| Sectors | | N | Mean | SD | SE |
|---|---|---|---|---|---|
| **Banking** | Index | 12 | 65.05 | 2.09 | 0.60 |
| | Non-Index | 12 | 71.12 | 4.04 | 1.17 |
| **IT** | Index | 12 | 52.96 | 3.01 | 0.87 |
| | Non-Index | 12 | 74.77 | 2.56 | 0.98 |

| Sectors | t-value | D.f | p-value |
|---|---|---|---|
| **Banking** | -4.625 | 22 | 0.000* |
| **IT** | -23.656 | 22 | 0.000* |

**Source: Computed Data** *** Significant at 1% level**

Table 11 presents a t-test analysis upon select Index and Non-Index stocks of Banking and IT sectors on delivery position. The resultant table exhibits the t-values as follows, Banking (-4.625) and IT (-23.656). The degree of freedom is 22. The p value is found to be highly significant at one per cent. Hence the null hypothesis is rejected. It is concluded that there is a difference in the delivery position of select Index and Non-Index stocks of Banking and IT sectors.

The finding states that there is a significant difference found between Index and Non-Index stocks on delivery position. The analysis reveals that the Index stocks delivery position is lesser than Non-Index stocks. It is also observed that the Non-Index stocks have maintained higher delivery position compared to

Index stocks. Therefore it is concluded that Index stocks have found a threshold to control the delivery position. When an investor trade, based on delivery position Non-Index stocks will give better results than Index stocks provided, the investor should keep the stocks for a week, month or couple of months. The general assumption on stocks is considered as 50 per cent of stocks rise or fall is directly related to the strength and weakness of its industry. Therefore, the investors should keep watching industries as close as they can.

### 4.2.3 Fifty-Two Weeks Stock Performance

This section describes another robust evaluation of stock performance through Fifty-Two weeks high and low value. It is considered to be an important measure to indicate the peak and dip position of stock price. Therefore, an investor can quickly take a decision regarding buying, selling or holding their stocks. Fifty two weeks stock performances of Banking and IT sectors have been analyzed and presented under the following heads:

(i) Fifty-Two Weeks High and low Price of Select Index and Non-Index Stocks in Banking sector

(ii) Fifty-Two Weeks High and low Price of Select Index and Non-Index Stocks in IT sector

(iii) Fifty-Two Weeks Stock Performance of Overall select Index and Non-Index stocks in banking and IT sector

**(i) Fifty-Two Weeks High and low Price of Select Index and Non-Index Stocks in Banking Sector**

The discussion had been framed as follows,

**Matrix 1**

**Fifty-Two Week's Price Performance of Banking Sector**

| Performance | Index | Non – Index |
|---|---|---|
| **Year wise price performance** | High Price performance | Low price performance |
| **Bank wise performance** | Low price performance | High Price performance |

### (a) Fifty-Two Weeks High Price of Select Index Stocks in Banking Sector

The summary statistics of Fifty-Two Weeks High Price of Select Index Stocks in banking sector have been presented in Table 12

**Table 12**

**Fifty-Two Weeks High Price of Select Index Stocks in Banking Sector**

**(Values in Rupees)**

| Years | Axis | BOB | BOI | Canara | Federal | HDFC | ICICI | Yes | PNB | SBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 106.54 | 64.35 | 173.60 | 287.21 | 26.46 | 205.73 | 162.38 | 141.24 | 108.76 | 110.09 |
| 2007-08 | 180.00 | 83.25 | 331.69 | 318.05 | 33.79 | 309.81 | 243.81 | 242.15 | 130.98 | 194.58 |
| 2008-09 | 155.89 | 78.93 | 321.32 | 233.50 | 34.56 | 262.11 | 150.47 | 135.27 | 121.09 | 162.55 |
| 2009-10 | 214.75 | 114.75 | 390.07 | 368.41 | 36.91 | 350.97 | 180.69 | 224.61 | 174.65 | 213.47 |
| 2010-11 | 300.54 | 187.42 | 481.98 | 614.59 | 52.49 | 470.75 | 230.58 | 334.93 | 260.77 | 293.91 |
| 2011-12 | 255.48 | 186.37 | 408.34 | 536.09 | 63.53 | 513.40 | 210.01 | 339.84 | 229.28 | 253.02 |
| 2012-13 | 259.80 | 171.74 | 352.19 | 465.74 | 58.42 | 652.63 | 216.25 | 452.22 | 181.76 | 247.52 |
| 2013-14 | 280.70 | 149.31 | 254.04 | 336.86 | 60.34 | 706.10 | 242.73 | 435.07 | 138.76 | 209.36 |
| 2014-15 | 481.97 | 201.20 | 301.18 | 444.57 | 89.05 | 946.88 | 337.56 | 706.30 | 214.53 | 304.92 |
| 2015-16 | 532.33 | 190.98 | 178.29 | 315.49 | 83.02 | 1098.93 | 310.95 | 829.48 | 154.70 | 259.65 |
| **Mean** | **276.80** | **142.83** | **319.27** | **392.05** | **53.86** | **551.73** | **228.54** | **384.11** | **171.53** | **224.91** |
| **SD** | **135.62** | **52.78** | **97.95** | **119.97** | **21.24** | **298.15** | **59.97** | **231.01** | **50.27** | **59.66** |
| **CV** | **49.00** | **36.95** | **30.68** | **30.60** | **39.44** | **54.04** | **26.24** | **60.14** | **29.31** | **26.53** |

**Source: Computed Data**

Bank wise – High price

Year wise – High price

Both bank and year wise – High price

Table 12 depicts the fifty-two weeks high value of select Index stocks in banking sector. Mean and Standard Deviation value indicates the performance of stocks during the study period. The high mean value is ₹ 551.73 (HDFC) and low value is ₹ 53.86 (Federal) during the study period. Key finding states that among

the list of stocks considered in this segment, ICICI bank stock performance with 26.24 per cent is more consistent. It is also noticed that majority of the stock prices were performed better during the financial year 2014 – 15 and 2015 – 16.

### (b) Fifty-Two Weeks Low Price of Select Index Stocks in Banking Sector

The summary statistics of Fifty-Two Weeks low Price of Select Index stocks in banking sector has been presented in Table 13.

**Table 13**

**Fifty-Two Weeks Low Price of Select Index Stocks in Banking Sector**

**(Values in Rupees)**

| Years | Axis | BOB | BOI | Canara | Federal | HDFC | ICICI | Yes | PNB | SBI |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 62.51 | 33.75 | 125.98 | 197.51 | 8.70 | 159.12 | 108.50 | 83.14 | 76.43 | 73.50 |
| 2007-08 | 119.35 | 39.74 | 228.48 | 216.10 | 19.17 | 226.23 | 169.64 | 159.94 | 81.29 | 135.09 |
| 2008-09 | 85.32 | 37.46 | 210.75 | 151.59 | 8.09 | 175.62 | 87.34 | 71.79 | 68.61 | 107.62 |
| 2009-10 | 148.02 | 75.25 | 282.72 | 281.50 | 15.66 | 280.98 | 131.85 | 155.75 | 136.46 | 169.05 |
| 2010-11 | 228.87 | 142.51 | 371.24 | 485.93 | 13.91 | 399.39 | 170.71 | 255.14 | 198.27 | 234.92 |
| 2011-12 | 197.24 | 143.87 | 328.20 | 430.07 | 25.64 | 435.08 | 156.85 | 262.26 | 169.15 | 186.44 |
| 2012-13 | 207.50 | 127.17 | 278.70 | 368.29 | 33.46 | 560.45 | 166.50 | 354.24 | 127.08 | 193.27 |
| 2013-14 | 202.22 | 102.04 | 183.48 | 236.97 | 21.89 | 593.28 | 186.55 | 317.24 | 103.19 | 161.72 |
| 2014-15 | 387.88 | 158.88 | 226.56 | 355.19 | 52.67 | 844.59 | 276.56 | 580.38 | 157.42 | 238.15 |
| 2015-16 | 439.52 | 128.92 | 125.88 | 239.28 | 50.80 | 991.61 | 245.22 | 694.92 | 99.12 | 204.47 |
| **Mean** | **207.84** | **98.96** | **236.20** | **296.24** | **25.00** | **466.63** | **169.97** | **293.48** | **121.70** | **170.42** |
| **SD** | **122.12** | **48.66** | **80.67** | **108.84** | **16.02** | **282.91** | **57.29** | **205.58** | **43.45** | **53.07** |
| **CV** | **58.75** | **49.17** | **34.15** | **36.74** | **64.07** | **60.63** | **33.71** | **70.05** | **35.70** | **31.14** |

**Source: Computed Data**

Bank wise – Low price

Year wise – Low price

Both bank and year wise – Low price

It is clear from the Table 13 that the high and low mean value of ₹ 466.63 and ₹ 25.00 arise in HDFC and Federal bank during the study period. The finding states that among the list of stocks considered in this segment, State

Bank of India's stock performance being 31.14 percent is more consistent than other banks as revealed by CV. It is also noticed that a majority of the stock prices was poorly performed during the financial year 2008 –09. Federal bank has a very low share price during the year 2008 – 2009.

### (c) Fifty-Two Weeks High Price of Select Non-Index Stocks in Banking Sector

The summary statistics of fifty-two weeks high price value of select Non-Index stocks in banking sector have been presented in Table 14.

**Table 14**

**Fifty-Two Weeks High Price of Select Non-Index Stocks in Banking Sector**

**(Values in Rupees)**

| Years | CUB | Corp | Dena | IDBI | IOB | Indus | KVB | OBC | SIB | Union |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 23.88 | 82.45 | 54.17 | 91.72 | 120.46 | 66.23 | 159.19 | 240.58 | 10.37 | 133.61 |
| 2007-08 | 27.74 | 92.71 | 80.67 | 156.91 | 172.39 | 94.70 | 222.70 | 275.73 | 32.57 | 190.97 |
| 2008-09 | 34.81 | 71.70 | 64.72 | 99.77 | 116.59 | 81.83 | 181.49 | 183.58 | 14.24 | 178.81 |
| 2009-10 | 34.49 | 86.68 | 88.91 | 136.73 | 119.27 | 142.46 | 229.14 | 262.23 | 21.78 | 273.78 |
| 2010-11 | 58.05 | 151.94 | 121.36 | 159.54 | 159.22 | 257.28 | 416.22 | 427.33 | 33.10 | 373.82 |
| 2011-12 | 48.70 | 109.67 | 107.43 | 142.20 | 131.61 | 305.48 | 422.70 | 339.13 | 34.26 | 290.48 |
| 2012-13 | 63.71 | 92.67 | 113.96 | 108.71 | 91.41 | 408.55 | 491.63 | 308.60 | 34.27 | 245.52 |
| 2013-14 | 69.02 | 71.78 | 79.20 | 79.89 | 61.10 | 482.61 | 410.90 | 238.18 | 39.58 | 177.93 |
| 2014-15 | 101.77 | 81.63 | 83.41 | 95.41 | 86.98 | 727.28 | 551.00 | 330.44 | 45.04 | 235.69 |
| 2015-16 | 106.04 | 63.13 | 61.13 | 98.45 | 49.93 | 956.33 | 500.54 | 174.34 | 36.53 | 190.47 |
| **Mean** | **56.82** | **90.43** | **85.50** | **116.93** | **110.90** | **352.27** | **358.55** | **278.02** | **30.17** | **229.11** |
| **SD** | **29.10** | **25.30** | **22.76** | **29.10** | **39.28** | **298.55** | **145.83** | **76.47** | **11.13** | **70.11** |
| **CV** | **51.21** | **27.98** | **26.62** | **24.88** | **35.42** | **84.75** | **40.67** | **27.50** | **36.87** | **30.60** |

**Source: Computed Data**

Bank wise – High price

Year wise – High price

Both bank and year wise – High price

The high mean value is found in Indus Ind Bank being ₹ 358.55 during the year 2015 – 2016. The low mean value is ₹ 30.17 in SIB during the study period. The finding states that among the list of stocks considered in this segment, the

stock performance of IDBI Bank with ₹ 24.88 per cent is more consistent. It is also noticed that majority of the stock prices have performed better during the financial year 2010 – 2011. It is clearly observed that the high value of share price in Indus Ind Bank is ₹ 956.33 in the year 2015 – 2016.

### (d) Fifty-Two Weeks Low Price of Select Non-Index Stocks in Banking Sector

The following Table 15 depicts the fifty-two weeks low price of select Non-Index stocks in banking sector.

**Table 15**

**Fifty-Two Weeks Low Price of Select Non-Index Stocks in Banking Sector**

**(Values in Rupees)**

| Years | CUB | Corp | Dena | IDBI | IOB | Indus | KVB | OBC | SIB | Union |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 5.23 | 36.90 | 15.19 | 58.99 | 71.70 | 35.57 | 101.45 | 182.16 | 2.61 | 86.80 |
| 2007-08 | 8.93 | 57.77 | 44.08 | 94.85 | 108.68 | 46.75 | 162.48 | 193.21 | 7.60 | 121.95 |
| 2008-09 | 2.83 | 36.88 | 26.17 | 55.21 | 59.02 | 27.48 | 137.90 | 119.49 | 3.38 | 103.88 |
| 2009-10 | 9.31 | 62.01 | 46.03 | 88.21 | 66.81 | 92.64 | 159.96 | 183.36 | 4.48 | 208.52 |
| 2010-11 | 16.97 | 89.73 | 87.80 | 119.41 | 109.82 | 198.75 | 334.66 | 329.44 | 6.29 | 305.46 |
| 2011-12 | 28.54 | 73.03 | 63.29 | 96.48 | 87.51 | 230.96 | 346.95 | 256.49 | 1.76 | 213.64 |
| 2012-13 | 36.02 | 68.26 | 76.79 | 82.85 | 56.75 | 328.84 | 417.02 | 228.53 | 4.47 | 179.64 |
| 2013-14 | 35.73 | 48.86 | 48.30 | 54.54 | 26.91 | 371.84 | 329.97 | 157.70 | 3.29 | 125.40 |
| 2014-15 | 65.56 | 57.40 | 39.86 | 56.63 | 39.78 | 626.33 | 474.89 | 235.84 | 13.58 | 165.11 |
| 2015-16 | 76.87 | 26.84 | 32.00 | 57.23 | 21.23 | 826.90 | 419.57 | 122.82 | 14.61 | 122.94 |
| **Mean** | **28.60** | **55.77** | **47.95** | **76.44** | **64.82** | **278.61** | **288.49** | **200.90** | **6.21** | **163.33** |
| **SD** | **25.62** | **19.00** | **22.46** | **23.00** | **30.87** | **269.13** | **135.72** | **64.04** | **4.50** | **66.01** |
| **CV** | **89.58** | **34.08** | **46.85** | **30.09** | **47.62** | **96.60** | **47.05** | **31.87** | **72.49** | **40.41** |

**Source: Computed Data**

Bank wise – Low price

Year wise – Low price

Both bank and year wise – Low price

Table 15 clearly points the high and low mean values in KVB and SIB to be ₹ 288.49 and ₹ 6.21 respectively. The key idea is that among the list of stocks considered in this segment, IDBI bank stock performance is more

consistent, Since the CV value of 30.09 per cent is less when compared to other banks. Especially in this segment, the poor performance of stocks has not been able to identify on the basis of specific years.

**(ii) Fifty-Two Weeks High and Low Price of Select Index and Non-Index Stocks in IT Sector**

This aspect has been discussed as follows,

**Matrix 2**

**Fifty-Two Weeks Price performance of IT Sector**

| Performance | Index | Non – Index |
|---|---|---|
| **Year wise price performance** | High Price performance | Low price performance |
| **Bank wise performance** | Low price performance | High Price performance |

**(a) Fifty-Two Weeks High Price of Select Index Stocks in IT Sector**

The statistic summary of fifty-two weeks high price value of select Index stocks in IT sector has been presented in Table 16.

## Table 16

## Fifty-Two Weeks High Price of Select Index Stocks in IT Sector

**(Values in Rupees)**

| Years | KPIT | Infoy | HCL | Wipro | OFSS | Mind | TCS | TechM | InfoE | Cyient |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 72.30 | 511.04 | 180.10 | 372.07 | 1692.40 | 270.54 | 585.01 | 336.33 | 193.20 | 156.83 |
| 2007-08 | 75.64 | 494.59 | 183.27 | 332.68 | 1994.98 | 173.28 | 586.46 | 344.14 | 304.63 | 188.01 |
| 2008-09 | 41.73 | 415.91 | 116.54 | 246.17 | 1090.11 | 103.56 | 406.99 | 169.94 | 201.17 | 110.83 |
| 2009-10 | 54.06 | 591.20 | 160.96 | 365.81 | 1913.06 | 155.73 | 625.70 | 238.77 | 217.56 | 151.92 |
| 2010-11 | 87.43 | 775.31 | 238.87 | 471.49 | 2319.00 | 146.92 | 1031.37 | 213.07 | 324.09 | 192.92 |
| 2011-12 | 102.21 | 748.83 | 254.68 | 438.63 | 2289.81 | 128.36 | 1201.53 | 183.59 | 374.36 | 167.57 |
| 2012-13 | 140.47 | 683.69 | 322.56 | 433.11 | 3004.51 | 194.29 | 1383.64 | 237.25 | 389.80 | 207.15 |
| 2013-14 | 167.94 | 827.25 | 578.54 | 508.29 | 3112.53 | 340.82 | 2032.49 | 395.33 | 476.97 | 272.63 |
| 2014-15 | 198.93 | 996.18 | 872.20 | 608.93 | 3481.93 | 590.39 | 2619.33 | 643.26 | 868.25 | 486.92 |
| 2015-16 | 155.96 | 1166.68 | 954.68 | 606.37 | 3931.37 | 778.13 | 2610.13 | 586.39 | 897.25 | 566.26 |
| **Mean** | **109.67** | **721.07** | **386.24** | **438.36** | **2482.97** | **288.20** | **1308.27** | **334.81** | **424.73** | **250.11** |
| **SD** | **52.99** | **234.77** | **306.69** | **116.00** | **879.16** | **224.50** | **840.26** | **165.26** | **257.66** | **152.78** |
| **CV** | **48.32** | **32.56** | **79.40** | **26.46** | **35.41** | **77.90** | **64.23** | **49.36** | **60.67** | **61.08** |

**Source: computed Data**

Bank wise – High price

Year wise – High price

Both bank and year wise – High price

Above the table explains the fifty-two weeks high value of select Index stocks in IT sector. Mean and Standard Deviation value indicates the performance of stocks during the study period. The high mean value is ₹ 2482.97 in OFSS Ltd., Which indicating the highest value of select stocks in IT sector. It is clear that among the list of stocks considered in this segment, Wipro Technologies Ltd., Stock performance is more consistent with a value of 26.46 per cent. It is also noticed that majority of the stock prices have shown better performance during the financial year 2014 – 2015 and 2015 – 2016.

**(b) Fifty-Two Weeks Low Price of Select Index Stocks in IT Sector**

The summary statistics of fifty-two weeks low price value of select Index stocks in IT sector has been presented in Table 17.

**Table 17**

**Fifty-Two Weeks Low Price of Select Index Stocks in IT Sector**

**(Values in Rupees)**

| Years | KPIT | Infosys | HCL | Wipro | OFSS | Mind Tree | TCS | TechM | Info Edge | Cyient |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 26.74 | 426.40 | 122.35 | 280.55 | 1376.89 | 125.30 | 474.67 | 223.48 | 122.17 | 105.38 |
| 2007-08 | 36.00 | 407.53 | 115.93 | 256.63 | 1579.70 | 107.31 | 475.47 | 259.38 | 203.87 | 126.75 |
| 2008-09 | 11.29 | 315.53 | 66.79 | 172.19 | 743.03 | 54.66 | 290.13 | 96.49 | 147.88 | 70.89 |
| 2009-10 | 20.69 | 494.83 | 106.63 | 287.89 | 1576.13 | 101.78 | 511.75 | 161.55 | 154.73 | 99.47 |
| 2010-11 | 47.65 | 687.30 | 178.53 | 392.93 | 2022.04 | 103.94 | 871.30 | 147.52 | 236.09 | 143.21 |
| 2011-12 | 57.82 | 628.95 | 189.71 | 360.39 | 1915.89 | 82.96 | 1047.87 | 133.77 | 297.37 | 110.68 |
| 2012-13 | 92.19 | 566.74 | 258.48 | 348.23 | 2650.97 | 156.74 | 1218.28 | 186.65 | 318.36 | 149.28 |
| 2013-14 | 122.30 | 719.83 | 480.94 | 415.22 | 2784.39 | 258.99 | 1769.57 | 309.23 | 358.90 | 203.50 |
| 2014-15 | 159.67 | 885.02 | 735.35 | 521.88 | 3101.05 | 479.13 | 2330.16 | 541.88 | 706.81 | 386.54 |
| 2015-16 | 100.38 | 1011.62 | 839.53 | 525.04 | 3497.11 | 629.33 | 2351.52 | 475.47 | 719.89 | 448.81 |
| **Mean** | **67.47** | **614.37** | **309.42** | **356.10** | **2124.72** | **210.02** | **1134.07** | **253.54** | **326.61** | **184.45** |
| **SD** | **49.08** | **219.01** | **278.56** | **113.06** | **860.83** | **192.77** | **772.32** | **148.93** | **218.00** | **128.74** |
| **CV** | **72.74** | **35.65** | **90.02** | **31.75** | **40.52** | **91.79** | **68.10** | **58.74** | **66.75** | **69.80** |

**Source: Computed Data**

Bank wise – Low price

Year wise – Low price

Both bank and year wise – Low price

The result shows that among the list of stocks considered in this segment, Wipro Technologies Ltd. stock performance is more consistent with a 31.75 per cent as its value. The high and low mean values are ₹ 2124.72 and ₹ 67.47 respectively. It is also noticed that majority of these stock prices have performed poorly during the financial year 2008– 09.

## Fifty-Two Weeks High Price of Select Non-Index Stocks in IT Sector

The summary statistics of fifty-two weeks high price value of select Non-Index stocks in IT sector have been presented in Table 18.

**Table 18**

**Fifty-Two Weeks High Price of Select Non-Index Stocks in IT Sector**

**(Values in Rupees)**

| Years | ABB | 3i | Ramco | Mpha | NIIT | Aptech | TATA | SAK | Rolta | Polaris |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 686.84 | 121.95 | 207.79 | 248.83 | 209.92 | 185.41 | 270.23 | 145.75 | 145.70 | 152.86 |
| 2007-08 | 1334.58 | 164.11 | 187.21 | 308.27 | 321.20 | 373.29 | 326.28 | 205.13 | 328.27 | 145.03 |
| 2008-09 | 807.20 | 93.48 | 100.71 | 230.02 | 115.93 | 197.85 | 176.80 | 92.61 | 257.21 | 97.25 |
| 2009-10 | 794.32 | 92.55 | 125.36 | 645.54 | 165.35 | 218.37 | 219.40 | 74.09 | 192.55 | 159.15 |
| 2010-11 | 887.90 | 77.21 | 140.44 | 652.88 | 212.67 | 166.18 | 317.15 | 75.99 | 194.72 | 199.64 |
| 2011-12 | 872.87 | 51.90 | 96.54 | 427.19 | 247.63 | 122.40 | 249.14 | 82.89 | 122.23 | 188.81 |
| 2012-13 | 782.97 | 19.54 | 134.16 | 417.79 | 310.38 | 82.85 | 249.12 | 70.45 | 81.68 | 155.01 |
| 2013-14 | 675.65 | 11.30 | 147.67 | 457.06 | 358.05 | 81.45 | 328.91 | 67.66 | 82.67 | 162.44 |
| 2014-15 | 1217.69 | 26.64 | 455.51 | 452.94 | 443.17 | 94.51 | 767.92 | 160.22 | 142.36 | 238.61 |
| 2015-16 | 1332.37 | 24.50 | 848.61 | 492.11 | 529.77 | 84.08 | 1942.00 | 241.23 | 132.39 | 224.20 |
| **Mean** | **939.24** | **68.32** | **244.40** | **433.26** | **291.41** | **160.64** | **484.69** | **121.60** | **167.98** | **172.30** |
| **SD** | **256.36** | **50.45** | **236.47** | **144.89** | **127.79** | **91.04** | **537.85** | **62.86** | **77.61** | **41.41** |
| **CV** | **27.29** | **73.85** | **96.75** | **33.44** | **43.85** | **56.68** | **110.97** | **51.70** | **46.20** | **24.03** |

**Source: Computed Data**

Bank wise – High price

Year wise – High price

Both bank and year wise – High price

It is observed that among the list of stocks considered in this segment, Polaris Technology Ltd. stock performance is more consistent as revealed by the CV value of ₹ 24.03. It is also reveals that the high mean value of ₹ 484.69 from TATA Ltd. and low mean value of ₹ 68.32 from 3i Info Tech Ltd. during the study period. It is also noticed that majority of the stock prices were performed better during the financial year 2007 – 08 and 2015 –16.

### (d) Fifty-Two Weeks Low Price of Select Non-Index Stocks in IT Sector

The statistics summary of fifty-two weeks low price value of select Non-Index stocks in IT sector has been presented in Table 19.

**Table 19**

**Fifty-Two Weeks Low Price of Select Non-Index Stocks in IT Sector**

**(Values in Rupees)**

| Years | ABB | 3i | Ramco | Mpha | NIIT | Aptech | TATA | SAK | Rolta | Polaris |
|---|---|---|---|---|---|---|---|---|---|---|
| 2006-07 | 546.70 | 64.10 | 152.45 | 185.34 | 132.81 | 106.72 | 196.94 | 91.05 | 86.78 | 92.49 |
| 2007-08 | 1047.37 | 102.20 | 115.88 | 236.94 | 224.42 | 247.51 | 230.02 | 139.16 | 223.39 | 91.39 |
| 2008-09 | 603.15 | 48.46 | 52.24 | 159.18 | 69.64 | 109.40 | 118.64 | 57.19 | 154.16 | 48.64 |
| 2009-10 | 645.91 | 48.82 | 76.67 | 516.09 | 113.11 | 145.55 | 152.46 | 27.19 | 124.89 | 108.49 |
| 2010-11 | 718.16 | 36.39 | 79.90 | 523.91 | 171.13 | 120.32 | 229.90 | 41.71 | 135.06 | 147.00 |
| 2011-12 | 710.72 | 11.71 | 54.34 | 335.26 | 180.15 | 81.10 | 190.82 | 37.33 | 68.98 | 129.32 |
| 2012-13 | 664.89 | 2.68 | 86.47 | 350.63 | 242.20 | 48.36 | 189.14 | 37.85 | 48.56 | 99.39 |
| 2013-14 | 531.14 | 2.45 | 80.03 | 368.32 | 278.00 | 43.02 | 240.62 | 28.22 | 53.24 | 110.30 |
| 2014-15 | 1021.21 | 5.58 | 319.49 | 368.65 | 338.76 | 60.48 | 588.10 | 99.64 | 87.38 | 170.92 |
| 2015-16 | 1110.91 | 2.03 | 643.70 | 398.73 | 418.78 | 47.37 | 1462.65 | 136.53 | 82.54 | 165.67 |
| **Mean** | **760.01** | **32.44** | **166.12** | **344.30** | **216.90** | **100.98** | **359.93** | **69.59** | **106.50** | **116.36** |
| **SD** | **216.71** | **33.78** | **185.28** | **123.42** | **106.98** | **62.34** | **408.47** | **43.68** | **53.77** | **37.54** |
| **CV** | **28.51** | **104.13** | **111.54** | **35.85** | **49.32** | **61.73** | **113.49** | **62.77** | **50.49** | **32.26** |

**Source: Computed Data**

Bank wise – Low price

Year wise – Low price

Both bank and year wise – Low price

Table 19 explains fifty-two weeks low value of select Non-Index stocks in IT sector. The result shows that among the list of stocks considered in this segment, ABB Ltd. stock performance with 28.51 Per cent is more consistent. The high mean value of ₹ 760.01 from ABB Ltd. and low value of mean is ₹ 32.44 for 3i Info Tech Ltd. during the study period. It is also noticed that majority of the stock prices have performed poorly during the financial year 2007 – 08.

### (iv) Fifty-Two Weeks Stock Performance of Overall Select Index and Non-Index Companies in Banking and IT Sectors

**Table 20**

**Fifty-Two Weeks Stock Performance of Overall Select Index and Non-Index Stocks in Banking and IT Sectors**

| | High Price | | | | Low Price | | | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **Sector** | **Mean (in Rs.)** | **SD** | **CV (in %)** | **Bank** | **Mean (in Rs.)** | **SD** | **CV (in %)** |
| **Bank** | **Index** | 274.56 | 88.59 | 32.63 | **Index** | 208.64 | 83.03 | 39.79 |
| | **Non-Index** | 170.87 | 49.55 | 29.00 | **Non-Index** | 121.11 | 45.19 | 37.31 |
| **IT** | **Index** | 674.44 | 311.07 | 46.12 | **Index** | 558.08 | 288.06 | 51.62 |
| | **Non-Index** | 308.38 | 114.95 | 37.27 | **Non-Index** | 227.31 | 91.70 | 40.34 |

**Source: Computed Data**

Table 20 exhibits the fifty-two weeks stock performance of overall Index and Non-Index companies select for the study in Banking and IT sectors. The result states that the bank Index mean high price is ₹ 274.56 and its standard deviation is 89.59. Similarly, mean low price is ₹ 208.64 and its standard deviation is 83.03. The coefficient of variance value indicates the consistency of stock price and it means that fifty-two weeks high price (32.63 per cent) is more consistent than low price. The key finding is that fifty-two weeks high price of Index stocks in banking sector is more consistent than low price. This result clearly indicates the assurance of high performance of banking stocks with respect to Index companies selected for this study.

The result states that the Non-Index stocks have mean high price of ₹ 170.87 and a standard deviation of 49.55. Similarly, mean low price is ₹ 121.11 and its standard deviation is 45.19. The coefficient of variance value indicates the consistency of stock price and it means that fifty-two weeks high price (29 per cent) is more consistent than low price. The finding states that

fifty-two weeks high price of Non-Index stocks in banking sector is more consistent than low price. This result clearly indicates the assurance of high performance of banking stocks with respect to Non-Index companies selected for this study.

In the case of IT Index it is found that the mean high price is ₹ 674.44 and its standard deviation is 311.07. Similarly, mean low price is ₹ 558.08 and its standard deviation is 288.06. The coefficient of variance value indicates the consistency of stock price and it means that fifty-two weeks high price (46.12 per cent) is more consistent than low price. The fifty-two weeks high price of Index stocks in IT industry is more consistent than low price. This result indicates that certain chances are available to get high performance of IT stocks with respect to Index companies selected for this study.

The descriptive statistics of fifty-two weeks stock performance of overall Index and Non-Index companies selected for the study in IT sector, states that the mean high price is ₹ 308.38 and its standard deviation is 114.95. Similarly, mean low price is ₹ 227.31 and its standard deviation is 91.70. The coefficient of variance value indicates the consistency of stock price and it means that fifty-two weeks high price (37.27 per cent) is more consistent than low price. The fifty-two weeks high price of Non-Index stocks in IT sector is more consistent than low price. This result indicates the assurance of high performance of IT stocks with respect to Non-Index companies selected for the study.

### 4.2.4 Independent t-test Analysis

Independent t-test has been applied to find out the significant difference under the following cases.

(i) To find out the Difference between Index and Non-Index stocks on Fifty-Two Weeks High and Low Values in banking sector

(ii) To find out the Difference between Index and Non-Index stocks on Fifty-Two Weeks High and Low Values in IT sector

**(i) To find out the Difference between Index and Non-Index stocks on Fifty-Two Weeks High and Low Values in Banking Sector**

Difference between Index and Non-Index stocks on fifty-two weeks high and low values in banking sector has been analyzed by framing the hypothesis. The following table shows the independent t-test analysis between Index and Non-Index stocks on fifty-two weeks high and low price value in banking sector.

**$H_0$ : There is no significant difference between Index and Non-Index stocks on Fifty – two week's high and low value in banking sector.**

**Table 21**

**Difference between Index and Non-Index Stocks on Fifty-Two Weeks High and Low Values in Banking Sector: Result of t-test**

| Stock Price | Categories | Mean (in Rs.) | SD | t-value | p-value |
|---|---|---|---|---|---|
| **High** | Index | 274.56 | 89.59 | 3.203 | 0.005 |
| | Non-Index | 170.87 | 49.55 | | |
| **Low** | Index | 208.64 | 83.03 | 2.928 | 0.009 |
| | Non-Index | 121.11 | 45.19 | | |

**Source: Computed Data**

Table 21 shows the independent t-test analysis between Index and Non-Index stocks on fifty-two weeks high and low value in banking sector. The result states that the t-value of high price is 3.203 and its p-value is 0.005; the t-value of low price is 2.928 and its p-value is 0.009. The analysis is tested at 5 per cent level of significance and it is noticed from the result that both p-values are less than the level of significance. Hence, the result reject the null hypothesis, which means significant difference found between Index and Non-Index stocks in banking sector. It is clearly states that index and non-index stocks of fifty two weeks high and low price has found significant difference in banking sector. The result states that the Non-Index stock prices are significantly lesser than Index stock prices in banking sector.

**(ii) To find out the Difference between Index and Non-Index Stocks on Fifty-Two Weeks High and Low Values in IT Sector**

The following table shows the independent t-test analysis between Index and Non-Index stocks on fifty-two weeks high and low price value in IT sector by framing following hypothesis.

**$H_0$: There is no significant difference between Index and Non-Index stocks on Fifty – two weeks high and low value in IT sector.**

**Table 22**

**Difference between Index and Non-Index Stocks on Fifty-Two Weeks High and Low Value in IT Sector: Result of t-test**

| Stock Price | Categories | Mean (in Rs.) | SD | t-value | p-value |
|---|---|---|---|---|---|
| High | Index | 674.44 | 311.07 | 3.491 | 0.003 |
| | Non-Index | 308.39 | 114.95 | | |
| Low | Index | 558.08 | 288.06 | 3.460 | 0.003 |
| | Non-Index | 227.31 | 91.70 | | |

**Source: Computed Data**

Table 22 clearly spells out the result of independent t-test analysis between Index and Non-Index stocks on fifty-two weeks high and low value in IT sector. The result states that the t-value of high price is 3.49 and its p-value is 0.003; the t-value of low price is 3.46 and its p-value is 0.00. The analysis is tested at 5 per cent level of significance and it is noticed from the result that both p-values are less than the level of significance. Hence, the result reject the hypothesis, which means significant difference found between Index and Non-Index stocks in IT sector. The findings of the result states that Index and Non-Index stocks of fifty two weeks high and low price has found significant difference in IT sector. The result states that the Non-Index stock prices are significantly lesser than Index stock prices.

**Summary**

The study clearly indicates the assurance of high performance of select Banking stocks with respect to Index and Non-Index Companies. In the case of select IT Companies few chances are available to get high performance of Index Stocks and assurance of high performance with respect to Non-Index Stocks during the study period. The result also indicates that the Non-Index stock prices are significantly lesser than Index stock prices in Banking and IT Sectors. Further it is concluded that Index stocks have found a threshold to control the delivery position. When an investor trade based on delivery position Non-Index stocks will give better results than Index stocks provided, the investor should keep the stocks for a week, month or couple of months. The general assumption on stocks is considered as 50 per cent of stocks rise or fall is directly related to the strength and weakness of its industry. Therefore, the investors should keep watching industries as close as they can.

## 4.3 Financial Indicators of Select Index and Non-Index Stocks Suitable for Investments

The key financial indicators are the important source for assessing the performance of stocks. Moreover, it is one of the widely applicable concepts, which can helps to estimate the companies quickly. Four financial indicators are select for this analysis, which includes Earnings per Share (EPS), Dividend Per Share (DPS), Revenue From Operations Per Share (ROPS) and Net Profit Per Share (NPPS).

Key financial indicators of select Index and Non-Index stocks suitable for investment have been analyzed and presented under the following heads.

4.3.1 Financial Indicators

4.3.2 Correlation Analysis

4.3.3 Pooled Regression Model

### 4.3.1 Descriptive Statistics – Key Financial Indicators

This section summarizes the selected key financial indicators using mean, standard deviation, coefficient of variance, skewness and kurtosis under the following heads:

(i) Descriptive Statistics of Select Index and Non-Index stocks of Banking Sector

(ii) Descriptive Statistics of Select Index and Non-Index stocks of IT Sector

### (i) Descriptive Statistics of Select Index and Non-Index Stocks of Banking Sector

**Table 23**

**Descriptive Statistics of Select Index and Non-Index Stocks of Banking Sector**

| Banking sector – financial indicators | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Statistical tools | EPS | | DPS | | ROPS | | NPPS | |
| | Index | Non-Index | Index | Non-Index | Index | Non-Index | Index | Non-Index |
| Mean | 59.54 | 24.67 | 10.91 | 4.94 | 458.25 | 233.43 | 58.48 | 24.01 |
| SD | 19.97 | 5.74 | 3.68 | 1.20 | 144.04 | 76.63 | 20.35 | 5.70 |
| CV | 33.54 | 23.27 | 33.78 | 24.32 | 31.43 | 32.83 | 34.80 | 23.73 |
| Skewness | 0.15 | -0.05 | -0.09 | 0.08 | 0.34 | 0.33 | 0.15 | -0.26 |
| Kurtosis | -1.65 | -1.95 | -1.54 | -1.87 | -1.01 | -1.26 | -1.63 | -1.78 |

**Source: Computed Data**

Table 23 reveals the descriptive statistics of financial indicators of select Index and Non-Index of the banking sector.

The mean EPS of Index stocks is ₹ 59.54 and Non-Index stocks is ₹ 24.67. Similarly, EPS standard deviation of Index stocks is 19.97 and Non-Index stocks is 5.74. The coefficient of variance value indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of Index stocks are positively skewed, which means right tail of the distribution is longer than left. Whereas, Non-Index stocks are negatively skewed, which means left tails of the distribution is longer than right. In banking industry, the mean earnings per share ($\bar{x}$ = 59.54) of Index stocks are comparatively more than Non-Index stocks.

The mean DPS of Index stocks is ₹ 10.91 and Non-Index stocks is ₹ 4.94. Similarly, DPS standard deviation of Index stocks is 3.68 and Non-Index stocks is 1.20. The coefficient of variance value indicates that Non-Index

stocks are more consistent than Index stocks. It is also noticed that skewness value of Non-Index stocks are positively skewed, which means right tail of the distribution is longer than left. Whereas, Index stocks are negatively skewed, which means left tails of the distribution is longer than right. The mean dividend per share ($\bar{x}$ = 10.91) of Index stocks is comparatively more than Non-Index stocks.

The mean ROPS of Index stocks is ₹ 458.25 and Non-Index stocks is ₹ 233.43. Similarly, ROPS standard deviation of Index stocks is 144.04 and Non-Index stocks is 76.63. The coefficient of variance value indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of Index stocks and Non-Index stocks are positively skewed, which means right tail of the distribution is longer than left.

The mean revenue from operations per share ($\bar{x}$ = 458.25) of Index stocks is comparatively more than Non-Index stocks. It is also noticed that Non-Index stocks are more consistent than Index stocks. The skewness result indicates that both Index and Non-Index stocks are moderately skewed and the kurtosis results indicate platykurtic pattern.

The mean NPPS of Index stocks is ₹ 58.48 and Non-Index stocks is ₹ 24.01. Similarly, NPPS standard deviation of Index stocks is 20.35 and Non-Index stocks is 5.70. The coefficient of variance value indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of Index stocks is positively skewed. Hence, it confirms that NPPS data during the study period are platykurtic nature.

In banking industry, the mean net profit per share ($\bar{x}$ = 58.48) of Index stocks is comparatively more than Non-Index stocks. It is also noticed that Non-Index stocks are more consistent than Index stocks. The skewness result indicates that both Index and Non-Index stocks are moderately skewed and the kurtosis results indicates platykurtic pattern. The kurtosis values of Index and Non-Index have shown negative value, which are less than the lower bound

critical value which is approximately 2. Hence it confirms that selected financial indicators during the study period are of platykurtic nature.

### (ii) Descriptive statistics of select Index and Non-Index Stocks of IT Sector

**Table 24**

**Descriptive Statistics of Select Index and Non-Index Stocks of IT Sector**

| IT sector – financial indicators | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Statistical tools** | **EPS** | | **DPS** | | **ROPS** | | **NPPS** | |
| | **Index** | **Non-Index** | **Index** | **Non-Index** | **Index** | **Non-Index** | **Index** | **Non-Index** |
| Mean | 49.32 | 9.76 | 33.77 | 3.99 | 197.89 | 112.04 | 43.23 | 9.89 |
| SD | 18.35 | 3.47 | 23.27 | 1.25 | 72.25 | 21.82 | 17.49 | 3.52 |
| CV | 37.20 | 35.58 | 68.92 | 31.33 | 36.51 | 19.48 | 40.47 | 35.59 |
| Skewness | 0.79 | -1.80 | 2.14 | 0.51 | 0.91 | 0.83 | 0.94 | -1.72 |
| Kurtosis | 0.62 | 4.49 | 5.41 | -1.14 | 0.47 | 1.14 | 0.45 | 3.98 |

**Source: Computed Data**

It is clear from the Table 24 of descriptive statistics of Index and Non-Index Companies earnings per share of the IT sector. The mean EPS of Index stocks is ₹ 49.32 and Non-Index stocks is ₹ 9.76. Similarly, EPS standard deviation of Index stocks is 18.35 and Non-Index stocks is 3.47. The coefficient of variance value indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of the Index stocks are positively skewed, which means the right tail of the distribution is longer than the left. Nevertheless, the Non-Index stocks are negatively skewed, which means the tails of the distribution at left is longer than the ones at right. The kurtosis values of Index and Non-Index have shown positive value. The kurtosis value of Non-Index stock is more than the lower bound critical value of 2 and it shows a leptokurtic pattern.

In IT sector, the mean earnings per share ($\bar{x}$ = 49.32) of Index stocks are comparatively more than Non-Index stocks. It is also noticed that the Non-Index stocks are more consistent than Index stocks. The skewness result indicates that Non-Index stocks frequently provide small gains and a few extreme losses. Similarly, the kurtosis value also indicates that Non-Index stocks have more chances of providing extreme outcomes compared to Index stocks.

The mean DPS of Index stocks is ₹ 33.77 and Non-Index stocks is ₹ 3.99. Similarly, DPS standard deviation of Index stocks is 23.27 and Non-Index stocks is 1.25. The coefficient of variance value indicates that the Non-Index stocks are more consistent than the Index stocks. It is also noticed that the skewness value of Index and Non-Index stocks are positively skewed, which means the right tail of the distribution is longer than the left. The kurtosis values of Index stocks show positive value and Non-Index stocks show negative value. In this case, the kurtosis value of Index stock is more than the lower bound critical value of 2 and it shows the leptokurtic pattern.

In the IT sector, the mean dividend per share ($\bar{x}$ = 33.77) of Index stocks comparatively more than Non-Index stocks. It is also noticed that Non-Index stocks are more consistent than Index stocks. The skewness result indicates that both Index and Non-Index stocks frequently provide small losses and a few extreme gains. Similarly, the kurtosis value also indicates that Index stocks have more chances of providing extremely good outcomes compared to Non-Index stocks.

The mean ROPS of Index stocks is 197.89 and Non-Index stocks is 112.04. Similarly, ROPS standard deviation of Index stocks is 72.25 and Non-Index stocks is 21.82. The coefficient of variance value indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of Index and Non-Index stocks are positively skewed, which means right tail of the distribution is longer than left. The kurtosis values of Index and Non-Index stocks are showing positive value, which are less than the lower bound critical value of 2 and it shows the leptokurtic pattern.

In IT sector, the mean revenue from operations per share ($\bar{x}$ = 197.89) of Index stocks is comparatively more than Non-Index stocks. It is also noticed that Non-Index stocks are more consistent than Index stocks. The skewness result indicates that both Index and Non-Index stocks frequently provide small losses and a few extreme gains. Similarly, the kurtosis value also indicates that both Index and Non-Index stocks very less chances of providing extreme outcomes.

The mean NPPS of Index stocks is 43.23 and Non-Index stocks is 9.89. Similarly, the standard deviation of NPPS Index stocks is 17.49 and a Non-Index stocks is 3.52. The coefficient of variance indicates that Non-Index stocks are more consistent than Index stocks. It is also noticed that skewness value of Index stock is positively skewed, which means that right tail of the distribution is longer than left. Whereas, the Non-Index stock is negatively skewed, which means left tail of the distribution is longer than right. The kurtosis values of Index and Non-Index stocks are showing positive value and it is noticed that Non-Index stock's kurtosis value is higher than the lower bound critical value of 2.

In IT industry, the mean net profit per share ($\bar{x}$ = 43.23) of Index stocks are comparatively more than Non-Index stocks. It is also noticed that Non-Index stocks are more consistent than Index stocks. The skewness result indicates that Non-Index stocks frequently provide small gains and a few extreme losses. Similarly, the kurtosis value also indicates that Non-Index stocks have more chances of providing extreme outcomes compared to Index stocks.

### 4.3.2 Analysis of financial variables

The preceding section exhibited the performance pattern of selected financial variables including Earnings Per Share, Dividend Per Share, Revenue From Operation Per Share and Net Profit Per Share. The select variables are generally related to shares or stocks, whereas this section measures the statistical significant relationship among the variable through correlation analysis.

The financial variables of Banking and IT sectors are strongly associated with Index and Non-Index stocks

The correlation analyses have been presented under the following classification:

**Matrix 3**

**Financial Variables – Performance of Banking and IT Sectors**

| Relationship among Variables | Index | Non – Index |
|---|---|---|
| **Banking sector** | Significant | Insignificant |
| **IT sector** | Insignificant | Significant |

**(i) Correlation among Financial Variables of Index Stocks of Banking Sector**

The following Table 25 shows the correlation analysis between the select financial variables on Index stocks of banking sector.

***$H_o$: There is no significant relationship among the select financial variables of Index stocks in Banking Sector***

**Table 25**

**Correlation among Financial Variables of Index Stocks of Banking Sector: Results of Correlation Analysis**

| Financial Variables | EPS | DPS | ROPS | NPPS |
|---|---|---|---|---|
| **EPS** | 1 | | | |
| **DPS** | .989 | 1 | | |
| **ROPS** | .963 | .959 | 1 | |
| **NPPS** | .997 | .988 | 954 | 1 |

**Source: Computed Data** **** Correlation is significant at the 0.01 level (2-tailed)**

Table 25 depicts the Correlation coefficient and its statistical significance of the key financial variables, which are widely used in the stock market. Result states that all financial variables are highly correlating with one another. Since all the p-values are less than the level of significance at 1 per cent. It is observed from the result that EPS has found significant relationship with DPS (98.9 per cent), ROPS (96.3 per cent) and

NPPS (99.7 per cent). Similarly DPS has found significant relationship with ROPS (95.9 per cent) and NPPS (98.8 per cent). Finally, ROPS has been found to have a significant relationship with NPPS (95.4 per cent). Key observation states that statistical significance of Index stocks such as EPS, DPS, ROPS and NPPS highly correlate with one another in banking sector.

**(ii) Correlation among Financial Variables of Non- Index Stocks of Banking Sector**

The following table shows the correlation analysis between the select financial variables of Non-Index stocks of banking sector.

***$H_o$: There is no significant relationship among the select financial variables of Non Index stocks in Banking Sector***

**Table 26**

**Correlation among Financial Variables of Non-Index Stocks in Banking Sector: Results of Correlation Analysis**

| Financial variables | EPS | DPS | ROPS | NPPS |
|---|---|---|---|---|
| **EPS** | 1 | | | |
| **DPS** | .973 | 1 | | |
| **ROPS** | .478 | .557 | 1 | |
| **NPPS** | .962 | .965 | .465 | 1 |

**Source: Computed Data** **** Correlation is significant at the 0.01 level (2-tailed)**

Table 26 explains the result of correlation coefficient and its statistical significance of the key financial variables from Non-Index stocks in banking sector, which are widely used in the stock market. Further the finding states that few financial variables are highly correlates with one another (those p-values less than the level of significance 0.05). It is observed from the result that EPS has significant relationship with DPS (97.3 per cent) and NPPS (96.2 per cent). Similarly, DPS has significant relationship with NPPS (96.5 per cent).

Key observation states that statistical significance of Non-Index stocks such as EPS and DPS, NPPS; DPS and NPPS highly correlate with one another in banking sector.

**(iii) Correlation among Financial Variables of Index Stocks in IT Sector**

The following table shows the correlation analysis between the select financial variables of Index stocks of IT sector.

***$H_o$: There is no significant relationship among the select financial variables of Index stocks in IT sector***

**Table 27**

**Correlation among Financial Variables of Index Stocks in IT Sector: Results of Correlation Analysis**

| Financial Variables | EPS | DPS | ROPS | NPPS |
|---|---|---|---|---|
| **EPS** | 1 | | | |
| **DPS** | .051 | 1 | | |
| **ROPS** | .991 | -0.44 | 1 | |
| **NPPS** | .988 | .027 | .988 | 1 |

**Source: Computed Data** **** Correlation is significant at the 0.01 level (2-tailed)**

The table 27 shows the correlation coefficient and its statistical significance of the key financial variables from index stocks in IT sector, which are widely used in the stock market. Result reveals that only some financial variables highly correlate with one another (those p-values less than the level of significance 0.05). It is observed from the result that EPS has found significant relationship with ROPS (99.1 per cent) and NPPS (98.8 per cent). Similarly, ROPS has found significant relationship with NPPS (98.8 per cent).

Key observation states that statistical significance of Index stocks such as EPS and ROPS, NPPS; ROPS and NPPS are highly correlate with one another in IT sector.

### (iii) Correlation among Financial Variables of Non- Index Stocks of IT Sector

The following table shows the correlation analysis between the select financial variables on Non-Index stocks of IT sector.

***$H_o$: There is no significant relationship among the select financial variables of Non-Index stocks in IT sector***

**Table 28**

**Correlation among Financial Variables of Non-Index Stocks in IT Sector: Results of Correlation Analysis**

| Financial Variables | EPS | DPS | ROPS | NPPS |
|---|---|---|---|---|
| **EPS** | 1 | | | |
| **DPS** | -.331 | 1 | | |
| **ROPS** | .064 | .653 | 1 | |
| **NPPS** | .991 | -349 | .053 | 1 |

**Source: Computed Data** **** Correlation is significant at the 0.01 level (2-tailed)**

**** Correlation is significant at the 0.05 level (2-tailed)**

Table 28 represents the result of Pearson Correlation coefficient and its statistical significance of the key financial variables from Non-Index stocks in IT sector, which are widely used in the stock market. It is understood that few financial variables highly correlate with one another (those p-values less than the level of significance 0.05). It is also explained from the result that EPS has found significant relationship with NPPS (99.1 per cent). Similarly, DPS has found significant relationship with ROPS (65.3 per cent).

Key observation states that statistical significance of Non-Index stocks such as EPS and NPPS; DPS and ROPS highly correlate with one another in IT sector.

### 4.3.3 Pooled Regression Model

Earning (EPS) is one of the key factors for financial economists. Sizable investors are keenly focusing on the potential returns of the stocks they would like to invest. Hence it has been taken as a dependent variable. Therefore, only few factors namely Dividend per Share (DPS), Revenue from Operation per Share (ROPS),and Net Profit per Share (NPPS) are taken as dependent variable for the study which are widely accepted as an important are considered for analysis. The following section discusses the regression model and its assumptions.

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$$

Y = Earnings per Share (constant)
$x_1$ = Dividend per Share (DPS)
$x_2$ = Revenue from Operation per Share (ROPS)
x3 = Net Profit per Share (NPPS)

The following heads are used to analysis the Pooled, Fixed Effect and Fixed Effect with Time Model for Banking and IT sectors.

(i) Pooled, Fixed Effect and Fixed Effect with Time Model for Banking Sector
(ii) Pooled, Fixed Effect and Fixed Effect with Time Model for IT Sector

#### (i) Pooled, Fixed Effect and Fixed Effect with Time Model for Banking Sector

Table 29 shows the regression results of pooled data model, fixed effect model and fixed effect with time model for banking sector during the study period 2006–07 to 2015-16.

- ***Fixed effect with time is an appropriate model to predict the target earnings.***

**Table 29**

**Pooled, Fixed Effect and Fixed Effect with Time Model for Banking Sector: Results of Regression Analysis**

| Factors | Pool Data Model | | Fixed Effect Model | | Fixed Effect with Time Model | |
|---|---|---|---|---|---|---|
| | Beta | P-value | Beta | P-value | Beta | P-value |
| Constant | 106.71 | 0.388 | 621.82 | 0.000 | 78.68 | 0.680 |
| DPS | 0.16 | 0.090 | 0.04 | 0.636 | 0.04 | 0.636 |
| ROPS | 0.79 | 0.000 | 0.14 | 0.277 | 0.14 | 0.277 |
| NPPS | 0.87 | 0.000 | 0.21 | 0.318 | 0.21 | 0.318 |
| $T_1$ | | | | | -41.28 | 0.877 |
| $T_2$ | | | | | 26.52 | 0.921 |
| $T_3$ | | | | | 17.58 | 0.948 |
| F statistics | 61.13 | 0.000 | 39.76 | 0.000 | 39.76 | 0.000 |
| Hausman statistics | | | 35.17 | 0.000 | 35.18 | 0.000 |
| Adjusted $R^2$ | 71.05% | | 82.60% | | 82.60% | |
| Durbin Watson | 1.96 | | 1.96 | | 2.39 | |
| Target Payout Ratio | 74.97% | | 4.15% | | 4.15% | |
| Adjustment Factor | 21.05% | | 85.53% | | 85.53% | |

**Source: Computed Data**

Table 29 shows the regression results of panel data using pooled model, fixed effect model and fixed effect with time model. The analysis is tested at 5 per cent level of significance. The pooled model states that ROPS and NPPS variables are the predictor ($p \leq 0.05$) of EPS and it explains 74.97 per cent relationship in banking sector. The adjusted R square value is 71.05 per cent (model fitness towards the dependent variable), Durbin Watson is 1.96 and adjustment factor is 21.05 per cent.

The Fixed effect model exhibits as ROPS and NPPS are not appropriate predictors for EPS in banking sector. The adjusted R square value is

82.6 per cent, Durbin Watson is 1.96, the target payout ratio is 4.15 per cent and adjustment factor is 85.53 per cent. The Hausman statistics confirms that the chi-square value is 35.17 and its p-value is less than 0.05, hence null hypothesis is accepted.

Fixed effect with time model also exhibits as ROPS and NPPS are not appropriate predictors for EPS in banking sector. The adjusted R square value is 82.6 per cent, Durbin Watson is 2.39, target payout ratio is 4.15 per cent and adjustment factor is 85.53 per cent. The Hausman statistics confirms that the chi-square value is 35.18 and its p-value is less than 0.05, hence the null hypothesis is accepted.

The constructed regression equation is:

**Earnings per share(Y) = 106.71+0.16 x1+0.79 x2+0.87 x3**

It is understood that fixed effect and fixed effect with time models are the more appropriate methods to predict the target EPS. However, the huge variation in the target payout ratio of banking industry indicates the data outliers. Further, fixed effect with time model is slightly better than fixed effect model based on the Hausman test.

**(ii) Pooled, Fixed Effect and Fixed Effect with Time Model for IT Sector**

Table 30 shows the regression results of pooled data model, fixed effect model and fixed effect with time model for IT sector during the study period 2006 –07 to 2015 –16.

- ***Fixed effect with time is an appropriate model to predict the target returns***

**Table 30**

**Pooled, Fixed Effect and Fixed Effect with Time Model for IT Sector: Results of Regression Analysis**

| Factors | Pool Data Model | | Fixed Effect Model | | Fixed Effect with Time Model | |
|---|---|---|---|---|---|---|
| | Beta | P-value | Beta | P-value | Beta | P-value |
| Constant | 12.25 | 0.246 | 18.84 | 0.420 | 37.84 | 0.397 |
| DPS | 0.04 | 0.010 | 0.09 | 0.002 | 0.09 | 0.002 |
| ROPS | 0.78 | 0.000 | 0.47 | 0.000 | 0.47 | 0.000 |
| NPPS | 0.89 | 0.000 | 0.62 | 0.000 | 0.62 | 0.000 |
| $T_1$ | | | | | -31.95 | 0.378 |
| $T_2$ | | | | | -51.46 | 0.196 |
| $T_3$ | | | | | 45.54 | 0.177 |
| F statistics | 97.49 | 0.000 | 58.35 | 0.000 | 58.35 | 0.000 |
| Hausman statistics | | | 33.24 | 0.000 | 33.35 | 0.000 |
| Adjusted $R^2$ | 79.75% | | 87.53% | | 87.53% | |
| Durbin Watson | 2.02 | | 2.28 | | 2.28 | |
| Target Payout Ratio | 16.11% | | 16.44% | | 16.44% | |
| Adjustment Factor | 22.48% | | 52.62% | | 52.62% | |

**Source: Computed Data**

Table 30 shows the regression results of panel data using pooled model, fixed effect model and fixed effect with time model. The analysis is tested at 5 per cent level of significance. The pooled model states that DPS, ROPS and NPPS variables are the predictors ($p \leq 0.05$) of target dividend payout. The model explains 79.75 per cent of relationship with the independent variable.

Durbin Watson is 2.02, target payout ratio is 16.11percent and adjustment factor is 22.48 per cent.

Fixed effect model exhibits as DPS, ROPS and NPPS are appropriate predictors for EPS in IT sector. The adjusted R square value is 87.53 per cent, Durbin Watson is 2.28, target payout ratio is 16.44 Per cent and adjustment factor is 52.62 per cent. The Hausman statistics confirms that the chi-square value is 33.24 and its p-value is less than 0.05, hence the null hypothesis is accepted.

Fixed effect with time model also exhibits as DPS, ROPS and NPPS are appropriate predictors for EPS in IT sector. The adjusted R square value is 87.53 per cent, Durbin Watson is 2.28, target payout ratio is 16.44 per cent and adjustment factor is 52.62 per cent. The Hausman statistics confirms that the chi-square value is 33.35 and its p-value is less than 0.05, hence the null hypothesis is accepted.

The constructed regression equation is:

**Earnings per share (Y) = 12.25+0.04 x1+0.78 x2+0.89 x3**

It is concluded that the fixed effect and fixed effect with time models are more appropriate methods to predict the target EPS. The Hausman test result states that fixed effect with time model is slightly better than fixed effect model in the IT sector. The analysis result thus illustrates that fixed effect and fixed effect with time models are closely associated with one another in the IT sector.

## Summary

The selected financial variables are highly correlated with Select Index and Non-Index stocks of Banking and IT sectors.

## 4.4 To understand the Inter-relationship between Economic Value Added and Market Value Added of Select Index and Non-Index Stocks of Banking and IT Sectors.

Economic value added (EVA) is used for evaluating management performance, is being used by the external analysts to evaluate the management internal performance which reflects the company's stock performance. It is a yardstick to measure the performance of internal capable of companies. What shareholders gain when the return from the capital employed is greater than the cost of that capital (Stewart 1990). Maintaining the value added of the stocks helps to maximizing long-term yield on shareholders' investment. Due to this, the manager should pay attention to earn a positive economic growth to maintain shareholders wealth.

Market Value Added is a measure of external performance of the stocks. It indicates how the market has evaluated the firm's performance in terms of the market value of debt and market value of equity compared to the capital invested in the firm. The positive Market Value added of the stocks has created wealth for its shareholders. Based on the value added of the stocks, the investors can make proper decision to fruitful investment.

The status of Economic Value Added and Market Value Added and the relationship between the individual stocks has been calculated and presented under the following heads:

4.4.1 Calculation of EVA, MVA and Correlation for Banking (Index and Non-Index) Sector

4.4.2 Calculation of EVA, MVA and Correlation for IT (Index and Non-Index) Sector

### 4.4.1 Calculation of EVA, MVA and Correlation Between them for Banking (Index and Non-Index) Sector

The below matrix, explains the Economic Value Added, Market Value Added and the inter-relationship between them.

**Matrix 4**

**Correlation between EVA and MVA for Banking Sector**

| Value added | Banking sector | |
|---|---|---|
| | **Index** | **Non-Index** |
| **EVA** | HIGH | LOW |
| **MVA** | LOW | HIGH |

### (i) Calculation of EVA for Banking Sector- Index

Economic Value of the Banking- Index sector has been analyzed by using the variables of NOPAT, Invested Capital and Weighted Average Cost of Capital. The result of the analysis is portrayed in Table 31.

**Table 31**

**Economic Value Added for Banking Sector - Index Stocks**

**(Values in crores)**

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AXIS BANK | NOPAT | 4018.71 | 6070.63 | 9904.32 | 10537.25 | 13260.34 | 19362.14 | 24446.19 | 27014.65 | 30940.90 | 36088.59 | **18164.37** | **11058.18** | **60.88** |
| | INVESTED CAPITAL | 6274.63 | 8323.39 | 13957.31 | 19292.87 | 32473.11 | 34634.61 | 27894.88 | 36601.58 | 49008.69 | 51279.47 | **27974.05** | **15823.64** | **56.57** |
| | WACC | 747.31 | 965.51 | 1609.28 | 2228.33 | 3711.68 | 3996.83 | 3280.44 | 5658.60 | 6180.00 | 6133.02 | **3451.10** | **2062.46** | **59.76** |
| | EVA | 3271.40 | 5105.12 | 8295.04 | 8308.92 | 9548.66 | 15365.31 | 21165.75 | 21356.05 | 24760.90 | 29955.57 | **14713.27** | **9138.34** | **62.11** |
| BANK OF BARODA | NOPAT | 7213.77 | 10158.59 | 13157.43 | 14514.39 | 18656.63 | 26918.49 | 32530.01 | 35309.15 | 37669.27 | 41439.53 | **23756.73** | **12512.31** | **52.67** |
| | INVESTED CAPITAL | 9792.50 | 14970.98 | 25647.63 | 28456.47 | 43351.40 | 51049.90 | 58548.72 | 72798.65 | 75099.63 | 73670.68 | **45338.66** | **24747.64** | **54.58** |
| | WACC | 1102.64 | 1691.72 | 2834.06 | 3224.12 | 4686.29 | 5421.50 | 6522.33 | 8124.33 | 8403.65 | 8737.34 | **5074.80** | **2825.10** | **55.67** |
| | EVA | 6111.13 | 8466.87 | 10323.37 | 11290.27 | 13970.34 | 21496.99 | 26007.68 | 27184.82 | 29265.62 | 32702.19 | **18681.93** | **9727.09** | **52.07** |
| BANK OF INDIA | NOPAT | 7481.12 | 11151.85 | 15148.17 | 16074.04 | 18318.58 | 25961.18 | 30085.02 | 34686.68 | 39487.89 | 37809.01 | **23620.35** | **11525.83** | **48.80** |
| | INVESTED CAPITAL | 12516.20 | 17761.84 | 29168.10 | 36629.89 | 39312.06 | 53076.01 | 59285.73 | 78350.59 | 71503.88 | 82096.71 | **47970.10** | **24770.38** | **51.64** |
| | WACC | 1404.32 | 2031.95 | 3272.66 | 4373.61 | 5212.78 | 6294.81 | 6960.14 | 9167.02 | 8358.80 | 10672.57 | **5774.87** | **3082.17** | **53.37** |
| | EVA | 6076.80 | 9119.90 | 11875.51 | 11700.43 | 13105.80 | 19666.37 | 23124.88 | 25519.66 | 31129.09 | 27136.44 | **17845.49** | **8585.27** | **48.11** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CANARA BANK | NOPAT | 10000.20 | 13282.32 | 15865.01 | 17332.24 | 20347.74 | 28304.47 | 31288.96 | 36774.36 | 40241.73 | 41778.39 | **25521.54** | **11673.31** | **45.74** |
| | INVESTED CAPITAL | 11928.34 | 13017.72 | 26208.72 | 23112.34 | 34301.46 | 38215.35 | 45161.16 | 56850.75 | 57530.81 | 58476.52 | **36480.32** | **17834.20** | **48.89** |
| | WACC | 1616.29 | 1540.00 | 3055.94 | 2590.89 | 3659.97 | 4517.05 | 5306.44 | 6662.91 | 6805.89 | 6847.60 | **4260.30** | **2084.22** | **48.92** |
| | EVA | 8383.91 | 11742.32 | 12809.07 | 14741.35 | 16687.77 | 23787.42 | 25982.52 | 30111.45 | 33435.84 | 34930.79 | **21261.24** | **9622.75** | **45.26** |
| FEDERAL BANK | NOPAT | 1592.44 | 2309.44 | 2967.18 | 3132.25 | 3417.97 | 4718.76 | 5296.88 | 5824.74 | 6151.58 | 6420.22 | **4183.15** | **1715.69** | **41.01** |
| | INVESTED CAPITAL | 2272.41 | 4717.64 | 5544.81 | 6237.21 | 6997.02 | 9947.36 | 11551.65 | 12638.55 | 10046.37 | 10267.79 | **8022.08** | **3349.44** | **41.75** |
| | WACC | 259.28 | 551.96 | 624.90 | 721.65 | 823.55 | 1159.86 | 1537.52 | 1473.65 | 1126.20 | 1225.97 | **950.46** | **418.99** | **44.08** |
| | EVA | 1333.16 | 1757.48 | 2342.28 | 2410.60 | 2594.42 | 3558.90 | 3759.36 | 4351.09 | 5025.38 | 5194.25 | **3232.69** | **1348.11** | **41.70** |
| HDFC BANK | NOPAT | 5487.15 | 7962.09 | 13035.74 | 12875.59 | 15218.19 | 21593.92 | 27657.04 | 32719.29 | 38365.90 | 47651.76 | **22256.67** | **13950.75** | **62.68** |
| | INVESTED CAPITAL | 9248.54 | 16092.16 | 23809.97 | 34435.27 | 39770.42 | 53770.89 | 69220.74 | 82917.62 | 107222.98 | 125696.24 | **56218.48** | **39339.22** | **69.98** |
| | WACC | 1039.54 | 1947.15 | 2752.43 | 4132.23 | 4800.29 | 7420.38 | 8202.66 | 9834.03 | 13231.32 | 15133.83 | **6849.39** | **4790.96** | **69.95** |
| | EVA | 4447.61 | 6014.94 | 10283.31 | 8743.36 | 10417.90 | 14173.54 | 19454.38 | 22885.26 | 25134.58 | 32517.93 | **15407.28** | **9220.17** | **59.84** |
| ICICI BANK | NOPAT | 21695.08 | 30546.56 | 30292.33 | 26004.41 | 24395.37 | 30856.80 | 36337.20 | 40139.46 | 45126.86 | 49309.48 | **33470.35** | **9077.93** | **27.12** |
| | INVESTED CAPITAL | 75919.29 | 112468.64 | 142688.47 | 145881.94 | 164644.92 | 200567.77 | 212042.97 | 227965.80 | 252839.27 | 264536.27 | **179955.53** | **61813.05** | **34.35** |
| | WACC | 9482.32 | 14013.59 | 16623.21 | 18658.30 | 21189.80 | 24509.38 | 26335.74 | 36976.05 | 31731.33 | 33172.85 | **23269.26** | **8906.97** | **38.28** |
| | EVA | 12212.76 | 16532.97 | 13669.12 | 7346.11 | 3205.57 | 6347.42 | 10001.46 | 3163.41 | 13395.53 | 16136.63 | **10201.10** | **4978.95** | **48.81** |
| YES | NOPAT | 559.93 | 1217.73 | 1857.71 | 2196.34 | 3620.17 | 5758.93 | 7591.83 | 9244.56 | 10429.01 | 12042.46 | **5451.87** | **4163.29** | **76.36** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BANK | INVESTED CAPITAL | 1654.38 | 2305.13 | 5325.90 | 7838.63 | 10484.99 | 18833.13 | 26729.82 | 28436.03 | 37900.39 | 45445.58 | **18495.40** | **15515.28** | **83.89** |
| | WACC | 205.47 | 290.45 | 703.02 | 1221.26 | 1299.09 | 2346.61 | 3303.81 | 3534.60 | 4919.47 | 5835.21 | **2365.90** | **1971.78** | **83.34** |
| | EVA | 354.46 | 927.28 | 1154.69 | 975.08 | 2321.08 | 3412.32 | 4288.02 | 5709.96 | 5509.54 | 6207.25 | **3085.97** | **2234.69** | **72.41** |
| PNB | NOPAT | 8624.50 | 11489.95 | 16363.61 | 18270.88 | 22104.62 | 31523.14 | 36170.11 | 37113.79 | 40818.87 | 46092.40 | **26857.19** | **13138.71** | **48.92** |
| | INVESTED CAPITAL | 12384.32 | 17764.90 | 27113.29 | 36985.29 | 53098.24 | 65079.69 | 72297.82 | 83929.73 | 84750.07 | 98065.38 | **55146.87** | **30341.73** | **55.02** |
| | WACC | 1415.53 | 2009.21 | 3015.00 | 3987.01 | 5708.06 | 6872.42 | 8082.90 | 9425.31 | 9534.38 | 11512.88 | **6156.27** | **3487.49** | **56.65** |
| | EVA | 7208.97 | 9480.74 | 13348.61 | 14283.87 | 16396.56 | 24650.72 | 28087.21 | 27688.48 | 31284.49 | 34579.52 | **20700.92** | **9691.34** | **46.82** |
| SBI | NOPAT | 29135.08 | 41326.85 | 55771.09 | 60883.36 | 67513.82 | 88027.89 | 100561.61 | 113895.15 | 130082.94 | 146237.92 | **83343.57** | **38889.19** | **46.66** |
| | INVESTED CAPITAL | 71001.89 | 100760.07 | 142005.63 | 168960.80 | 184555.00 | 210956.77 | 268066.39 | 301413.13 | 333588.51 | 368465.03 | **214977.32** | **100041.81** | **46.54** |
| | WACC | 7689.50 | 11295.20 | 15137.80 | 18771.54 | 20707.07 | 23120.86 | 29138.82 | 34722.79 | 39063.21 | 42594.56 | **24224.14** | **11825.01** | **48.81** |
| | EVA | 21445.58 | 30031.65 | 40633.29 | 42111.81 | 46806.75 | 64907.03 | 71422.79 | 79172.36 | 91019.72 | 103643.36 | **59119.43** | **27151.87** | **45.93** |

**Source: Computed Data**

**Note:**

Bank wise – High EVA

Year wise – High EVA

Table 31 presents the results of analysis of Economic value added (EVA) along with its components such as Net operating profit after tax (NOPAT), Invested Capital (IC) and Weighted Average Cost of Capital (WACC) of Bank Index during the study period from 2006 – 2007 to 2015 – 2016 . It can be observed that, Axis Bank has got the highest mean value of EVA is ₹ 29955.57 crores in the year 2015 –2016, on the other hand the lowest value is ₹ 3271.40 crores during the year 2006 –2007. As far as EVA is concerned, it has positive mean value at ₹ 14713.27 crores with the co-efficient of variation of 62.11 indicating that, Axis Bank added value to the shareholders wealth by generating a positive EVA and meeting its capital charge entirely. It is also revealed that the Bank of Baroda have highest mean value of EVA as ₹ 32702.19 in the year 2015–2016, on the other hand the lowest value is ₹ 6111.13 crores during the year 2006 –2007. The mean value of EVA has been ₹ 45338.66 crores with the co-efficient of variation of 54.58 indicative that the bank creates value for their shareholders.

Bank of India shows an increasing trend in EVA during the study period except 2015 –2016. The high value indicating in the year 2014 –2015 with the value of ₹ 31129.09 crores and the low value is ₹ 6076.80 crores in the year 2006 –2007. The mean value stood at ₹ 17845.49 crores along with co-efficient variation of 48.11. It is also observed that Canara Bank has increasing trend during the study period, especially 2011 –2012 it shows high value from ₹ 16687.77 to ₹ 23787.42 crores. The high and low values are as ₹ 34930.79 crores and ₹ 8383.91 crores respectively. The results indicate that the bank has been maintaining shareholders wealth by the way of maintaining internal value added.

Federal Bank shows the highest value of EVA of ₹ 5194.25 crores in the year 2015 –2016 and the lowest value arises in the year 2006 –2007 with the value of ₹ 1333.16 crores. The mean value was ₹ 3232.69 crores with the variation of 41.70. It is also observed from the table that HDFC Bank maintains the highest value of ₹ 32517.93 crores and lowest value of ₹ 4447.61 crores

during the year 2015 –2016 and 2006-2007. The mean value shows ₹ 15407.28 crores with the variance of 59.84. The positive number of value added tells that the Net Worth of the bank is more than by its cost of capital.

ICICI Bank maintained a fluctuating trend of EVA during the study period. The mean value indicates ₹ 10201.10 crores with the variation of 48.81. The highest and lowest values show with the range of ₹ 16532.97 crores and ₹ 3163.41 crores during the study period 2007 –2008 and 2013–2014 respectively. The bank should highly concentrate on increasing the positive EVA to maintain shareholders wealth. It is revealed that YES Banks calculation represents the high value of ₹ 6207.25 crores in the year 2015 –2013 and the lowest value of ₹ 354.46 crores in the year 2006–2007 with the mean value of ₹ 3085.97 crores and co-efficient of variation shows the value of 72.41. It is concluded that, Yes Bank maintains good economic value when compared to last ten years.

Punjab National Bank indicates the highest EVA of ₹ 34579.52 crores and the lowest value added of ₹ 7208.97 crores during the year 2015 –2016 and 2006–2007 respectively. The mean value of ₹ 20700.92 crores with the co-efficient of variation of 46.82 represent that the bank highly maintained its value added during the study period. State Bank of India shows the highest EVA of ₹ 103643.36 crores and the lowest EVA is ₹ 21445.58 during the year 2006–2007. The calculation shows the mean value of ₹ 59119.43 crores with the co-efficient of variation of 45.93.

### (b) Calculation of MVA for Banking Sector- Index Stocks

Market value of the Banking Sector - Index stocks has been analyzed by using the variables of Market Capitalization and Net Worth of the select stocks. The result of the analysis is portrayed in Table 32.

**Table 32**

**Market Value Added for Banking Sector-Index Stocks**

**(Values in crores)**

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AXIS BANK | Market Capitalization | 13804.09 | 27942.52 | 14880.96 | 47368.43 | 57626.85 | 47348.59 | 60891.99 | 68618.45 | 132844.06 | 105928.79 | **57725.47** | **37949.92** | **65.74** |
| | Net worth | 3393.23 | 8768.50 | 10214.80 | 16044.61 | 18998.83 | 22808.54 | 33107.86 | 38220.48 | 44676.51 | 53164.91 | **24939.83** | **16636.11** | **66.70** |
| | MVA | 10410.86 | 19174.02 | 4666.17 | 31323.82 | 38628.02 | 24540.05 | 27784.13 | 30397.96 | 88167.55 | 52763.88 | **32785.65** | **23753.07** | **72.45** |
| BANK OF BARODA | Market Capitalization | 7846.29 | 10341.52 | 8543.87 | 23285.74 | 37711.76 | 32628.81 | 28552.75 | 30975.86 | 36113.73 | 33894.19 | **24989.45** | **11802.09** | **47.23** |
| | Net worth | 8649.94 | 11043.93 | 12879.72 | 15106.39 | 19801.05 | 26303.17 | 30865.18 | 34933.07 | 38848.05 | 36072.77 | **23450.33** | **11348.20** | **48.39** |
| | MVA | -803.65 | -702.41 | -4335.85 | 8179.35 | 17910.71 | 6325.64 | -2312.43 | -3957.21 | -2734.32 | -2178.58 | **1539.12** | **7127.32** | **463.08** |
| BANK OFINDIA | Market Capitalization | 8178.57 | 13281.55 | 11548.49 | 17895.17 | 26127.21 | 20713.46 | 18026.04 | 14701.40 | 13015.58 | 7924.64 | **15141.21** | **5669.45** | **37.44** |
| | Net worth | 5745.89 | 8826.29 | 11784.63 | 12801.37 | 15971.21 | 19725.90 | 22736.02 | 26180.90 | 27891.59 | 32317.22 | **18398.10** | **8804.48** | **47.86** |
| | MVA | 2432.68 | 4455.26 | -236.14 | 5093.80 | 10156.00 | 987.56 | -4709.97 | -11479.50 | -14876.01 | -24392.58 | **-3256.89** | **10646.19** | **-326.88** |
| CANARA BANK | Market Capitalization | 7982.70 | 9233.20 | 6801.90 | 16824.35 | 27738.45 | 20982.70 | 17031.13 | 12193.41 | 17482.50 | 10308.69 | **14657.90** | **6583.65** | **44.92** |
| | Net worth | 8111.12 | 8295.63 | 10039.61 | 12539.10 | 17941.46 | 20624.82 | 22844.55 | 24121.86 | 26453.38 | 26158.54 | **17713.01** | **7380.09** | **41.66** |
| | MVA | -128.42 | 937.57 | -3237.71 | 4285.25 | 9796.98 | 357.88 | -5813.42 | -11928.45 | -8970.88 | -15849.85 | **-3055.11** | **7748.06** | **-253.61** |
| FEDERAL BANK | Market Capitalization | 1845.11 | 3699.38 | 2361.92 | 4565.65 | 7164.45 | 7286.73 | 8220.25 | 8168.23 | 11307.85 | 7924.34 | **6254.39** | **3013.31** | **48.18** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Net worth | 1495.57 | 3919.33 | 4319.77 | 4684.59 | 5103.03 | 5700.92 | 6359.45 | 6945.58 | 7733.13 | 8086.21 | **5434.76** | **1979.08** | **36.42** |
| | MVA | 349.54 | -219.95 | -1957.85 | -118.94 | 2061.42 | 1585.81 | 1860.80 | 1222.65 | 3574.72 | -161.87 | **819.63** | **1557.29** | **190.00** |
| HDFC BANK | Market Capitalization | 30322.89 | 46782.99 | 41170.40 | 88458.26 | 108998.72 | 122040.13 | 148498.36 | 179652.89 | 256376.88 | 270819.34 | **129312.09** | **85365.55** | **66.02** |
| | Net worth | 6433.15 | 11497.24 | 15052.74 | 21522.49 | 25379.27 | 29924.68 | 36214.14 | 43478.63 | 62009.42 | 72677.77 | **32418.95** | **21659.40** | **66.81** |
| | MVA | 23889.74 | 35285.75 | 26117.66 | 66935.77 | 83619.45 | 92115.45 | 112284.22 | 136174.26 | 194367.45 | 198141.57 | **96893.13** | **63912.24** | **65.96** |
| ICICI BANK | Market Capitalization | 76716.73 | 85688.26 | 37027.03 | 106210.80 | 128163.20 | 102274.20 | 120586.35 | 143843.63 | 182787.13 | 137548.34 | **112084.57** | **40412.77** | **36.06** |
| | Net worth | 24313.26 | 46470.21 | 49533.02 | 51618.37 | 55090.93 | 60405.24 | 66705.96 | 73213.32 | 80429.35 | 86918.11 | **59469.78** | **18316.25** | **30.80** |
| | MVA | 52403.47 | 39218.05 | -12505.99 | 54592.43 | 73072.27 | 41868.96 | 53880.39 | 70630.30 | 102357.77 | 50630.23 | **52614.79** | **29368.52** | **55.82** |
| YES BANK | Market Capitalization | 3939.60 | 4991.46 | 1481.93 | 8656.49 | 10758.18 | 12965.32 | 15368.66 | 14912.05 | 34110.24 | 36357.06 | **14354.10** | **11948.56** | **83.24** |
| | Net worth | 787.06 | 1318.92 | 1624.22 | 3089.55 | 3794.08 | 4676.64 | 5807.67 | 7121.74 | 11679.99 | 13786.60 | **5368.65** | **4390.97** | **81.79** |
| | MVA | 3152.54 | 3672.54 | -142.29 | 5566.94 | 6964.10 | 8288.68 | 9560.99 | 7790.31 | 22430.25 | 22570.46 | **8985.45** | **7665.93** | **85.31** |
| PNB | Market Capitalization | 14871.12 | 16021.97 | 12955.68 | 31954.08 | 38655.57 | 31409.76 | 25361.47 | 26941.63 | 26779.80 | 16631.67 | **24158.28** | **8655.09** | **35.83** |
| | Net worth | 10141.61 | 10782.65 | 13139.89 | 16230.93 | 20037.80 | 26365.90 | 31248.05 | 34487.14 | 37691.97 | 35465.36 | **23559.13** | **10779.84** | **45.76** |
| | MVA | 4729.51 | 5239.32 | -184.21 | 15723.15 | 18617.77 | 5043.86 | -5886.58 | -7545.51 | -10912.17 | -18833.69 | **599.15** | **11694.79** | **1951.91** |
| SBI | Market Capitalization | 52256.33 | 100962.58 | 67713.13 | 131991.55 | 175761.66 | 140582.88 | 141782.31 | 143214.52 | 199334.19 | 150830.77 | **130442.99** | **45374.53** | **34.78** |
| | Net worth | 31298.56 | 49032.66 | 57947.70 | 65949.20 | 64986.04 | 83951.20 | 98883.68 | 118282.25 | 128438.22 | 144274.44 | **84304.40** | **37073.32** | **43.98** |
| | MVA | 20957.77 | 51929.92 | 9765.43 | 66042.34 | 110775.62 | 56631.67 | 42898.63 | 24932.27 | 70895.97 | 6556.33 | **46138.59** | **32170.93** | **69.73** |

**Source: Computed Data**

**Note:**

Bank wise – High MVA

Year wise – High MVA

Both bank and year wise – High MVA

Axis Bank has got the mean value of MVA is ₹ 88167.55 crores in the year 2014 –2015, on the other hand the lowest value is ₹ 4666.17 crores during the year 2008 –2009. As far as MVA is concerned, it has positive mean value at ₹ 1539.12 crores with the co-efficient of variation of 72.45 indicating that Axis Bank added value to the shareholders wealth by generating a positive growth and meeting its capital charge entirely during the study period. It is also revealed that the Bank of Baroda have the mean value of EVA ₹ 1539.12 crores with the co-efficient of variation of 463.08. The bank scored negative values from 2006 – 2009 and from 2012–2016 with the range between of ₹ 803.65 to ₹ 2178.58 crores. The positive growths arise from the year 2009 –2011 with the range of ₹ 8179.35 crores to ₹ 6325.64 crores. The negative trends in market value clearly explain that the bank failed to maintain its shareholders wealth.

Bank of India shows an increasing trend in MVA during the study period. The high market value arises in the year 2010 –2011 with the value of ₹10156.00 crores. The mean value of market value shoes negative value which stood at ₹ 3256.89 crores along with negative co-efficient variation of 326.88. It is also observed from the table that, there is a negative trend from 2012–2016 with the range of ₹ 4709.97 crores to ₹ 24392.58 crores. It is also observed that Canara Bank has increasing trend during the study period, especially 2010–2011 it shows high value from ₹ 9796.98 crores with the negative mean value of ₹ 3055.11 crores. Co-efficient of variation shows negative trend such as 253.61. The result indicates that the bank should concentrate to maintain shareholders wealth by the way of maintaining internal value added.

Federal Bank shows the mean value of MVA ₹ 819.63 crores with the variance of 190.00. There was a negative trend arises from 2007 to 2009 and also from 2015 –2016 with the range of ₹ 219.95 crores to ₹118.94 crores. It is also observed from the table that HDFC Bank keeps up good MVA to sustain shareholders wealth. The mean of MVA is ₹ 96893.13 crores with the variation of 65.96 during the study period. The positive number of value added indicates

that, the bank has got more net worth than by its cost of capital helps to retain their shareholders.

ICICI Bank maintained up and down trend of MVA during the study period. The mean value indicates ₹ 52614 crores with the variation of 55.82. The highest values show with the range of ₹ 102357.77 crores during the study period 2014–2015. It is revealed from YES Bank's MVA calculation representing positive values at all the year except 2008–2009 shows negative value of ₹142.29 crores and the highest value of ₹ 22570.46 crores in the year 2015–2016 with the mean value of ₹ 8985.45 crores and co-efficient of variation shows the value of 85.31.It is concluded that YES Bank maintain good economic value when compared to last ten years.

Punjab National Bank indicates the highest market value added of ₹ 18617.77 crores in the year 2010 –2011 and the lowest negative value of ₹ 10912.17 crores during the year 2014–2015. The mean value of ₹ 599015 crores with the co-efficient of variation of 1951.91 represent that, the bank keeps an eye to its value added to retain its share holders. State Bank of India shows positive trend with the highest economic value of ₹110775.62 crores and the lowest economic value was ₹ 6556.33 crores during the year 2010 –2011 and 2006–2007 respectively. The calculation shows the mean value of ₹ 46138.59 crores with the co-efficient of variation of 69.73.

### (iii) Calculation of EVA for Banking Sector- Non- Index Stocks

Economic value of the Banking Non-Index sector has been analyzed by using the variables of NOPAT, Invested Capital and Weighted Average Cost of Capital. The result of the analysis is exposed in Table 33.

**Table 33**

**Economic Value Added for Banking Sector- Non- Index stocks**

**(Values in crores)**

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CUB | NOPAT | 336.92 | 543.62 | 732.39 | 891.76 | 1092.41 | 1561.07 | 2007.19 | 2301.02 | 2469.03 | 2638.46 | **1457.39** | **850.64** | **58.37** |
| | INVESTED CAPITAL | 385.60 | 569.50 | 701.07 | 865.70 | 1192.77 | 1591.80 | 2117.40 | 2329.91 | 2864.35 | 3164.55 | **1578.27** | **993.98** | **62.98** |
| | WACC | 48.16 | 63.78 | 77.68 | 96.87 | 134.66 | 187.67 | 247.95 | 271.43 | 336.85 | 371.52 | **183.66** | **117.62** | **64.04** |
| | EVA | 288.76 | 479.84 | 654.71 | 794.89 | 957.75 | 1373.40 | 1759.24 | 2029.59 | 2132.18 | 2266.94 | **1273.73** | **734.33** | **57.65** |
| CORPORATION BANK | NOPAT | 2911.97 | 3993.95 | 5655.01 | 6729.03 | 8297.55 | 12327.39 | 14694.30 | 17534.31 | 18622.35 | 19691.64 | **11045.75** | **6327.59** | **57.29** |
| | INVESTED CAPITAL | 6786.47 | 6366.12 | 9706.41 | 14852.39 | 23103.19 | 22524.02 | 22464.54 | 23106.55 | 20899.38 | 24478.07 | **17428.71** | **7298.46** | **41.88** |
| | WACC | 768.23 | 716.83 | 1068.68 | 1673.86 | 2606.04 | 2646.57 | 2626.10 | 2689.60 | 2432.69 | 2844.35 | **2007.30** | **862.17** | **42.95** |
| | EVA | 2143.74 | 3277.12 | 4586.33 | 5055.17 | 5691.51 | 9680.82 | 12068.20 | 14844.71 | 16189.66 | 16847.29 | **9038.45** | **5607.95** | **62.05** |
| DENA BANK | NOPAT | 1867.07 | 2545.75 | 2990.66 | 3575.38 | 4206.99 | 6058.53 | 8033.11 | 9541.12 | 9843.73 | 9709.85 | **5837.22** | **3199.16** | **54.81** |
| | INVESTED CAPITAL | 1947.35 | 2195.28 | 3613.62 | 4163.60 | 5347.58 | 8358.28 | 14177.67 | 12303.42 | 10876.13 | 13412.80 | **7639.57** | **4765.69** | **62.38** |
| | WACC | 235.24 | 263.21 | 420.99 | 490.47 | 639.57 | 993.80 | 1671.55 | 1456.72 | 1292.08 | 1782.56 | **924.62** | **591.89** | **64.01** |
| | EVA | 1631.83 | 2282.54 | 2569.67 | 3084.91 | 3567.42 | 5064.73 | 6361.56 | 8084.40 | 8551.65 | 7927.29 | **4912.60** | **2642.26** | **53.79** |
| IDBI BANK | NOPAT | 6541.83 | 8604.28 | 11556.54 | 15718.58 | 17799.12 | 22324.50 | 24409.75 | 25637.69 | 27720.25 | 28629.83 | **18894.24** | **8054.90** | **42.63** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | INVESTED CAPITAL | 50703.84 | 47434.52 | 53839.18 | 57872.74 | 66136.24 | 72904.70 | 87044.13 | 83785.15 | 86149.38 | 97295.73 | **70316.56** | **17633.75** | **25.08** |
| | WACC | 6125.02 | 5687.40 | 6272.26 | 6817.41 | 7909.89 | 8668.37 | 10262.50 | 9920.16 | 10234.55 | 12930.60 | **8482.82** | **2344.76** | **27.64** |
| | EVA | 416.81 | 2916.88 | 5284.28 | 8901.17 | 9889.23 | 13656.13 | 14147.25 | 15717.53 | 17485.70 | 15699.23 | **10411.42** | **5921.22** | **56.87** |
| IOB | NOPAT | 4466.300 | 6837.980 | 8667.020 | 8568.360 | 10152.220 | 16159.510 | 19061.540 | 21187.050 | 21460.960 | 22020.830 | **13858.18** | **6804.16** | **49.10** |
| | INVESTED CAPITAL | 6886.60 | 11219.70 | 17645.54 | 16506.78 | 28680.33 | 35541.50 | 36780.22 | 40675.95 | 33873.43 | 42849.13 | **27065.92** | **12944.50** | **47.83** |
| | WACC | 767.86 | 1255.48 | 1926.89 | 1941.20 | 3404.36 | 4179.68 | 4303.29 | 4771.29 | 3939.48 | 5583.24 | **3207.28** | **1626.71** | **50.72** |
| | EVA | 3698.44 | 5582.50 | 6740.13 | 6627.16 | 6747.86 | 11979.83 | 14758.25 | 16415.76 | 17521.48 | 16437.59 | **10650.90** | **5305.18** | **49.81** |
| INDUS IND BANK | NOPAT | 1361.27 | 1736.82 | 2139.54 | 2341.73 | 2992.08 | 4637.94 | 6074.66 | 7238.47 | 8454.45 | 10022.71 | **4699.97** | **3086.29** | **65.67** |
| | INVESTED CAPITAL | 1649.30 | 2445.15 | 4481.35 | 7329.33 | 9567.66 | 13412.77 | 17079.10 | 23793.90 | 31248.54 | 39838.07 | **15084.52** | **12909.54** | **85.58** |
| | WACC | 194.78 | 295.62 | 528.80 | 913.97 | 1249.54 | 1736.95 | 2254.44 | 3083.69 | 4224.80 | 5449.85 | **1993.24** | **1771.06** | **88.85** |
| | EVA | 1166.49 | 1441.20 | 1610.74 | 1427.76 | 1742.54 | 2900.99 | 3820.22 | 4154.78 | 4229.65 | 4572.86 | **2706.72** | **1371.00** | **50.65** |
| KVB | NOPAT | 723.84 | 973.21 | 1358.60 | 1566.43 | 1905.74 | 2948.73 | 3757.67 | 4704.16 | 4874.77 | 4553.46 | **2736.66** | **1631.32** | **59.61** |
| | INVESTED CAPITAL | 1291.68 | 1518.34 | 1373.20 | 2095.86 | 2644.43 | 4680.78 | 7084.53 | 6619.55 | 7146.78 | 6146.19 | **4060.13** | **2520.34** | **62.08** |
| | WACC | 144.80 | 172.03 | 152.56 | 237.67 | 300.94 | 530.80 | 848.73 | 785.08 | 815.45 | 738.16 | **472.62** | **301.01** | **63.69** |
| | EVA | 579.04 | 801.18 | 1206.04 | 1328.76 | 1604.80 | 2417.93 | 2908.94 | 3919.08 | 4059.32 | 3815.30 | **2264.04** | **1342.31** | **59.29** |
| ORIENTAL BANK | NOPAT | 4297.97 | 5466.53 | 8275.29 | 9300.35 | 10619.66 | 14455.47 | 16486.17 | 17604.86 | 18686.11 | 18196.44 | **12338.89** | **5422.13** | **43.94** |
| | INVESTED CAPITAL | 6222.94 | 7615.74 | 10375.41 | 13124.98 | 16736.35 | 17201.55 | 20454.87 | 21294.28 | 20324.37 | 22838.57 | **15618.91** | **5959.71** | **38.16** |
| | WACC | 737.42 | 900.18 | 1205.62 | 1554.00 | 1891.21 | 2022.90 | 2403.45 | 2506.34 | 2394.21 | 2656.13 | **1827.14** | **695.40** | **38.06** |
| | EVA | 3560.55 | 4566.35 | 7069.67 | 7746.35 | 8728.45 | 12432.57 | 14082.72 | 15098.52 | 16291.90 | 15540.31 | **10511.74** | **4743.64** | **45.13** |
| SOUTH INDIAN | NOPAT | 634.84 | 765.05 | 1268.67 | 1308.77 | 1646.22 | 2934.53 | 3766.61 | 4060.89 | 4664.25 | 4757.02 | **2580.69** | **1636.24** | **63.40** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BANK | INVESTED CAPITAL | 756.47 | 1188.57 | 1716.02 | 1815.68 | 2135.51 | 2755.67 | 4288.16 | 6098.82 | 5821.88 | 6156.89 | **3273.37** | **2124.37** | **64.90** |
| | WACC | 89.11 | 146.43 | 188.25 | 205.72 | 242.81 | 330.13 | 513.29 | 726.37 | 689.89 | 720.36 | **385.24** | **253.19** | **65.72** |
| | EVA | 545.73 | 618.62 | 1080.42 | 1103.05 | 1403.41 | 2604.40 | 3253.32 | 3334.52 | 3974.36 | 4036.66 | **2195.45** | **1390.86** | **63.35** |
| UBI | NOPAT | 6057.79 | 8476.92 | 10539.81 | 12011.58 | 13667.96 | 18563.53 | 22258.20 | 26315.48 | 28461.79 | 29114.55 | **17546.76** | **8577.18** | **48.88** |
| | INVESTED CAPITAL | 9405.40 | 12108.19 | 17515.25 | 19639.09 | 26080.49 | 32542.55 | 41093.46 | 47791.98 | 55120.86 | 53848.56 | **31514.58** | **17145.75** | **54.41** |
| | WACC | 1174.73 | 1356.12 | 1940.69 | 2197.61 | 2944.49 | 3836.77 | 4812.04 | 5567.77 | 6482.21 | 6321.82 | **3663.43** | **2031.39** | **55.45** |
| | EVA | 4883.06 | 7120.80 | 8599.12 | 9813.97 | 10723.47 | 14726.76 | 17446.16 | 20747.71 | 21979.58 | 22792.73 | **13883.34** | **6554.52** | **47.21** |

**Source: Computed Data**

**Note :**

Bank wise – High EVA

Year wise – High EVA

Both bank and year wise – High EVA

Table 33 present the results of EVA of Banking Non-Index sectors. It can be observed that City Union Bank has been shows an increasing trend during the study period. The highest mean value of EVA is ₹ 2266.94 crores in the year 2015 –2016 on the other hand; the lowest value is ₹ 288.76 crores during the year 2006 –2007. As far as EVA is concerned, it has positive mean value at ₹ 1273.73 crores with the co-efficient of variation of 57.65 indicating that, the bank's added value to the shareholders wealth by increasing a positive EVA and meeting its capital charge entirely. It is also revealed that the Corporation Bank shows fluctuating trend with the highest value of EVA is ₹ 16847.29 crores in the year 2015 –2016 on the other hand; the lowest value is ₹ 2143.74 crores during the year 2006 –2007. The mean value of EVA has ₹ 9038.45 crores with the co-efficient of variation of 62.05 indicating that the bank creates value for their shareholders by increasing the economic value of the bank.

Dena Bank maintained an increasing trend of EVA except 2015 –2016 during the study period. The mean value indicates ₹ 4912.60 crores with the variation of 53.79. The highest and lowest values show with the range of ₹8551.65 crores and ₹ 1631.83 crores during the study period 2014 –2015 and 2006–2007 respectively. The bank concentrates on increasing the positive EVA to maintain shareholders wealth. It is revealed from IDBI Bank result representing the high value of ₹ 17485.70 crores in the year 2014–2015 and the lowest value of ₹ 416.81 crores in the year 2006 –2007 with the mean value of ₹ 10411.42 crores and co-efficient of variation shows the value of 56.87.

Indian Overseas Bank indicates the growing trend except 2009 –2010 and 2015 –2016 with the highest EVA of ₹ 17521.48 crores and the lowest value added of ₹ 3698.44 crores during the year 2014 –2015 and 2006 –2007 respectively. The mean value of ₹ 10650.90 crores with the co-efficient of variation of 49.81 represent that the bank should pay attention to maintain its value added as well as shareholders wealth. Indus Ind Bank shows positive growing trend except 2009 –2010 during the study period. The highest EVA is ₹ 4572.86 crores and the lowest EVA is ₹1166.49 crores during the year

2015 –2016 and 2006 –2007 respectively. The calculation shows the mean value of ₹ 1166.49 crores with the co-efficient of variation of 50.65.

It can be observed that KVB has been showing increasing trend during the study period except 2015 –2016. The highest mean value of EVA is ₹ 4059.32 crores in the year 2014 –2015 on the other hand; the lowest value is ₹ 579.04 crores during the year 2006 –2007. As far as EVA is concerned, it has been positive mean value at ₹ 2264.04 crores with the co-efficient of variation of 59.29 indicating that the bank added value to the shareholders wealth by raising a positive EVA and meeting its capital charge entirely. It is also revealed that the Oriental Bank shows an increasing trend except 2015 –2016 with the highest value of EVA ₹16291.90 in the year 2014–2015 on the other hand; the lowest value is ₹ 3560.55 cores during the year 2006–2007. The mean value of EVA has been ₹ 10511.74 cores with the co-efficient of variation of 45.13 indicating that the bank creates value for their shareholders by increasing the economic value of the bank.

The Economic Value Added extremely increased for South Indian Bank from 2010 to 2013 with the value from ₹ 1403.41 to ₹ 3253.32 crores. The highest EVA of ₹ 4036.66 crores and the lowest EVA of ₹ 545.73 crores during the year 2015 – 2016 and 2006 – 2007 respectively. The mean value of ₹ 2195.45 crores with the co-efficient of variation of 63.35 represent that, the bank highly concentrates on maintaining its value added as well as shareholders wealth. United Bank of India shows positive growing trend all over the study period. The highest economic value of ₹ 22792.73 crores and the lowest economic value were ₹ 4883.06 crores during the year 2015 –2016 and 2006 –2007 respectively. The calculation shows the mean value of ₹ 13883.34 crores with the co-efficient of variation of 47.21.

### (d) Calculation of MVA for Banking Sector Non-Index Stocks

Market value of the Banking sector- Non-Index stocks has been analyzed by using the variables of Market Capitalization and Net Worth of the select stocks. The result of the analysis is shows in Table 34.

**Table 34**

**Market Value Added for Banking Sector- Non- Index Stocks**

**(Values in crores)**

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CUB | Market Capitalization | 406.85 | 892.80 | 391.36 | 1142.00 | 1814.40 | 1977.73 | 2837.31 | 2919.73 | 5765.83 | 5670.85 | **2381.89** | **1968.31** | **82.64** |
| | Net worth | 365.71 | 566.86 | 660.92 | 825.64 | 1006.62 | 1243.10 | 1640.66 | 2024.93 | 2695.53 | 3052.00 | **1408.20** | **923.44** | **65.58** |
| | MVA | 41.14 | 325.94 | -269.56 | 316.36 | 807.78 | 734.63 | 1196.65 | 894.80 | 3070.30 | 2618.85 | **973.69** | **1080.63** | **110.98** |
| CORPORATION BANK | Market Capitalization | 4143.98 | 4060.07 | 2579.77 | 6899.46 | 9452.92 | 6292.56 | 5874.04 | 4635.83 | 4372.79 | 3992.81 | **5230.42** | **1953.75** | **37.35** |
| | Net worth | 3765.46 | 4228.51 | 4896.51 | 5774.87 | 7137.81 | 8275.92 | 9565.69 | 10085.10 | 10484.48 | 10686.14 | **7490.05** | **2690.40** | **35.92** |
| | MVA | 378.52 | -168.44 | -2316.74 | 1124.59 | 2315.11 | -1983.36 | -3691.65 | -5449.27 | -6111.69 | -6693.33 | **-2259.63** | **3171.30** | **-140.35** |
| DENA BANK | Market Capitalization | 1003.87 | 1458.48 | 926.43 | 2250.10 | 3475.59 | 3150.54 | 3129.54 | 3256.48 | 2850.64 | 1917.44 | **2341.91** | **967.11** | **41.30** |
| | Net worth | 1240.28 | 1566.51 | 1948.91 | 2393.05 | 3459.18 | 4291.51 | 4909.41 | 7142.49 | 6675.43 | 6211.96 | **3983.87** | **2197.35** | **55.16** |
| | MVA | -236.41 | -108.03 | -1022.48 | -142.95 | 16.41 | -1140.97 | -1779.87 | -3886.01 | -3824.79 | -4294.52 | **-1641.96** | **1726.14** | **-105.13** |
| IDBI BANK | Market Capitalization | 5616.71 | 6453.72 | 3290.50 | 8335.89 | 14025.20 | 12283.19 | 10695.32 | 10497.79 | 11396.12 | 14308.76 | **9690.32** | **3670.88** | **37.88** |
| | Net worth | 6235.55 | 6799.89 | 7444.31 | 8227.12 | 12671.81 | 17573.98 | 19473.24 | 21926.47 | 22654.26 | 22113.97 | **14512.06** | **6943.14** | **47.84** |
| | MVA | -618.84 | -346.17 | -4153.81 | 108.77 | 1353.39 | -5290.79 | -8777.92 | -11428.68 | -11258.14 | -7805.21 | **-4821.74** | **4835.46** | **-100.28** |
| IOB | Market Capitalization | 5611.44 | 7365.70 | 2478.84 | 5009.44 | 8885.25 | 5834.81 | 6025.13 | 6300.28 | 5231.70 | 5476.02 | **5821.86** | **1646.08** | **28.27** |

| Banks | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Net worth | 3872.40 | 4752.08 | 5941.39 | 6348.98 | 8164.94 | 10786.39 | 12309.43 | 14356.27 | 13934.49 | 13254.21 | **9372.06** | **4018.21** | **42.87** |
| | MVA | 1739.04 | 2613.62 | -3462.55 | -1339.54 | 720.31 | -4951.58 | -6284.30 | -8055.99 | -8702.79 | -7778.19 | **-3550.20** | **4259.20** | **-119.97** |
| INDUS IND BANK | Market Capitalization | 1341.60 | 2516.90 | 1146.65 | 7004.33 | 12282.35 | 14997.72 | 21165.52 | 26335.16 | 46723.98 | 57570.88 | **19108.51** | **19499.30** | **102.05** |
| | Net worth | 1056.79 | 1109.90 | 1428.76 | 2165.60 | 3824.87 | 4522.37 | 7417.57 | 8645.69 | 10253.53 | 17315.21 | **5774.03** | **5222.67** | **90.45** |
| | MVA | 284.81 | 1407.00 | -282.11 | 4838.73 | 8457.48 | 10475.35 | 13747.95 | 17689.47 | 36470.45 | 40255.67 | **13334.48** | **14457.86** | **108.42** |
| KVB | Market Capitalization | 1385.99 | 1811.57 | 1081.70 | 2494.17 | 4257.46 | 3996.74 | 4842.39 | 4011.75 | 6613.61 | 5318.16 | **3581.36** | **1825.69** | **50.98** |
| | Net worth | 1063.16 | 1190.00 | 1350.16 | 1619.98 | 2114.54 | 2708.22 | 3085.19 | 3326.34 | 4246.03 | 4572.95 | **2527.66** | **1266.34** | **50.10** |
| | MVA | 322.83 | 621.57 | -268.46 | 874.19 | 2142.92 | 1288.52 | 1757.20 | 685.41 | 2367.58 | 745.21 | **1053.70** | **829.64** | **78.74** |
| ORIENTAL BANK | Market Capitalization | 4698.88 | 4425.79 | 2753.43 | 8038.58 | 11289.65 | 7359.65 | 7305.67 | 6689.65 | 6137.93 | 2945.61 | **6164.48** | **2581.01** | **41.87** |
| | Net worth | 5600.32 | 5775.90 | 6452.35 | 7320.52 | 10210.73 | 11084.99 | 12098.91 | 12779.36 | 13157.45 | 13733.88 | **9821.44** | **3230.24** | **32.89** |
| | MVA | -901.44 | -1350.11 | -3698.92 | 718.06 | 1078.92 | -3725.34 | -4793.24 | -6089.71 | -7019.52 | -10788.27 | **-3656.96** | **3709.78** | **-101.44** |
| SOUTH INDIAN BANK | Market Capitalization | 697.06 | 1258.51 | 579.74 | 2014.97 | 2582.28 | 2788.90 | 3286.02 | 2990.18 | 3409.13 | 2376.54 | **2198.33** | **1032.51** | **46.97** |
| | Net worth | 704.77 | 1142.22 | 1285.60 | 1467.22 | 1695.66 | 2025.78 | 2868.24 | 3238.69 | 3453.21 | 3711.96 | **2159.33** | **1073.82** | **49.73** |
| | MVA | -7.71 | 116.29 | -705.86 | 547.75 | 886.62 | 763.12 | 417.78 | -248.51 | -44.08 | -1335.42 | **39.00** | **682.04** | **1748.92** |
| UBI | Market Capitalization | 5248.20 | 7122.19 | 7437.89 | 14797.49 | 18217.85 | 12313.89 | 13013.01 | 8647.80 | 9962.65 | 8995.17 | **10575.61** | **3971.19** | **37.55** |
| | Net worth | 4733.28 | 5623.31 | 7054.38 | 8807.81 | 11079.68 | 12988.23 | 15689.43 | 16905.02 | 18336.18 | 20309.97 | **12152.73** | **5543.57** | **45.62** |
| | MVA | 514.92 | 1498.88 | 383.51 | 5989.68 | 7138.17 | -674.34 | -2676.42 | -8257.22 | -8373.53 | -11314.80 | **-1577.12** | **6133.30** | **-388.89** |

**Source: Computed Data**

**Note**

Bank wise – High MVA

Year wise – High MVA

Both bank and year wise – High MVA

City Union Bank has the highest mean value of MVA ₹ 3070.30 crores in the year 2014 –2015 on the other hand; the lowest value proves the negative trend of ₹ 269.56 crores during the year 2008 – 2009. As far as MVA is concerned, it has positive mean value at ₹973.69 crores with the co-efficient of variation of 110.98 indicating that City Union Bank should concentrates on generating a positive growth by increasing the net worth of the bank which helps to protect its shareholders wealth. It is also revealed that the Corporation Bank has the mean value of EVA ₹ 2259.63 crores with the co-efficient of variation of ₹140.35 crores. The bank scored highest market values of ₹ 6693.33 crores in the year 2015 –2016 and lowest value arises with the negative value of ₹ 168.44 crores in the year 2007–2008. The negative trend in MVA clearly explains that the bank failed to care for its shareholders wealth.

Dena Bank shows a negative trend in MVA during the study period except 2010 –2011 with the value of ₹16.41 crores. The mean value of market value shows negative value stood at ₹1641.96 crores along with negative co-efficient variation of 105.13. It is also observed that IDBI Bank also having negative trend during the study period except 2009–2010 and 2010 –2011, with the range of ₹ 346.17 crores to ₹ 8777.95 crores. The mean value shows negative trend of ₹ 4821.74 crores. Co-efficient of variation shows negative trend such as 100.28. The result indicates that the bank should concentrate to maintain share holders wealth by the way of maintaining internal value added.

Indian Overseas Bank shows the mean value of MVA with negative trend of ₹ 3550.20 crore with the variance of 119.97. There was a negative trend from 2008 to 2009 and also from 2011–2016 with the highest negative value of ₹ 8702.79 crores. It is also observed from the Table 35 that Indus Ind Bank keep up good market value added except 2008 – 2009 with the negative value of ₹ 282.11 crores. The mean of market value added is ₹ 13334.48 crores with the variation of 108.42 during the study period.

KVB maintained the trend of growth in MVA during the study period except 2008 – 2009 with the negative value of ₹ 268.46 crores. The mean value

indicates ₹ 1053.70 crores with the variation of 78.74. The highest values show with the range of ₹ 2367.58 crores during the study period 2014 –2015. It is revealed from Oriental Bank indicating the negative trend at all the year except during 2009 –2011 which it shows negative value of range between ₹ 718.06 crores to ₹ 1078.92 crores. The highest value of ₹ 7019.52 crores in the year 2014 –2015 with the mean value of negative trend shows ₹ 3656.96 crores and also negative trend in co-efficient of variation shows the value of 101.44.

South Indian Bank indicates the highest MVA of ₹ 886.62 crores in the year 2010 – 2011 and the lowest negative value of ₹ 1335.42 crores during the year 2015 – 2016. The mean value of ₹ 39.00 crores with the co-efficient of variation of 1748.92 represent that the bank maintain its value added to retain its shareholders. United Bank of India shows positive trend from 2006 –2011 with the range from 514.92 to 7138.17 after that there is a decreasing trend from 2011 – 2015 with the negative value of ₹ 674.34 to ₹ 11314.80 crores. The mean economic value shows negative value of ₹ 1577.12 crores with the co-efficient of variation of negative value of 388.89.

**(e) Correlation between EVA and MVA for Banking Stocks**

**Table 35**

**Relationship between EVA and MVA for Banking Sector: Results of Correlation Analysis**

| Banks | EVA | MVA | Correlation | RANK |
|---|---|---|---|---|
| HDFC Bank | 15407.28 | 96893.13 | 0.952 | 1 |
| Indus Ind Bank | 2706.72 | 13334.48 | 0.882 | 2 |
| Corporation Bank | 9038.45 | -2259.63 | 0.844 | 3 |
| YES Bank | 3085.97 | 8985.45 | 0.818 | 4 |
| Axis Bank | 14713.27 | 32785.65 | 0.693 | 5 |
| Federal Bank | 3232.69 | 819.63 | 0.484 | 6 |
| KVB | 2264.04 | 1053.70 | 0.446 | 7 |
| SBI | 59119.43 | 46138.59 | -0.135 | 8 |
| CUB | 1273.73 | 973.69 | -0.135 | 8 |
| Bank Of Baroda | 18681.93 | 1539.12 | -0.294 | 10 |
| ICICI | 10201.10 | 52614.79 | -0.303 | 11 |
| South Indian Bank | 2195.45 | 39.00 | -0.322 | 12 |
| PNB | 20700.92 | 599.15 | -0.741 | 13 |
| Canara Bank | 21261.24 | -3055.11 | -0.761 | 14 |
| Oriental Bank | 10511.74 | -3656.96 | -0.782 | 15 |
| IDBI | 10411.42 | -4821.74 | -0.785 | 16 |
| Union Bank | 13883.34 | -1577.12 | -0.827 | 17 |
| Bank Of India | 17845.49 | -3256.89 | -0.828 | 18 |
| Dena Bank | 4912.60 | -1641.96 | -0.932 | 19 |
| IOB | 10650.90 | -3550.20 | -0.948 | 20 |

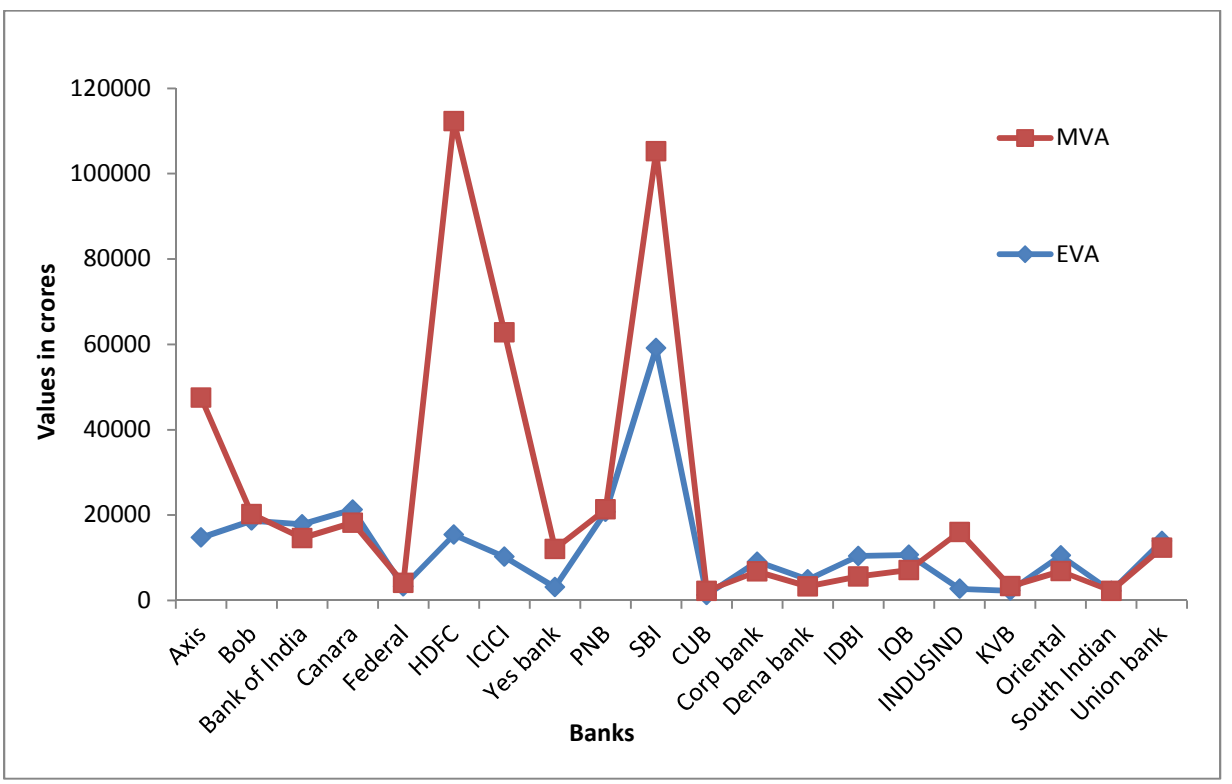
**Source: Computed Data**

Table 35 exhibits the relationship between EVA and MVA of the select stocks in banking sector of both Index and Non- Index stocks. The result describes the positive and negative relationship between EVA and MVA of select stocks.

The following banks have positive correlation between EVA and MVA. HDFC banks shows high correlation (0.952) between EVA and MVA which indicates that the bank follows proper steps to maintain the shareholders wealth, which is also revealed from the result of performance of stocks, HDFC bank scores high yield of return to the shareholders. Indus Ind Bank at the second stage of high correlation (0.882) between EVA and MVA followed by Corporation Bank (0.844), YES Bank (0.818), Axis Bank (0.693), Federal Bank (0.484) and KVB (0.446).

Majority of the stocks in banking sector score negative relationship between EVA and MVA. Based on the ranking, City Union Bank (0.135) followed by SBI (0.135), BOB (0.294), ICICI (0.303), South Indian bank (0.322), PNB (0.741), Canara Bank (0.761), Oriental Bank (0.782), IDBI (0.785), Union Bank (0.827), Bank Of Baroda (0.828), Dena Bank (0.932) and IOB (0.948).

**Figure 13 Correlations between EVA and MVA for Banking Sector**



### 4.4.2 Calculation of EVA, MVA and Correlation between them for IT Sector- Index and Non-Index Stocks

The below matrix, explain the economic value added, market value added and the inter-relationship between them.

**Matrix 5**

**Correlation between EVA and MVA for IT Sector**

| Value added | IT Sector | |
|---|---|---|
| | **Index** | **Non-Index** |
| **EVA** | HIGH | LOW |
| **MVA** | LOW | HIGH |

**Source: Computed Data**

### (a) Calculation of EVA for IT Sector- Index Stocks

Economic value of the IT- Index sector has been analyzed by using the variables of NOPAT, Invested Capital and Weighted Average Cost of Capital. The result of the analysis is portrayed in Table 38.

**Table 36**

**Economic Value Added for IT Sector- Index Stocks**

**(Values in crores)**

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KPIT | NOPAT | 216.31 | 317.13 | 454.22 | 352.02 | 476.18 | 524.75 | 628.39 | 803.11 | 1139.14 | 1130.85 | **604.21** | **324.09** | **53.64** |
| | INVESTED CAPITAL | 315.48 | 361.80 | 290.07 | 499.19 | 690.80 | 788.02 | 1177.10 | 1469.35 | 1508.17 | 1434.28 | **853.43** | **500.54** | **58.65** |
| | WACC | 51.61 | 54.81 | 38.38 | 82.12 | 119.23 | 132.07 | 190.81 | 216.14 | 182.19 | 197.07 | **126.44** | **67.35** | **53.26** |
| | EVA | 164.70 | 262.32 | 415.84 | 269.90 | 356.95 | 392.68 | 437.58 | 586.97 | 956.95 | 933.78 | **477.77** | **271.71** | **56.87** |
| INFOSYS | NOPAT | 11610.60 | 13702.63 | 17790.00 | 17531.00 | 20228.00 | 24851.00 | 30770.00 | 36570.00 | 38202.00 | 42718.00 | **25397.32** | **11011.46** | **43.36** |
| | INVESTED CAPITAL | 11162.00 | 13490.00 | 17809.00 | 22036.00 | 24526.00 | 29778.00 | 36179.00 | 42456.00 | 48098.00 | 57230.00 | **30276.40** | **15387.91** | **50.82** |
| | WACC | 1821.64 | 2121.98 | 2598.33 | 3228.27 | 3593.06 | 4380.34 | 5387.05 | 6219.80 | 7392.66 | 8521.55 | **4526.47** | **2289.52** | **50.58** |
| | EVA | 9788.96 | 11580.65 | 15191.67 | 14302.73 | 16634.94 | 20470.66 | 25382.95 | 30350.20 | 30809.34 | 34196.45 | **20870.85** | **8750.71** | **41.93** |
| HCL TECH | NOPAT | 2988.04 | 3602.04 | 3739.00 | 4482.75 | 5794.08 | 8150.30 | 10211.72 | 12993.81 | 13398.27 | 10309.68 | **7566.97** | **3976.43** | **52.55** |
| | INVESTED CAPITAL | 3465.91 | 3240.16 | 4001.97 | 6333.25 | 7082.08 | 8159.21 | 11467.22 | 17012.56 | 19928.09 | 21976.26 | **10266.67** | **7010.54** | **68.28** |
| | WACC | 567.37 | 503.52 | 646.72 | 1032.32 | 1148.71 | 1335.66 | 1902.41 | 2509.35 | 2835.77 | 3114.04 | **1559.59** | **971.52** | **62.29** |
| | EVA | 2420.67 | 3098.52 | 3092.28 | 3450.43 | 4645.37 | 6814.64 | 8309.31 | 10484.46 | 10562.50 | 7195.64 | **6007.38** | **3097.90** | **51.57** |
| WIPRO | NOPAT | 12309.00 | 15691.70 | 19203.50 | 19620.80 | 22773.20 | 26714.30 | 31200.60 | 31613.60 | 33481.20 | 35642.40 | **24825.03** | **8063.71** | **32.48** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | INVESTED CAPITAL | 9558.40 | 15433.10 | 17528.80 | 23222.40 | 26603.90 | 29934.20 | 30565.20 | 34290.70 | 41025.90 | 48163.60 | **27632.62** | **11819.14** | **42.77** |
| | WACC | 1660.29 | 2413.74 | 2569.72 | 3683.07 | 4251.30 | 4735.59 | 4875.15 | 5205.33 | 5665.68 | 6372.04 | **4143.19** | **1533.17** | **37.00** |
| | EVA | 10648.71 | 13277.96 | 16633.78 | 15937.73 | 18521.90 | 21978.71 | 26325.45 | 26408.27 | 27815.52 | 29270.36 | **20681.84** | **6582.94** | **31.83** |
| OFSS | NOPAT | 1427.58 | 1652.89 | 2050.67 | 2115.50 | 2243.22 | 2110.32 | 2436.11 | 2553.96 | 2747.12 | 2880.37 | **2221.77** | **456.30** | **20.54** |
| | INVESTED CAPITAL | 2398.48 | 2812.65 | 3509.42 | 4178.07 | 5195.48 | 6293.60 | 7352.79 | 8517.62 | 3066.07 | 3068.28 | **4639.25** | **2114.52** | **45.58** |
| | WACC | 414.46 | 420.49 | 543.61 | 672.25 | 832.84 | 1027.12 | 1235.27 | 1384.97 | 469.42 | 456.87 | **745.73** | **358.48** | **48.07** |
| | EVA | 1013.12 | 1232.40 | 1507.06 | 1443.25 | 1410.38 | 1083.20 | 1200.84 | 1168.99 | 2277.70 | 2423.50 | **1476.05** | **488.16** | **33.07** |
| MIND TREE | NOPAT | 556.24 | 686.65 | 959.10 | 1104.80 | 1427.70 | 1790.90 | 2179.50 | 2752.30 | 3125.90 | 3842.00 | **1842.51** | **1109.36** | **60.21** |
| | INVESTED CAPITAL | 461.84 | 625.74 | 669.73 | 649.10 | 801.60 | 1005.90 | 1344.80 | 1660.90 | 2047.40 | 2565.90 | **1183.29** | **704.75** | **59.56** |
| | WACC | 58.28 | 83.97 | 94.16 | 107.69 | 133.95 | 166.07 | 229.02 | 280.03 | 312.23 | 358.20 | **182.36** | **105.69** | **57.96** |
| | EVA | 497.96 | 602.68 | 864.94 | 997.11 | 1293.75 | 1624.83 | 1950.48 | 2472.27 | 2813.67 | 3483.80 | **1660.15** | **1004.24** | **60.49** |
| TCS | NOPAT | 12596.59 | 15579.24 | 19443.01 | 19608.82 | 24618.84 | 30774.41 | 31755.62 | 42024.18 | 47845.87 | 55878.22 | **30012.48** | **14512.98** | **48.36** |
| | INVESTED CAPITAL | 8109.73 | 11023.11 | 13487.34 | 15152.39 | 19826.72 | 25313.20 | 33255.58 | 45137.41 | 46538.35 | 59725.22 | **27756.90** | **17652.25** | **63.60** |
| | WACC | 1584.64 | 1818.81 | 2112.12 | 2347.11 | 3011.68 | 3784.32 | 4931.80 | 6233.48 | 5845.22 | 7608.99 | **3927.82** | **2112.01** | **53.77** |
| | EVA | 11011.95 | 13760.43 | 17330.89 | 17261.71 | 21607.16 | 26990.09 | 26823.82 | 35790.70 | 42000.65 | 48269.23 | **26084.66** | **12448.30** | **47.72** |
| TECH MAHINDRA | NOPAT | 2019.20 | 2745.70 | 3182.70 | 3112.50 | 3409.50 | 3666.20 | 4153.60 | 11668.00 | 11464.40 | 11643.20 | **5706.50** | **4099.44** | **71.84** |
| | INVESTED CAPITAL | 927.00 | 1323.40 | 1881.00 | 5001.60 | 5133.60 | 5171.30 | 5983.50 | 10824.10 | 12821.00 | 15359.10 | **6442.56** | **4971.46** | **77.17** |
| | WACC | 130.52 | 232.52 | 371.87 | 839.77 | 845.50 | 899.29 | 1083.61 | 1879.06 | 2169.31 | 2494.32 | **1094.58** | **822.59** | **75.15** |
| | EVA | 1888.68 | 2513.18 | 2810.83 | 2272.73 | 2564.00 | 2766.91 | 3069.99 | 9788.94 | 9295.09 | 9148.88 | **4611.92** | **3330.49** | **72.21** |
| INFO | NOPAT | 143.57 | 194.30 | 215.72 | 196.75 | 250.81 | 323.04 | 379.86 | 440.12 | 531.90 | 650.20 | **332.63** | **166.05** | **49.92** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EDGE | INVESTED CAPITAL | 213.61 | 266.87 | 324.23 | 382.62 | 463.67 | 575.08 | 666.38 | 768.41 | 1669.61 | 1770.47 | **710.09** | **560.60** | **78.95** |
| | WACC | 41.89 | 52.33 | 56.90 | 65.73 | 92.13 | 100.41 | 113.15 | 134.16 | 313.39 | 303.81 | **127.39** | **99.81** | **78.35** |
| | EVA | 101.68 | 141.97 | 158.82 | 131.02 | 158.68 | 222.63 | 266.71 | 305.96 | 218.51 | 346.39 | **205.24** | **80.89** | **39.41** |
| CYIENT | NOPAT | 315.90 | 401.06 | 529.37 | 521.52 | 635.09 | 792.34 | 981.65 | 1148.18 | 1223.32 | 1187.14 | **773.56** | **341.22** | **44.11** |
| | INVESTED CAPITAL | 288.56 | 663.68 | 708.57 | 803.83 | 940.71 | 1073.58 | 1200.51 | 1420.61 | 1627.87 | 1738.16 | **1046.61** | **457.78** | **43.74** |
| | WACC | 52.66 | 100.35 | 111.81 | 141.31 | 165.94 | 187.45 | 212.49 | 254.01 | 240.44 | 268.20 | **173.47** | **71.88** | **41.44** |
| | EVA | 263.24 | 300.71 | 417.56 | 380.21 | 469.15 | 604.89 | 769.16 | 894.17 | 982.88 | 918.94 | **600.09** | **271.87** | **45.30** |

**Source : Computed Data**

**Note:**

Bank wise – High EVA

Year wise – High EVA

Both bank and year wise – High EVA

Table 36 portrays that the results of EVA of IT Index sector. It can be observed that KPIT Ltd.. has shows increasing trend during the study period except 2009 –10 and 2015–16. The highest mean value of EVA is ₹ 956.95 crores in the year 2014 –2015 on the other hand; the lowest value is ₹ 164.70 crores during the year 2006 –2007. As far as EVA is concerned, it has positive mean value at ₹ 477.77 crores with the co-efficient of variation of 56.87 indicating that the company added value to the shareholders wealth by increasing a positive EVA and meeting its capital charge entirely. It is also revealed that the Infosys Ltd.. shows increasing trend of EVA with the highest value of ₹ 34196.45 crores in the year 2015 –2016 on the other hand, the lowest value is ₹ 9788.96 crores during the year 2006 –2007. The mean value of EVA has been ₹ 20870.85 crores with the co-efficient of variation of 41.93 indicating that, the company creates values for their shareholders by increasing the economic value of the company.

HCL Ltd.. maintained an increasing trend of EVA except 2015 –2016 with the value of 7195.64 crores during the study period. The mean value indicates ₹ 6007.38 crores with the co-efficient of variation are 51.57. The highest and lowest values show with the range of ₹ 10562.50 crores and ₹ 2420.67 crores during the study period 2014 –2015 and 2006 – 2007 respectively. The company concentrates on escalating the positive EVA to sustain shareholders wealth. It is revealed that Wipro has increasing trend except 2009 –2010 with the value of ₹ 15937.73 crores and also representing the high value of ₹ 29270.36 crores in the year 2015 – 2016 and the lowest value of ₹ 10648.71 crores in the year 2006 –2007 with the mean value of ₹ 20681.84 crores and co-efficient of variation shows the value of 31.83.

OFSS Ltd.. indicating the highest EVA of ₹ 2423.50 crores and the lowest EVA of ₹ 1013.12 crores during the year 2015 – 2016 and 2006 – 2007 respectively. The mean value of ₹ 1476.05 crores with the co-efficient of variation of 33.07 represent that, the bank should pay attention for maintain its

value added as well as share holder wealth. Mind Tree shows positive growing trend shows the highest economic value of ₹ 3483.80 crores and the lowest economic value was ₹ 497.96 crores during the year 2015 –2016 and 2006 –2007 respectively. The calculation shows the mean value of ₹1660.15 crores with the co-efficient of variation of 60.49.

It can be observed that TCS Ltd.. has shows the highest mean value of EVA is ₹ 48269.23 crores in the year 2015 –2016 on the other hand, the lowest value is ₹ 11011.95 crores during the year 2006 –2007. As far as EVA is concerned, it has positive mean value at ₹ 26084.66 crores with the co-efficient of variation of 47.72 indicating that the company added value to the shareholders wealth by raising a positive EVA and meeting its capital charge entirely. It is also revealed that the Tech Mahindra shows extremely increasing trend during 2012 –2013 to 2013–2014 with the value from ₹ 3069.99 crores to ₹ 9788.94 crores. After 2013–2014, there is a decreasing trend in the EVA. The highest value of EVA is ₹ 9788.94 crores in the year 2013–2014 on the other hand, the lowest value is ₹ 1888.68 crores during the year 2006 –2007. The mean value of EVA has been ₹ 4611.92 crores with the co-efficient of variation of 72.21 indicating that, the company creates value for their shareholders by increasing the EVA of the company.

Info Edge Ltd. shows the EVA with the highest value of ₹ 346.39 crores and the lowest value added of ₹ 101.68 crores during the year 2015 –2016 and 2006 –2007 respectively. The mean value of ₹ 205.24 crores with the co-efficient of variation of 39.41 represent that, the company highly concentrates to maintain its value added as well as shareholders wealth. Cyient Ltd. shows the highest EVA of ₹ 982.88 crores and the lowest EVA was ₹ 263.24 crores during the year 2014–2015 and 2006 –2007 respectively. The calculation shows the mean value of ₹ 600.09 crores with the co-efficient of variation of 45.30.

### (ii) Calculation of MVA for IT Sector- Index Stocks

Market value of the IT sector- Index stocks has been examined by using the variables of Market Capitalization and Net Worth of the select stocks. The result of the analysis is provided in Table 37.

**Table – 37: Market Value Added for IT Sector-Index Stocks**

**(Values in crores)**

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KPIT | Market Capitalization | 980.71 | 605.28 | 199.81 | 902.75 | 1476.32 | 1423.60 | 1851.84 | 3118.38 | 3702.16 | 2911.13 | **1717.20** | **1165.99** | **67.90** |
| | Net worth | 193.19 | 275.31 | 171.60 | 388.42 | 581.88 | 614.31 | 887.26 | 1044.93 | 1043.63 | 1186.18 | **638.67** | **380.89** | **59.64** |
| | MVA | 787.52 | 329.97 | 28.21 | 514.33 | 894.44 | 809.29 | 964.58 | 2073.45 | 2658.53 | 1724.95 | **1078.53** | **822.60** | **76.27** |
| INFY | Market Capitalization | 112641.20 | 81804.58 | 75847.09 | 150059.67 | 185834.77 | 164516.89 | 165949.63 | 187354.33 | 254570.38 | 279756.38 | **165833.49** | **66628.53** | **40.18** |
| | Net worth | 11162.00 | 13490.00 | 17809.00 | 22036.00 | 24501.00 | 29757.00 | 36059.00 | 42092.00 | 48068.00 | 57157.00 | **30213.10** | **15334.14** | **50.75** |
| | MVA | 101479.20 | 68314.58 | 58038.09 | 128023.67 | 161333.77 | 134759.89 | 129890.63 | 145262.33 | 206502.38 | 222599.38 | **135620.39** | **52862.22** | **38.98** |
| HCL | Market Capitalization | 22831.28 | 16705.39 | 12446.54 | 24769.41 | 33983.90 | 33014.95 | 54082.53 | 104754.97 | 129497.64 | 114826.20 | **54691.28** | **44416.62** | **81.21** |
| | Net worth | 3425.02 | 3214.83 | 3488.24 | 4935.86 | 5859.15 | 6606.58 | 10237.74 | 15753.26 | 19405.75 | 21508.91 | **9443.53** | **6967.88** | **73.78** |
| | MVA | 19406.26 | 13490.56 | 8958.30 | 19833.55 | 28124.75 | 26408.37 | 43844.79 | 89001.71 | 110091.89 | 93317.29 | **45247.75** | **37592.92** | **83.08** |
| WIPRO | Market Capitalization | 80740.20 | 62155.47 | 35949.87 | 103772.38 | 117393.95 | 107939.13 | 107663.48 | 133822.38 | 155006.52 | 139187.22 | **104363.06** | **36299.76** | **34.78** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Net worth | 9320.40 | 11556.70 | 12514.90 | 17692.20 | 21320.20 | 24352.50 | 24229.50 | 29355.90 | 34621.60 | 40905.20 | **22586.91** | **10310.20** | **45.65** |
| | MVA | 71419.80 | 50598.77 | 23434.97 | 86080.18 | 96073.75 | 83586.63 | 83433.98 | 104466.47 | 120384.91 | 98282.02 | **81776.15** | **27868.50** | **34.08** |
| OFSS | Market Capitalization | 17346.81 | 7901.29 | 6211.22 | 19287.39 | 16646.60 | 22004.44 | 21472.71 | 25969.40 | 27564.14 | 29935.99 | **19434.00** | **7816.35** | **40.22** |
| | Net worth | 2398.48 | 2812.65 | 3509.42 | 4178.07 | 5150.34 | 6247.04 | 7292.34 | 8455.26 | 2990.74 | 2989.33 | **4602.37** | **2100.79** | **45.65** |
| | MVA | 14948.33 | 5088.64 | 2701.80 | 15109.32 | 11496.26 | 15757.40 | 14180.37 | 17514.14 | 24573.40 | 26946.66 | **14831.63** | **7479.06** | **50.43** |
| MIND TREE | Market Capitalization | 3096.93 | 1265.72 | 804.63 | 2326.55 | 1574.36 | 1975.35 | 3797.02 | 5497.42 | 10921.63 | 10940.50 | **4220.01** | **3788.35** | **89.77** |
| | Net worth | 435.46 | 534.02 | 530.36 | 646.00 | 776.40 | 957.60 | 1313.70 | 1640.90 | 2011.20 | 2416.40 | **1126.20** | **692.19** | **61.46** |
| | MVA | 2661.47 | 731.70 | 274.27 | 1680.55 | 797.96 | 1017.75 | 2483.32 | 3856.52 | 8910.43 | 8524.10 | **3093.81** | **3154.72** | **101.97** |
| TCS | Market Capitalization | 120485.23 | 79354.67 | 52844.40 | 152818.17 | 231438.91 | 228571.61 | 307632.69 | 416860.31 | 498890.69 | 495769.53 | **258466.62** | **165934.57** | **64.20** |
| | Net worth | 8058.99 | 10904.86 | 13346.30 | 15016.65 | 19479.52 | 24756.63 | 32462.25 | 44051.88 | 45416.44 | 58866.86 | **27236.04** | **17269.55** | **63.41** |
| | MVA | 112426.24 | 68449.81 | 39498.10 | 137801.52 | 211959.39 | 203814.98 | 275170.44 | 372808.43 | 453474.25 | 436902.67 | **231230.58** | **149403.86** | **64.61** |
| TECH MAHINDRA | Market Capitalization | 17289.01 | 8578.33 | 3227.67 | 10440.01 | 8512.33 | 9174.82 | 13569.83 | 41897.88 | 60476.86 | 46014.53 | **21918.13** | **19885.40** | **90.73** |
| | Net worth | 878.00 | 1228.40 | 1881.00 | 2866.70 | 3384.00 | 3443.20 | 4182.80 | 8590.10 | 11256.10 | 13553.60 | **5126.39** | **4425.05** | **86.32** |
| | MVA | 16411.01 | 7349.93 | 1346.67 | 7573.31 | 5128.33 | 5731.62 | 9387.03 | 33307.78 | 49220.76 | 32460.93 | **16791.74** | **15972.05** | **95.12** |
| INFO EDGE | Market Capitalization | 1852.99 | 2343.02 | 1170.62 | 2375.10 | 3643.88 | 3967.87 | 3923.38 | 6756.60 | 10078.92 | 9303.29 | **4541.57** | **3124.79** | **68.80** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Net worth** | 213.23 | 266.43 | 323.93 | 382.05 | 462.99 | 574.42 | 665.43 | 762.16 | 1662.41 | 1764.02 | **707.71** | **558.00** | **78.85** |
| | **MVA** | 1639.76 | 2076.59 | 846.69 | 1993.05 | 3180.89 | 3393.45 | 3257.95 | 5994.44 | 8416.51 | 7539.27 | **3833.86** | **2594.11** | **67.66** |
| **CYIENT** | **Market Capitalization** | 1670.50 | 1411.67 | 469.65 | 2025.75 | 1789.06 | 1664.61 | 1888.27 | 3661.09 | 5658.50 | 4785.04 | **2502.42** | **1644.62** | **65.72** |
| | **Net worth** | 273.39 | 527.57 | 689.90 | 803.83 | 907.95 | 1034.94 | 1167.02 | 1385.95 | 1580.61 | 1683.14 | **1005.43** | **456.54** | **45.41** |
| | **MVA** | 1397.11 | 884.10 | -220.25 | 1221.92 | 881.11 | 629.67 | 721.25 | 2275.14 | 4077.89 | 3101.90 | **1496.99** | **1290.39** | **86.20** |

**Source: Computed Data**

**Note:**

Bank wise – High MVA

Year wise – High MVA

Both bank and year wise – High MVA

KPIT Ltd. has been the highest mean value of MVA is ₹ 2658.53 crores in the year 2014 –2015 on the other hand, the lowest value prove the positive trend of ₹ 28.21 crores during the year 2008 –2009. As far as MVA is concerned, it has been positive mean value at ₹ 1078.53 crores with the co-efficient of variation of 76.27 indicating that KPIT Ltd. highly concentrates on generating a positive expansion by increasing the net worth of the company which helps to protract its shareholders wealth. It is also revealed that the Infoysis Ltd. have the mean value of EVA is ₹135620.39 crores with the co-efficient of variation of 38.98.

The company scored highest market values of ₹ 222599.38 crores in the year 2015–2016 and lowest value arises with the value of ₹ 58038.09 crores in the year 2007 –2008. Result on MVA clearly explains that the bank successful maintaining its shareholders wealth.

HCL Ltd. shows a positive trend of MVA during the study period with the high and low value of ₹ 43844.79 crores and ₹ 8958.30 crores during the year 2012–2013 and 2008 –2009. The mean of market value shows positive value and stood at ₹ 45247.75 crores along with co-efficient variation of 83.08. It is also observed that WIPRO Ltd.. also having strong positive growth trend during the study period with the range of ₹ 23434.97 crores to ₹ 120384.91 crores during the year 2008–09 and 2014 –2015 respectively. The mean value shows a positive trend of ₹ 81776.15 crores. Co-efficient of variation shows value such as 34.08. The result indicates that the company concentrates to maintain shareholders wealth by way of maintaining internal value added.

OFSS Ltd. shows the mean value of market value added with the range of ₹ 14831.63 crores with the variance of 50.43. It is also noticed that, the highest value of ₹ 14948.33 crores and the lowest value of ₹ 2701.80 crores during the year 2006–2007 to 2008–2009. It is also observed from the table Mind Tree Ltd.. keep up MVA with the highest value of ₹ 8910.43 crores and the lowest value indicating the value of ₹ 274.27 crores with the year of 2014 –2015 and

2008 –2009 respectively. The mean of market value added is ₹ 3093.81 crore with the variation of 101.97 during the study period. The positive market value added reported that the company has more net worth covered by its cost of capital by the way of keeping hold on their shareholders.

TCS Ltd. maintains up trend of market value added during the study period with the positive market value. The mean value indicates ₹ 231230.58 crores with the variation of 64.61. The highest value shows with the range of ₹453474.25 crores during the study period 2014 –2015 and the lowest value of 39498.10 in the year 2008–2009. It is revealed from Tech Mahindra Ltd., indicating the highest and lowest value range between ₹ 49220.76 crores to ₹1346.67 crores in the year of 2014 –2015 and 2008 –2009 respectively. The mean value of market value added shows ₹ 16791.74 crores and also positive trend in co-efficient of variation shows the value of 95.12.

Info edge Ltd. indicating the highest MVA of ₹ 8416.51 crores in the year 2014 –2015 and the lowest value of ₹ 846.69 crores during the year 2008 –2009. The mean value of ₹ 3833.86 crores with the co-efficient of variation of 67.66 represent that, the company maintain its value added to retain its share holders. Cyient Ltd. shows positive trend of all the period except 2008 –2009 with the negative value of 220.25 in the year 2008 –2009. The highest market value added with the value of ₹4077.89 crores. The mean EVA shows negative trend of ₹1496.99 crores with the co-efficient of variation of negative value of 86.20.

### (iii) Calculation of EVA for IT Sector – Non-Index Stocks

Economic value of the Banking- Non-Index sector has been analyzed by using the variables of NOPAT, Invested Capital and Weighted Average Cost of Capital. The result of the analysis is revealed in Table 38.

**Table 38**

**Economic Value Added for IT Sector- Non-Index stocks**

**(Values in crores)**

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ABB | NOPAT | 6104.55 | 7026.99 | 6286.88 | 6537.35 | 7621.22 | 7452.64 | 7556.96 | 7984.98 | 8408.79 | 8006.15 | **7298.65** | **781.84** | **10.71** |
| | I C | 1612.37 | 2104.69 | 2409.73 | 2423.70 | 2534.52 | 2925.73 | 3297.67 | 3183.05 | 3608.55 | 3882.82 | **2798.28** | **706.69** | **25.25** |
| | WACC | 284.42 | 381.37 | 427.97 | 431.90 | 439.49 | 514.34 | 595.89 | 623.56 | 734.70 | 809.57 | **524.32** | **164.55** | **31.38** |
| | EVA | 5820.13 | 6645.62 | 5858.91 | 6105.45 | 7181.73 | 6938.30 | 6961.07 | 7361.42 | 7674.09 | 7196.58 | **6774.33** | **647.45** | **9.56** |
| 3i-INFO TECH | NOPAT | 239.45 | 359.76 | 417.76 | 403.21 | 548.20 | 448.07 | 352.40 | 319.66 | 373.23 | 287.75 | **374.95** | **86.77** | **23.14** |
| | INVESTED CAPITAL | 1007.66 | 1907.09 | 2377.08 | 2626.93 | 3066.29 | 3318.52 | 4169.85 | 4123.94 | 3198.01 | 1456.02 | **2725.14** | **1059.16** | **38.87** |
| | WACC | 149.23 | 233.24 | 249.83 | 442.38 | 407.51 | 501.76 | 634.65 | 637.15 | 484.50 | 229.76 | **397.00** | **174.10** | **43.85** |
| | EVA | 90.22 | 126.52 | 167.93 | -39.17 | 140.69 | -53.69 | -282.25 | -317.49 | -111.27 | 57.99 | **-22.05** | **172.53** | **-782.40** |
| RAMCO | NOPAT | 76.39 | 93.71 | 90.38 | 98.78 | 138.59 | 138.80 | 156.17 | 150.14 | 206.57 | 235.33 | **138.49** | **51.87** | **37.45** |
| | INVESTED CAPITAL | 305.40 | 296.25 | 273.47 | 296.63 | 334.57 | 376.92 | 450.06 | 503.46 | 567.65 | 624.25 | **402.87** | **125.94** | **31.26** |
| | WACC | 45.93 | 43.87 | 38.97 | 47.46 | 54.27 | 64.98 | 74.03 | 87.00 | 88.61 | 104.12 | **64.93** | **22.52** | **34.68** |
| | EVA | 30.46 | 49.84 | 51.41 | 51.32 | 84.32 | 73.82 | 82.14 | 63.14 | 117.96 | 131.21 | **73.56** | **31.62** | **42.98** |
| MPHASIS | NOPAT | 770.27 | 1227.41 | 985.04 | 2400.84 | 2749.17 | 2678.89 | 2492.43 | 2452.04 | 1047.73 | 2418.66 | **2359.59** | **802.12** | **33.99** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | INVESTED CAPITAL | 830.54 | 981.33 | 1184.39 | 2151.29 | 2909.42 | 3675.36 | 3916.09 | 3747.96 | 3864.95 | 4230.65 | **2749.20** | **1345.57** | **48.94** |
| | WACC | 142.02 | 158.58 | 202.06 | 367.87 | 483.55 | 634.73 | 674.35 | 663.39 | 590.95 | 662.94 | **458.04** | **222.03** | **48.47** |
| | EVA | 628.25 | 1068.83 | 782.98 | 2032.97 | 2265.62 | 2044.16 | 1818.08 | 1788.65 | 456.78 | 1755.72 | **1464.20** | **662.63** | **45.26** |
| NIIT | NOPAT | 279.46 | 312.19 | 343.22 | 351.95 | 503.28 | 543.62 | 616.73 | 500.98 | 337.02 | 370.46 | **415.89** | **114.77** | **27.60** |
| | INVESTED CAPITAL | 442.79 | 444.56 | 583.41 | 644.59 | 674.15 | 611.69 | 623.91 | 554.60 | 936.76 | 990.65 | **650.71** | **182.48** | **28.04** |
| | WACC | 68.68 | 62.64 | 75.38 | 107.45 | 114.34 | 120.14 | 109.93 | 105.10 | 227.91 | 268.96 | **126.05** | **68.23** | **54.13** |
| | EVA | 210.78 | 249.55 | 267.84 | 244.50 | 388.94 | 423.48 | 506.80 | 395.88 | 109.11 | 101.50 | **289.84** | **135.22** | **46.65** |
| APTECH | NOPAT | 64.44 | 77.57 | 0 | 82.83 | 66.96 | 61.85 | 65.45 | 98.00 | 95.99 | 87.04 | **70.01** | **27.89** | **39.83** |
| | INVESTED CAPITAL | 146.55 | 182.84 | 0 | 251.01 | 269.42 | 269.03 | 270.36 | 212.49 | 212.03 | 217.35 | **203.11** | **82.19** | **40.47** |
| | WACC | 29.12 | 37.35 | 0.00 | 58.98 | 59.51 | 60.94 | 47.90 | 48.17 | 44.45 | 43.93 | **43.03** | **18.19** | **42.26** |
| | EVA | 35.32 | 40.22 | 0.00 | 7.98 | 2.34 | 4.51 | 50.10 | 47.82 | 42.59 | 26.09 | **25.70** | **20.12** | **78.29** |
| TATA | NOPAT | 261.08 | 362.72 | 372.89 | 328.98 | 363.50 | 438.46 | 511.11 | 694.44 | 736.62 | 937.16 | **500.70** | **218.27** | **43.59** |
| | INVESTED CAPITAL | 92.56 | 174.29 | 164.64 | 207.95 | 212.75 | 230.12 | 255.20 | 239.93 | 294.11 | 403.93 | **227.55** | **83.06** | **36.50** |
| | WACC | 15.61 | 26.40 | 24.94 | 34.94 | 37.53 | 39.72 | 44.38 | 46.91 | 55.03 | 74.12 | **39.96** | **16.65** | **41.67** |
| | EVA | 245.47 | 336.32 | 347.95 | 294.04 | 325.97 | 398.74 | 466.73 | 647.53 | 681.59 | 863.04 | **460.74** | **202.73** | **44.00** |
| SAKSOFT | NOPAT | 33.66 | 43.46 | 41.61 | 40.18 | 39.97 | 38.62 | 40.18 | 40.59 | 42.83 | 45.60 | **40.67** | **3.20** | **7.86** |
| | INVESTED CAPITAL | 68.77 | 80.79 | 77.26 | 81.81 | 83.38 | 85.37 | 80.26 | 79.00 | 88.42 | 94.57 | **81.96** | **6.86** | **8.37** |
| | WACC | 10.85 | 11.51 | 10.03 | 11.10 | 11.26 | 11.06 | 10.09 | 8.93 | 9.85 | 14.63 | **10.93** | **1.52** | **13.93** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **EVA** | 22.81 | 31.95 | 31.58 | 29.08 | 28.71 | 27.56 | 30.09 | 31.66 | 32.98 | 30.97 | **29.74** | **2.95** | **9.92** |
| **ROLTA** | **NOPAT** | 401.12 | 598.42 | 822.79 | 909.21 | 1058.2 | 1212.77 | 1276.43 | 1200.2 | 1754.4 | 1783.88 | **1101.74** | **447.81** | **40.65** |
| | **INVESTED CAPITAL** | 1758.15 | 1997.8 | 2591.54 | 3101.05 | 3102.19 | 4509.12 | 3672.3 | 4442.4 | 3550.92 | 3773.99 | **3249.95** | **932.25** | **28.69** |
| | **WACC** | 351.45 | 349.42 | 402.98 | 480.66 | 480.84 | 530.27 | 560.76 | 524.65 | 637.75 | 654.03 | **497.28** | **106.84** | **21.49** |
| | **EVA** | 49.67 | 249.00 | 419.81 | 428.55 | 577.36 | 682.50 | 715.67 | 675.55 | 1116.65 | 1129.85 | **604.46** | **343.48** | **56.82** |
| **POLARIS** | **NOPAT** | 883.73 | 917.66 | 1108.57 | 1080.24 | 1248.15 | 1589.27 | 1785.74 | 1946.28 | 1599.94 | 1719.89 | **1387.95** | **384.90** | **27.73** |
| | **INVESTED CAPITAL** | 571.14 | 602.13 | 694.38 | 780.08 | 928.50 | 1143.31 | 1204.16 | 1179.65 | 593.29 | 653.96 | **835.06** | **257.49** | **30.83** |
| | **WACC** | 112.29 | 115.19 | 137.76 | 156.72 | 182.08 | 216.31 | 234.69 | 229.91 | 103.23 | 113.40 | **160.16** | **51.97** | **32.45** |
| | **EVA** | 771.44 | 802.47 | 970.81 | 923.52 | 1066.07 | 1372.96 | 1551.05 | 1716.37 | 1496.71 | 1606.49 | **1227.79** | **358.07** | **29.16** |

**Source: Computed Data**

**Note**

Bank wise – High EVA

Year wise – High EVA

Both bank and year wise – High EVA

:

Table 38 represents the results of EVA of IT Non- Index sectors. It can be observed that, ABB Ltd. has shown increasing trend during the study period except 2008–09 (5858.91) and 2015 –16 (7196.58). The highest mean value of EVA is ₹ 7674.09 crores in the year 2014 –2015 on the other hand the lowest value is ₹ 5820.13 crores during the year 2006 –2007. As far as EVA is concerned, it has positive mean value at ₹ 6774.33 crores with the co-efficient of variation of 9.56 indicating that, the company added value to the shareholder's wealth by increasing a positive EVA and meeting its capital charge entirely. It is also revealed that 3i–Info Tech Ltd.. shows negative values of EVA on 2009 –2010 (39.17), 2011 – 2012 (53.69), 2012 – 2013 (282.25), 2013 – 2014 (317.49) and 2014 – 2015 (111.27) with the highest value of ₹ 167.93 crores in the year 2015 – 2016 on the other hand, the lowest value is ₹ 57.99 crores during the year 2006 – 2007. The mean value of EVA has been ₹ 22.05 crores with the co-efficient of variation of 782.40 indicating that the company creates values for their shareholders by increasing the EVA of the company.

Ramco system Ltd. maintained an increasing trend of EVA except 2011 –2012 (₹ 73.82 crores) and 2013–2014 (₹ 63.14 crores) during the study period. The mean value indicates ₹ 73.56 crores with the co-efficient of variation are 42.98. The highest and lowest values show with the range of ₹ 131.21 crores and ₹ 30.46 crores during the study period 2015 –2016 and 2006 – 2007 respectively. The company put concentrate on escalating the positive EVA to sustain shareholders wealth. It is revealed that Mphasis Ltd. shows a fluctuating trend with the mean value of ₹ 1464.20 crores and also representing the high value of ₹ 2265.62 crores in the year 2010 – 2011 and the lowest value of ₹ 456.78 crores in the year 2014–2015 and co-efficient of variation shows the value 31.83.

NIIT Ltd. indicates the highest EVA of ₹ 506.80 crores and the lowest value added of ₹ 101.50 crores during the year 2012 – 2013 and 2015 – 2016 respectively. The mean value of ₹ 289.84 crores with the co-efficient of variation of 46.65 represent that the bank should pay attention to

maintain its value added as well as shareholders wealth. Aptech Ltd. shows the highest EVA of ₹ 47.82 crores and the lowest EVA was during the year 2008–2009. The calculation shows the mean value of ₹ 25.70 crores with the co-efficient of variation of 78.29.

It can be observed that, Tata Ltd. has shown an increasing trend except 2009 –2010 (294.04) with the highest mean value of EVA is ₹ 863.04 crores in the year 2015 –2016 on the other hand, the lowest value is ₹ 245.47 crores during the year 2006–2007. As far as EVA is concerned, it has been positive mean value at ₹ 460.74 crores with the co-efficient of variation of 44.00 indicating that the company added value to the shareholders wealth by raising a positive EVA and meeting its capital charge entirely. It is also revealed that the Saksoft Ltd. shows fluctuating trend with the high value of ₹32.98 crores to ₹ 22.81 crores. The mean value of EVA has been ₹ 29.74 crores with the co-efficient of variation of 9.92 indicating that the company creates values for their shareholders by increasing the EVA of the company.

Rolta Ltd. shows the EVA with the highest value of ₹ 1129.85 crores and the lowest value added of ₹ 49.67 crores during the year 2015 – 2016 and 2006 – 2007 respectively. The mean value of EVA is ₹ 604.46 crores with the co-efficient of variation of 56.82 represent that the company highly concentrate to maintain its value added as well as shareholders wealth. Polaris Ltd. shows the highest EVA of ₹ 1606.49 crores and the lowest EVA was ₹ 771.44 crores during the year 2014 –2015 and 2006–2007 respectively. The calculation shows the mean value of ₹ 1227.79 crores with the co-efficient of variation of 29.16.

### (iv) Calculation of MVA for IT Sector- Non-Index Stocks

Market value of the IT sector- Non-Index stocks has been analyzed by using the variables of Market Capitalization and Net Worth of the select stocks. The result of the analysis is representing in Table 39.

**Table 39**

**Market Value Added for IT Sector- Non-Index Stocks**

**(Values in crores)**

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ABB | Market Capitalization | 15729.34 | 32046.70 | 9608.61 | 16258.03 | 16787.78 | 12366.48 | 14841.48 | 14680.43 | 27254.58 | 0.00 | **15957.34** | **8806.82** | **55.19** |
| | Net worth | 1611.81 | 2104.67 | 2409.73 | 2423.70 | 2534.52 | 2598.05 | 2677.56 | 2811.98 | 3008.55 | 0.00 | **2218.06** | **870.03** | **39.22** |
| | MVA | 14117.53 | 29942.03 | 7198.88 | 13834.33 | 14253.26 | 9768.43 | 12163.92 | 11868.45 | 24246.03 | 0.00 | **13739.29** | **8344.20** | **60.73** |
| 3i info | Market Capitalization | 1358.04 | 1268.75 | 424.94 | 1324.77 | 840.92 | 297.58 | 320.07 | 444.94 | 353.19 | 266.57 | **689.98** | **461.98** | **66.96** |
| | Net worth | 361.65 | 544.98 | 646.65 | 795.10 | 968.24 | 909.04 | 968.66 | 532.3 | -441.86 | 163.36 | **544.81** | **436.83** | **80.18** |
| | MVA | 996.39 | 723.77 | -221.71 | 529.67 | -127.32 | -611.46 | -648.59 | -87.36 | 795.05 | 103.21 | **145.17** | **586.59** | **404.08** |
| RAMCO | Market Capitalization | 196.02 | 191.64 | 67.39 | 143.06 | 170.65 | 157.99 | 183.13 | 315.15 | 1570.99 | 2135.19 | **513.12** | **721.20** | **140.55** |
| | Net worth | 143.37 | 166.32 | 164.76 | 163.66 | 169.21 | 166.38 | 149.90 | 131.97 | 264.71 | 618.43 | **213.87** | **146.62** | **68.55** |
| | MVA | 52.65 | 25.32 | -97.37 | -20.60 | 1.44 | -8.39 | 33.23 | 183.18 | 1306.28 | 1516.76 | **299.25** | **592.50** | **197.99** |
| MPHASIS | Market Capitalization | 4610.55 | 4176.49 | 3190.82 | 14189.24 | 12807.83 | 7210.65 | 8121.91 | 8937.25 | 8493.23 | 8032.63 | **7977.06** | **3534.17** | **44.30** |
| | Net worth | 785.13 | 976.59 | 1169.28 | 2024.78 | 2908.56 | 3407.95 | 3632.12 | 3716.75 | 3854.77 | 4049.51 | **2652.54** | **1291.66** | **48.69** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MVA | 3825.42 | 3199.90 | 2021.54 | 12164.46 | 9899.27 | 3802.70 | 4489.79 | 5220.50 | 4638.46 | 3983.12 | **5324.52** | **3174.16** | **59.61** |
| NIIT | Market Capitalization | 1376.88 | 1614.06 | 334.13 | 951.80 | 960.06 | 894.02 | 340.93 | 444.25 | 594.61 | 1303.32 | **881.41** | **451.73** | **51.25** |
| | Net worth | 308.78 | 363.28 | 384.73 | 394.00 | 416.31 | 483.34 | 452.43 | 419.57 | 811.62 | 811.71 | **484.58** | **178.79** | **36.90** |
| | MVA | 1068.10 | 1250.78 | -50.61 | 557.80 | 543.75 | 410.68 | -111.50 | 24.68 | -217.01 | 491.61 | **396.83** | **495.58** | **124.88** |
| APTECH | Market Capitalization | 1861.34 | 447.56 | 0 | 779.71 | 479.55 | 378.12 | 206.38 | 299.97 | 230.56 | 230.36 | **491.36** | **523.91** | **106.62** |
| | Net worth | 129.34 | 163.9 | 0 | 227.21 | 265.38 | 265.09 | 267.63 | 210.81 | 210.36 | 215.95 | **195.57** | **81.92** | **41.89** |
| | MVA | 1732.00 | 283.66 | 0.00 | 552.50 | 214.17 | 113.03 | -61.25 | 89.16 | 20.20 | 14.41 | **295.79** | **535.58** | **181.07** |
| TATA | Market Capitalization | 897.61 | 491.08 | 256.13 | 996.17 | 791.27 | 610.03 | 595.24 | 1695.26 | 3606.48 | 5856.03 | **1579.53** | **1785.18** | **113.02** |
| | Net worth | 92.56 | 118.96 | 151.57 | 173.98 | 180.46 | 189.07 | 191.85 | 234.82 | 283.35 | 385.69 | **200.23** | **84.55** | **42.23** |
| | MVA | 805.05 | 372.12 | 104.56 | 822.19 | 610.81 | 420.96 | 403.39 | 1460.44 | 3323.13 | 5470.34 | **1379.30** | **1708.23** | **123.85** |
| SAKSOFT | Market Capitalization | 160.15 | 80.71 | 30.07 | 49.18 | 47.05 | 61.94 | 35.65 | 68.06 | 144.94 | 235.03 | **91.28** | **66.97** | **73.37** |
| | Net worth | 38.55 | 43.40 | 46.85 | 47.32 | 47.67 | 50.08 | 50.52 | 53.77 | 56.86 | 64.41 | **49.94** | **7.20** | **14.41** |
| | MVA | 121.60 | 37.31 | -16.78 | 1.86 | -0.62 | 11.86 | -14.87 | 14.29 | 88.08 | 170.62 | **41.33** | **63.96** | **154.73** |
| ROLTA | Market Capitalization | 3750.93 | 4061.71 | 2082.63 | 2705.66 | 2079.53 | 1295.79 | 1025.89 | 1186.25 | 2661.65 | 1237.01 | **2208.71** | **1081.09** | **48.95** |
| | Net worth | 1147.05 | 1304.01 | 1626.93 | 1904.34 | 2303.55 | 2366.97 | 1487.73 | 1983.49 | 2707.43 | 2856.29 | **1968.78** | **584.40** | **29.68** |
| | MVA | 2603.88 | 2757.70 | 455.70 | 801.32 | -224.02 | -1071.18 | -461.84 | -797.24 | -45.78 | -1619.28 | **239.93** | **1465.53** | **610.82** |
| POLARIS | Market Capitalization | 1774.44 | 774.97 | 442.98 | 1627.40 | 1873.01 | 1629.82 | 1108.43 | 1913.36 | 1649.59 | 1927.66 | **1472.17** | **517.71** | **35.17** |

| Companies | Variables | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | MEAN | SD | CV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Net worth** | 569.85 | 601.31 | 694.02 | 780.08 | 917.11 | 1028.95 | 1087.64 | 1175.61 | 593.29 | 653.96 | **810.18** | **225.35** | **27.81** |
| | **MVA** | 1204.59 | 173.66 | -251.04 | 847.32 | 955.90 | 600.87 | 20.79 | 737.75 | 1056.30 | 1273.70 | **661.98** | **520.42** | **78.61** |

**Source: Computed Data**

**Note:**

Bank wise – High MVA

Year wise – High MVA

Both bank and year wise – High MVA

ABB Ltd. has the highest mean value of MVA ₹ 24246.03 crores in the year 2014 –2015 on the other hand, the lowest value prove the positive trend of ₹ 7198.88 crores during the year 2008 – 2009. As far as MVA is concerned, it has positive mean value at ₹ 13739.29 crores with the co-efficient of variation of 60.73 indicating that ABB Ltd. highly concentrates on generating a positive expansion by increasing the net worth of the company which helps to protect its shareholders wealth. It is also revealed that the 3i-Info Tech Ltd. have the mean value of EVA is ₹ 145.17 crores with the co-efficient of variation of 404.08. The company scored both positive and negative trend during the study period. Positive trend arise from 2006 – 2008 with the range between ₹ 996.39 crores to ₹ 723.77 crores, in the year 2009 –2010 (529.67 Crores) and 2014 –2015 (795.05) and the negative trend with the range between of ₹ 221.71 crores to 87.36 (2008 to 2014). There is also a negative value in 2015–2016 (103.21). The trend in market value clearly explains that the company is successful to take care for its shareholders wealth.

Ramco Ltd. shows a positive trend of MVA during the study period except from 2008 – 2012 with the negative ranges between ₹ 97.37 crores to ₹ 8.39 crores. The highest MVA ₹ 1516.76 crores during the year 2015 – 2016. The mean of market value shows positive value stood at ₹ 299.25 crores along with co-efficient variation of 197.99. It is also observed that Mphasis Ltd.. also having strong positive growth trend during the study period with the range of ₹ 2021.54 crores to ₹ 12164.46 crores during the year study period. The mean value shows a positive trend of ₹ 3174.16 crores. Co-efficient of variation shows value such as 59.61. The result indicates that the company concentrates to maintain shareholders wealth by way of maintaining internal value added.

NIIT Ltd. shows the highest value of ₹ 1250.78 crores and the lowest value indicating the negative value of ₹ 217.01 crores with the year of 2007 – 2008 and 2014 –2015 respectively. The mean of market value added was ₹ 396.83 crore with the variation of 124.88 during the study period. Aptech Ltd.. shows all positive values except in the year 2012 - 2013 with the negative value

of ₹ 61.25 crores. It is reveled from the table that highest MVA of ₹ 1732.00 crores and the lowest value indicating the negative value of ₹ 61.25 crores in the year of 2006 – 2007and 2012 – 2013 respectively. The mean of MVA is ₹ 295.79 crores with the variation of 181.07 during the study period.

Tata Ltd. mean value indicates ₹ 1379.30 crores with the variation of 123.85. The highest values show with the range of ₹ 5470.34 crores during the study period 2015 – 2016 and the lowest value of ₹ 403.39 crores in the year 2012 – 2013. It is revealed from Saksoft Ltd. indicates the highest and lowest value range between ₹ 170.62 crores to negative of ₹ 16.78 crores in the year of 2015 – 2016 and 2008 – 2009 respectively. The mean value of MVA shows ₹ 41.33 crores and also positive trend in co-efficient of variation shows the value of 154.73.

Rolta Ltd. indicating the highest MVA of ₹ 2757.70 crores in the year 2007 – 2008 and the lowest value indicates the negative trend of ₹ 1619.28 crores during the year 2015 – 2016. The mean value of ₹ 239.93 crores with the negative co-efficient of variation of 610.82 represents that the company makes proper decision to maintain its value added to retain its shareholders. Polaris Ltd. shows the highest MVA with the value of ₹ 1273.70 crores and the lowest value in negative trend of 251.04 during the year 2015 to 2016 and 2008 to 2009. The mean EVA shows positive trend of ₹ 661.98 crores with the co-efficient of variation of negative value of 78.61.

### (iii) Correlation Between EVA and MVA in IT Stocks

**Table 40**

**Relationship between EVA and MVA for IT Sector: Results of Correlation Analysis**

| IT Companies | EVA | MVA | Correlation | Rank |
|---|---|---|---|---|
| TCS Ltd.. | 26084.66 | 231230.58 | 0.948 | 1 |
| Tech Mahindra Ltd.. | 4611.92 | 16791.74 | 0.907 | 2 |
| Tata-Elxsi Ltd. | 460.74 | 1379.30 | 0.877 | 3 |
| HCL Tech Ltd. | 6007.38 | 45247.75 | 0.867 | 4 |
| Ramco Sys Ltd. | 73.56 | 299.25 | 0.851 | 5 |
| Mind Tree | 1660.15 | 3093.81 | 0.847 | 6 |
| KPIT Ltd. | 477.77 | 1078.53 | 0.818 | 7 |
| Infosys Ltd. | 20870.85 | 135620.39 | 0.796 | 8 |
| Info Edge Ltd. | 205.24 | 3833.86 | 0.743 | 9 |
| Cyient Ltd. | 600.09 | 1496.99 | 0.717 | 10 |
| Wipro Ltd. | 20681.84 | 81776.15 | 0.653 | 11 |
| OFSS Ltd. | 1476.05 | 14831.63 | 0.622 | 12 |
| Mphasis Ltd. | 1464.20 | 5324.52 | 0.580 | 13 |
| 3i-Info Tech Ltd. | -22.05 | 134.84 | 0.328 | 14 |
| ABB Ltd. | 6774.33 | 15557.39 | 0.324 | 15 |
| Aptech Ltd. | 25.70 | 295.79 | 0.046 | 16 |
| Polaris Ltd. | 1227.79 | 661.98 | 0.149 | 17 |
| Sak Soft Ltd. | 29.74 | 41.33 | -0.176 | 18 |
| NIIT Ltd. | 289.84 | 396.83 | -0.208 | 19 |
| Rolta Ltd. | 604.46 | 239.93 | -0.819 | 20 |

**Source: Computed Data**

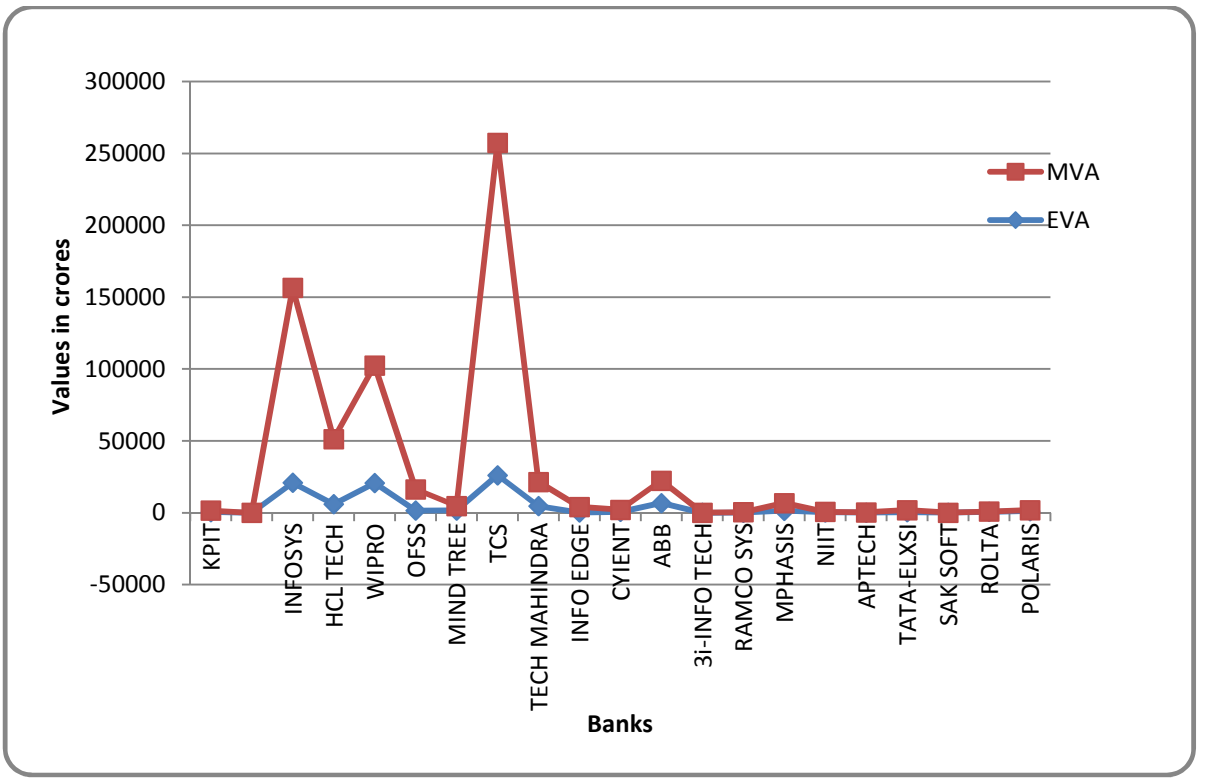
Table 40 shows the relationship between EVA and MVA of the select stocks of IT sector. The result describes the positive and negative relationship between EVA and MVA of select stocks. In IT sector most of the companies acquired positive correlation between the values added of the companies.

The following company shows positive correlation between economic value added and market value added. TCS bank has high correlation (0.948) between EVA and MVA which indicates that the TCS Ltd. takes proper steps to maintain the shareholders wealth. It is also revealed from the result of performance of stocks that TCS Ltd. scores high yield of return to the shareholders. Tech Mahindra Ltd. at the second stage of high correlation (0.907) between EVA and MVA followed by Tata Elxsi Ltd. (0.877), HCL Tech Ltd. (0.867), Ramco System Ltd. (0.851), Mind Tree Ltd. (0.847), KPIT Ltd. (0.818), Infosys Ltd. (0.796), Info Edge Ltd. (0.743), Cyient Ltd. (0.717), Wipro Ltd. (0.653), OFSS Ltd. (0.622), Mphasis Ltd. (0.580), 3i-Infotech Ltd. (0.328), ABB Ltd. (0.324), Aptech Ltd. (0.046) and Polaris Ltd. (0.149).

Only three stocks attain negative relationship between EVA and MVA, based on the ranking, SakSoft (0.176) followed by NIIT (0.208) and Rolta (0.819).

Constant positive significant of value added overtime has evidenced the up-trend in value creation for companies under this sector. Negative value added might decrease the value of the company. EVA and MVA is a reliable indicator of a company's value growth in the future which helps manager to make better investment decision to identify improved opportunities and consider long-term and short-term benefits for the company. Business should create returns at a rate above their cost of capital. Value added analysis helps the managers to think about assets as well as expenses in their decision. To maintain better results of value added should focus on maintaining good profit to cover the cost of capital, control, debt composition and focus on profitable Investment.

**Figure 14 Correlation between EVA and MVA for IT Sector**




**Source: Computed Data**

## Summary

Negative relationship was found between EVA and MVA in majority of Banking Stocks and Positive relationship was found between EVA and MVA in majority of IT Stocks

## 4.5 The Impact of Financial and Valuation Ratios on Market Valued Added and Share Prices of Both Selected Index and Non-index Stocks in Banking and IT Sectors.

### 4.5.1 Factor Analysis for Banking Sector – Index Stocks

To find out the influence of the financial indicators of the share price of banking companies in the index category, factor analysis have been applied for which Market Value Added (MVA), Financial Ratios and Valuation Ratios has been used. In order to find out the dimensions of the ratios, factor analysis has been applied. The sample adequacy and sphericity have resulted in significant outcomes (Table 41). Only those factors with an eigen value greater than one were considered for the purpose of analysis.

**Table 41**

**KMO and Bartlett's Test – Banking Index Stocks**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.650 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 4500.889 |
| | Df | 153 |
| | Sig. | .000 |

**Source: Computed Data**

The KMO value is above 0.5 hence, the variables select for the study are found to be good and it is significant at 1 percent level. The resultant factor was rotated using Varimax rotations. The results of the factor analysis are given in Table 42.

## Table 42

## Factor Analysis - Rotated Component Matrix for Banking Index Stocks

| Rotated Component Matrix[a] | | | | | |
|---|---|---|---|---|---|
| **Variables** | **Component** | | | | |
| | **Factor1** | **Factor 2** | **Factor 3** | **Factor 4** | **Factor 5** |
| FR6 | **.900** | .047 | .163 | -.096 | -.215 |
| FR11 | **.895** | -.015 | .288 | .054 | .198 |
| FR4 | **.855** | -.019 | .048 | -.361 | .268 |
| FR9 | **.840** | .019 | -.050 | .421 | .197 |
| FR3 | .442 | -.021 | .367 | -.027 | -.111 |
| VR3 | .042 | -.121 | .067 | -.327 | -.011 |
| VR3 | .007 | **.978** | -.113 | .063 | .008 |
| VR1 | .018 | **.977** | -.120 | .040 | -.004 |
| VR5 | -.010 | **.962** | -.178 | -.100 | .043 |
| VR2 | -.008 | **.953** | -.122 | -.083 | -.031 |
| FR5 | .319 | -.169 | **.846** | .113 | -.130 |
| FR10 | .367 | -.190 | **.810** | .169 | .145 |
| FR2 | .088 | -.159 | **.750** | .168 | .296 |
| FR1 | -.128 | -.096 | **.668** | .035 | -.101 |
| FR14 | .039 | .013 | .023 | **.885** | .050 |
| FR13 | .247 | -.059 | .417 | **.827** | .180 |
| FR12 | .443 | -.134 | .407 | .482 | .183 |
| FR7 | .175 | .023 | .003 | .279 | **.935** |
| FR8 | -.494 | .010 | .044 | -.041 | **.855** |
| **Explained Variance (%)** | **34.003** | **21.804** | **13.893** | **9.344** | **6.337** |
| **Cumulative Variance (%)** | **34.003** | **55.806** | **69.699** | **79.043** | **85.380** |
| **Name of the Factor** | **Operating Expenses (0.34)** | **Price earnings (0.55)** | **Net worth (0.69)** | **Net return (0.79)** | **Interest (0.85)** |

**Source: Computed Data**

Factor analysis reveals the confirmatory factors of EVA and MVA which influence the share price of both Index and Non-Index stocks of banking sectors. Using this CF (Confirmative Factor) the path analysis has been used to prove the high correlation between the five factors which is mentioned above. The financial and valuation ratios resulted into five factors which explained 85.380 per cent of total variance. The first factor consists of FR6 (Operating to total income) 0.900, FR11 (Operating expenses to total funds) 0.895, FR4 (Interest expended to Interest earned) 0.855 and FR9 (Net Interest Income to Total Funds ratio) 0.840. This factor accounts for 34.003 per cent of the total variance and is named as OPERATING EXPENSES factor. The second factor consists of VR3 (Price to cash EPS) 0.978, VR1 (Price earnings) 0.977, VR5 (Market capitalization to sales) 0.962 and VR2 (0.953). This factor accounts for 21.804 per cent of variance and is named as PRICE EARNINGS. The third factor consists with “FR5 (Other Income to Total Income) 0.846, FR10 (Non-Interest Income to Total Funds) (0.810), FR2 (Investment to Deposit) 0.750 and FR1 (Credit-Deposit) 0.668. This factor accounts for 13.893 per cent of variance and is named as NETWORTH. The fourth factor consists of FR14 (RONW) 0.885 and FR13 (Net Profit) 0.827. This factor accounts for 9.344 per cent of variance and is named as NET RETURNS. The fifth factor consists of FR7 (Interest Income to Funds) 0.935 and FR8 (Interest expended to Total funds) 0.855. This factor accounts for 6.337 per cent of variance and is named as INTEREST.

**Confirmatory Factor Analysis**

The path analysis method was intended to measure the direct effect along each separate path in such a system and finding the degree to which variation of a given effect is determined by each particular cause. In this section, an attempt is made to know the relationship of the financial indicators influencing the Market Valued Added and to know how the Market Value Added influences on the values of Share prices of banking Index stocks.

The path analysis has been employed to test the five hypotheses ($H_1$ – $H_5$) proposed for direct relationship of Market Valued Added and next hypothesis ($H_6$)

proposed for inter relationship of the Market Value Added influencing the Share prices of the Banking Index stocks. This analytical technique allows for the evaluation of the overall fit of the proposed model and the estimation of all the corresponding coefficients simultaneously. Based on the conceptual frame work of the study, in order to identify the variables influencing share prices of banking companies those are in the index. The following hypotheses were framed to test the existence of a linear relationship if any, between the variables and the share prices of banking Index stocks.

$H_1$: A significant relationship exists between Operating Expense and the Market Valued Added.

$H_2$: A significant relationship exists between Price Earnings and the Market Valued Added.

$H_3$: A significant relationship exists between Net worth and the Market Valued Added.

$H_4$: A significant relationship exists between Net Returns and the Market Valued Added.

$H_5$: A significant relationship exists between Interest and the Market Valued Added.

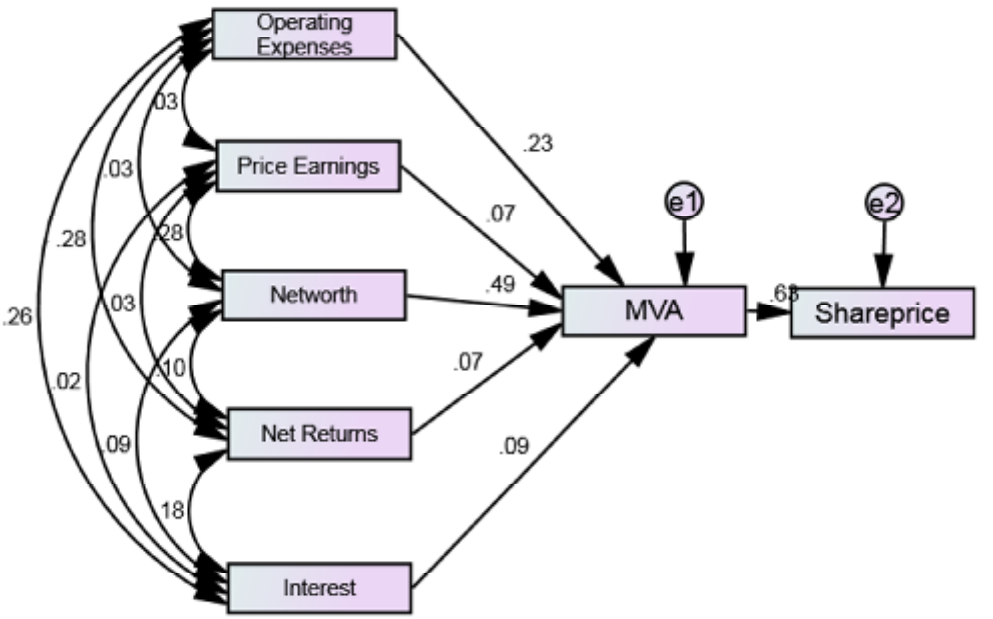
$H_6$: A significant relationship exists between Market Value Added and the Share prices.

**Financial Indicators Affecting the Market Value Added and the Share Prices of Banking Companies: Confirmatory Factor analysis**

The following figure represents the proposed model to find out the financial indicators affecting the financial indicators affecting the market value added and the share prices of banking companies using Path analysis.

**Model 1**

**Influence of Financial and Valuation Ratios on MVA and Share Prices of Banking Index Sector**




The following table reveals about the goodness of the fit index for measurement model by using path analysis.

**Table 43**

**Goodness of the Fit Index for Measurement Model – Bank Index Stocks**

| Parameters | Model values | Accepted values |
|---|---|---|
| CMIN/DF | **2.929** | **≤ 3** |
| GFI | **0.945** | **0.9** |
| AGFI | **0.901** | **0.9** |
| CFI | **0.892** | **0.9** |
| RMSEA | **0.079** | **<0.08** |

**Source: Computed Data**

Table 43 indicates the results of path analysis. Chi square test is a reasonable measure of fit Baron and Kenny (1986). In this study, the analysis obtained the results for the theoretical model revealed a Chi- Square of 14.645 (degrees of freedom 5; P>0.05). CMIN/DF, Results of relative Chi-square is 2.929 (ranging between1 to 3), which is best fit.

Comparative fit indices (CFI) are 0.892, indicating a best fit. It is almost near to the suggested value of 0.9. It measures as it compares the fit of a target model to the fit of an independent model (a model in which variables are to be uncorrelated). Precisely it represents the extent to which the model of interest is better than that of the independent model. RMSEA value is 0.079 which also indicating that this model is fit Muhammad Anhar (2015) .The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index should exceed 0.9 for a good model (Byrne, 1994)[1]. The results prove that both GFI and AGFI exceeded the fit level. Therefore, the values are fit. Hence, it is concluded that the proposed model is fit. The profitability factors are influencing the Market Value Added influences the share prices of banking sectors in the index stocks.

**Relationship between the Direct and Indirect Variables**

The following Table depicts the relationship between the direct and indirect variables affecting the values of banking company shares in the index.

**Table 44**

**Relationship between Direct and Indirect Variables – Bank Index Stocks**

| | | | Estimate | S.E. | C.R. | P | Hypothesis |
|---|---|---|---|---|---|---|---|
| MVA | <--- | Interest | 4646.071 | 4677.327 | 2.997 | *** | Rejected |
| MVA | <--- | Net Returns | 764.472 | 1012.998 | 3.314 | *** | Supported |
| MVA | <--- | Operating Expenses | 8783.639 | 3475.896 | 2.527 | .012 | Supported |
| MVA | <--- | Price Earnings | 564.787 | 711.360 | .794 | .427 | Rejected |
| MVA | <--- | Net worth | 4334.700 | 781.950 | 5.543 | *** | Supported |
| Share price | <--- | MVA | .003 | .000 | 8.018 | *** | Supported |

**Source: Computed Data**

It is observed from the Table 44 that the relationship between Market Value added and Banking Companies Share price ($H_6$), Net worth to MVA ($H_3$), Net Returns to MVA ($H_4$) and Interest to MVA ($H_5$) are highly significant at 1 per cent level, Operating Expenses to MVA ($H_2$) is significant at 5 per cent level whereas the relationship between Earnings to MVA ($H_1$) is insignificant at 5 per cent level. Hence, it is concluded that the framed hypotheses to test the relationship between direct and indirect variables are accepted and the null hypothesis is rejected except $H_1$,

### 4.5.2 Factor Analysis for Banking Non- Index Stocks

In this section an attempt is made to find out the influence of the financial indicators on the share price of banking companies not in the index category. For that purpose, Market Value Added (MVA), Financial Ratios and Valuations Ratios have been used. In order to find out the dimensions of the ratios, Factor analysis has been applied. The sample adequacy and sphericity have resulted in significant outcomes shows in the below table. Only those factors with an eigen value greater than one were considered.

**Table 45**

**KMO and Bartlett's Test – Bank Non-Index Stocks**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.662 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 4500.889 |
| | Df | 153 |
| | Sig. | .000 |

**Source: Computed Data**

The resultant factor matrix was rotated using Varimax rotations. The results of the factor analysis are given in Table 45.

**Table 46**

**Factor Analysis: Rotated Component Matrix for Bank Non-Index Stocks**

| Ratios | Factors | | | | |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| FR11 | **.886** | -.308 | .166 | -.045 | .174 |
| FR6 | **.846** | -.393 | .023 | -.063 | -.219 |
| FR10 | **.792** | .312 | .401 | .012 | .116 |
| FR5 | **.729** | .426 | .352 | .005 | -.197 |
| FR2 | -.028 | **.844** | -.064 | -.194 | -.203 |
| FR1 | .062 | **.834** | -.059 | .045 | .076 |
| FR4 | -.480 | **.645** | -.457 | -.077 | .258 |
| FR9 | .456 | **.619** | .401 | .105 | .155 |
| VR5 | -.212 | -.484 | -.246 | -.419 | -.104 |
| FR13 | .293 | -.078 | **.901** | .107 | .114 |
| FR14 | .118 | -.166 | **.857** | .151 | -.184 |
| FR12 | .459 | -.228 | **.749** | .160 | .128 |
| FR3 | -.114 | .481 | .496 | -.010 | -.492 |
| VR4 | .027 | -.126 | .132 | **.963** | .025 |
| VR1 | .026 | -.118 | -.087 | **.920** | -.064 |
| VR3 | .135 | -.031 | -.291 | **.806** | -.121 |
| VR2 | -.143 | -.024 | -.378 | -.302 | -.240 |
| FR8 | -.206 | .162 | -.152 | .009 | **.925** |
| FR7 | .177 | -.284 | .220 | .080 | **.886** |
| **Explained Variance (%)** | **34.513** | **17.219** | **13.601** | **10.919** | **6.900** |
| **Cumulative Variance (%)** | **34.513** | **51.732** | **65.333** | **76.252** | **85.153** |
| **Name of the Factors** | **Operating cost (0.34)** | **ROI (0.51)** | **Net profit (0.65)** | **Price Earnings (0.76)** | **Interest (0.85)** |

**Source: Computed Data**

The financial and valuation ratios resulted into five factors which explained 85.153 per cent of total variance. Therefore, it represents that the data set was adequate to achieve factor analysis. The first factor consists of ratios with FR11 (Operating Expenses to Total funds) 0.886, FR6 (Operating Expenses to Total income) 0.846, FR10 (Non-Interest Income to Total Funds) 0.792 and FR5 (other Income to Total Income) 0.729. This factor accounts for 34.513 per cent of the total variance and is named as **Operating Cost** factor. The second factor consists of ratios with FR2 (Investment to Deposit) 0.844, FR1 (Credit – Deposit) 0.834, FR4 (Interest Expended to Interest earned) 0.645 and FR9 (Net Interest Income to Total Funds) 0.619. This factor accounts for 17.219 per cent of variance and is named as **ROI**. The third factor consists of ratios with FR13 (Net Profit to Total Assets) 0.901, FR14 (RONW) 0.857, and FR12 (Profit before Provisions to Total Funds) 0.749. This factor accounts for 13.601 per cent of variance and is named as **Net Profit**. The fourth factor consists of ratios with VR4 (EV to EBIDTA) 0.963, VR1 (Price Earning) 0.920 and VR3 (Price to Cash EPS) 0.806. This factor accounts for 10.919 per cent of variance and is named as **Price Earnings**. The fifth factor consists of ratios with FR8 (Interest expended to funds) 0.925 and FR7 (Interest Income to Total funds) 0.886. This factor accounts for 6.900 per cent of variance and is named as **Interest**.

In order to identify the variables influencing share prices of banking companies those are not in the index, the following hypotheses were framed to test the existence of a linear relationship if any, between the variables and the share prices of banking Non- Index stocks. The following hypothesis have been framed and tested:

$H_1$: A significant relationship exists between Operating Cost and the Market Valued Added.

$H_2$: A significant relationship exists between ROI and the Market Valued Added.

$H_3$: A significant relationship exists between Net Profit and the Market Valued Added.

$H_4$: A significant relationship exists between Price Earnings and the Market Valued Added.

$H_5$: A significant relationship exists between Interest and the Market Valued Added.

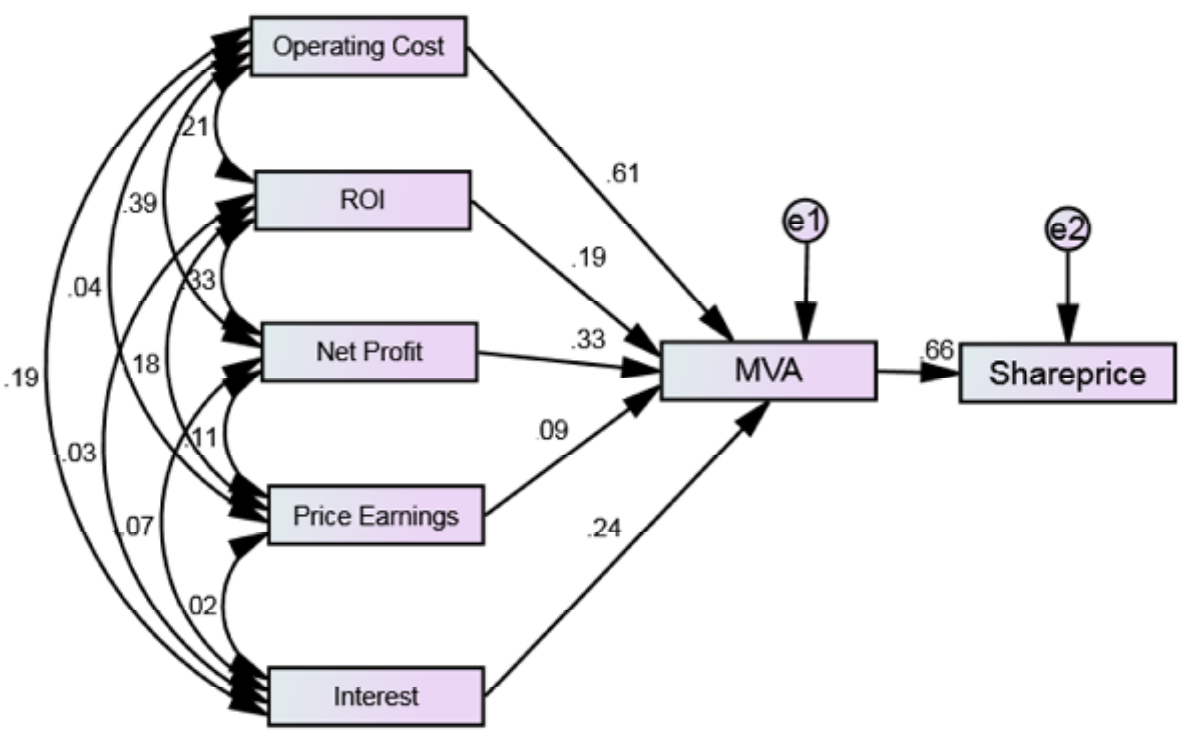
$H_6$: A significant relationship exists between Market Value Added and the Share prices.

**Financial Indicators Affecting the Market Value Added and the Share Prices of Banking Non-Index Stocks**

The following figure represents the financial indicators affecting the market value added and the share prices of banking Non-Index stocks.

**Model 2**

**Influence of Financial and Valuation Ratios on MVA and Share Prices of Banking Non-Index Sector**



The following table reveals about the goodness of the fit index for measurement model by using path analysis.

**Table 47**

**Goodness of the Fit Index for Measurement Model – Bank Non-Index Stocks**

| Parameters | Model values | Accepted values |
|---|---|---|
| CMIN/DF | **2.542** | **≤ 3** |
| GFI | **0.967** | **0.9** |
| AGFI | **0.914** | **0.9** |
| CFI | **0.955** | **0.9** |
| RMSEA | **0.048** | **<0.08** |

**Source: Computed Data**

Table 47 reveals the results of path analysis. Chi square test is a reasonable measure of fit. In this study, the analysis obtained the results for the theoretical model revealed a Chi- Square of 12.708 (degrees of freedom 5; P>0.05). CMIN/DF, Results of relative Chi-square is 2.542 which is best fit. Comparative fit indices (CFI) are 0.955, indicating a best fit. It measures as it compares the fit of a target model to the fit of an independent model (a model in which variables are to be uncorrelated). RMSEA value is 0.048 which also indicating that this model is fit. The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index exceeded 0.9 which is results the good fit level. Hence, it is concluded that the proposed model is fit. The profitability factors are influencing the Market Value Added and the market value added influences the share prices of banking Non-Index stocks.

**Relationship between the Direct and Indirect Variables**

The following Table depicts the relationship between the direct and indirect variables affecting the values of banking Non-Index stocks

**Table 48**

**Relationship between Direct and Indirect Variables – Bank Non-Index Stocks**

| | | | Estimate | S.E. | C.R. | P | Hypothesis |
|---|---|---|---|---|---|---|---|
| MVA | <--- | Interest | 2235.934 | 631.376 | 3.541 | *** | Supported |
| MVA | <--- | Price Earnings | 351.181 | 256.352 | 1.370 | .171 | Rejected |
| MVA | <--- | Operating Cost | 2115.342 | 249.223 | 8.488 | *** | Supported |
| MVA | <--- | ROI | 260.012 | 98.141 | 2.649 | .008 | Supported |
| MVA | <--- | Net Profit | 909.048 | 204.845 | 4.438 | *** | Supported |
| Share price | <--- | MVA | .014 | .002 | 8.664 | *** | Supported |

**Source: Computed Data**

It is observed from the Table 48 that the relationship between Market Value Added (MVA) and Banking Non-Index stocks Interest to MVA ($H_5$), Operating Cost to MVA ($H_1$), ROI to MVA ($H_2$) and Net Profit to MVA ($H_3$) are Significant at 1 per cent level, whereas the relationship between Price Earnings to MVA ($H_4$) is insignificant at 5 per cent level. Hence, it is concluded that the framed hypotheses to test the relationship between direct and indirect variables are accepted except $H_4$.

### 4.5.3 Factor Analysis for IT Sector: Index Stocks

To find out the influence of the financial indicators on the share price of Information Technology sector in the index category, factor analysis has been applied for which, Market Value Added (MVA), Financial Ratios and Valuation Ratios have been used. In order to find out the dimensions of the ratios, Factor analysis has been applied. The sample adequacy and sphericity have resulted in significant outcomes (Table). Only those factors with an eigen value greater than one were considered.

**Table 49**

**KMO and Bartlett's Test – IT Index Stocks**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.639 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1992.334 |
| | Df | 153 |
| | Sig. | .000 |

**Source: Computed data**

The resultant factor matrix was rotated using Varimax rotations. The results of the factor analysis are given in Table 50.

**Table 50**

**Factor Analysis: Rotated Component Matrix for IT Index Stocks**

| Ratios | Factors | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| FR10 | **.991** | .052 | -.021 | -.009 | .036 |
| FR9 | **.988** | .036 | -.039 | .026 | .012 |
| FR8 | **.985** | -.054 | -.049 | -.058 | -.036 |
| FR11 | **.982** | .049 | -.027 | .030 | .052 |
| FR7 | **.975** | .009 | -.063 | -.035 | -.019 |
| FR13 | .012 | **.740** | .353 | -.089 | .023 |
| FR12 | .054 | **.672** | .225 | .153 | .436 |
| FR3 | -.093 | **.613** | -.083 | -.050 | -.132 |
| FR14 | -.072 | .463 | .226 | -.066 | -.206 |
| FR6 | .254 | .402 | -.157 | -.035 | -.079 |
| VR4 | -.098 | .098 | **.926** | .038 | .074 |
| VR1 | -.051 | .095 | **.852** | .018 | -.103 |
| VR5 | -.090 | -.011 | **.023** | .013 | .019 |
| FR1 | -.049 | -.106 | -.104 | **.894** | -.045 |
| FR2 | .004 | -.010 | .149 | **.778** | -.054 |

| Ratios | Factors | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| VR2 | .012 | -.241 | .086 | -.061 | -.067 |
| FR5 | .032 | -.409 | .290 | -.138 | **.931** |
| VR3 | -.046 | -.171 | -.004 | -.047 | **.921** |
| FR4 | .262 | -.110 | -.157 | -.078 | .305 |
| **Explained Variance (%)** | **28.605** | **15.308** | **10.138** | **9.844** | **9.044** |
| **Cumulative Variance (%)** | **28.605** | **43.912** | **54.050** | **63.894** | **79.937** |
| **Name of the Variables** | **Profit (0.28)** | **RON (0.43)** | **Price Earnings (0.54)** | **Debt Equity (0.63)** | **Debtors (0.79)** |

**Source: Computed data**

The financial and valuation ratios resulted into five factors which explained 72.937 per cent of total variance. Therefore, it indicates that the data set is adequate to perform factor analysis. The first factor consists of ratios with FR10 (PBITM) 0.991, FR9 (PBIDTM) 0.988, FR8 (Interest cover) 0.985, FR11 (PBDTM) 0.982 and FR7 (Total Asset Turnover) 0.975. This factor accounts for 28.605 per cent of the total variance and is named as **profit** factor. The second factor consists of ratios with FR13 (RONW) 0.740, FR12 (ROCE) 0.672 and FR3 (Current ratio) 0.613". This factor accounts for 15.308 per cent of variance and is named as **RON**. The third factor consists of ratios with VR4 (EV to EBIDTA) 0.926 and VR1 (Price Earning) 0.852. This factor accounts for 10.138 per cent of variance and is named as **Price Earnings**. The fourth factor consists of ratios with "FR1 (Debt –Equity) 0.894 and FR2 (Long-Term Debt-Equity) 0.778. This factor accounts for 9.844 per cent of variance and is named as **Debt - Equity**. The fifth factor consists of ratios with FR5 (Debtors) 0.931 and VR3 (Price to Cash EPS) 0.921. This factor accounts for 9.044 per cent of variance and is named as **Debtors**.

**Confirmatory Factor Analysis**

The relationship of financial indicators between MVA and Share prices of IT Index-Stocks. Based on the conceptual frame work of the study, in order to identify the variables influencing share prices of IT Index stocks, the following hypotheses were framed to test the existence of a linear relationship if any, between the select variables.

$H_1$: A significant relationship exists between Profit and the Market Valued Added.

$H_2$: A significant relationship exists between RON and the Market Valued Added.

$H_3$: A significant relationship exists between Price Earning and the Market Valued Added.

$H_4$: A significant relationship exists between Debt-Equity and the Market Valued Added.

$H_5$: A significant relationship exists between Debtors and the Market Valued Added.

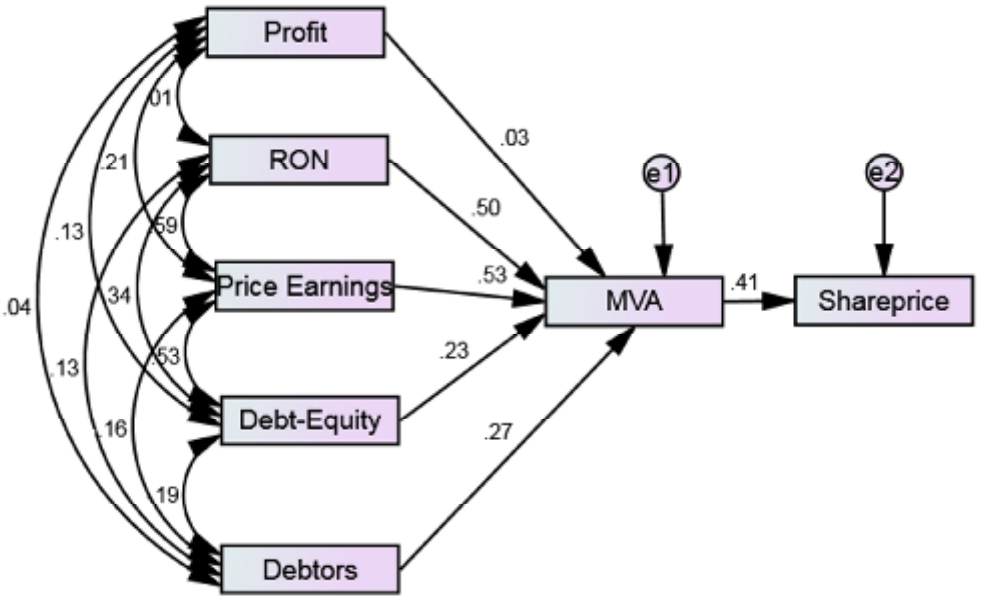
$H_6$: A significant relationship exists between Market Value Added and the Share prices.

**Financial Indicators Affecting the Market Value Added and the Share Prices of IT- Index Stocks: Confirmatory Factor analysis**

The following figure represents the proposed model to find out the financial indicators affecting the financial indicators affecting the market value added and the share prices of IT –Index stocks by using Path analysis.

**Model 3**

**Influence of Financial and Valuation Ratios on MVA and Share Prices of IT Index Sector**




The following table reveals about the goodness of the fit index for measurement model by using path analysis.

**Table 51**

**Goodness of the Fit Index for Measurement Model – IT Index Stocks**

| Parameters | Model Values | Accepted Values |
|---|---|---|
| CMIN/DF | **4.570** | **≤ 3** |
| GFI | **0.944** | **0.9** |
| AGFI | **0.689** | **0.9** |
| CFI | **0.874** | **0.9** |
| RMSEA | **0.190** | **<0.08** |

**Source: Computed Data**

Table 51 explains the results of path analysis. Chi square test is little above reasonable measure of fit. In this study, the analysis obtained the results for the theoretical model revealed a Chi- Square of 22.851 (degrees of freedom

5; P<0.05). CMIN/DF, Results of relative Chi-square is 4.570 which not adequate fit. Comparative fit indices (CFI) are 0.874, indicating a lower value than the best fit. It measures as it compares the fit of a target model to the fit of an independent model (a model in which variables are to be uncorrelated). RMSEA value is 0.198 which also indicating that this model is not adequate fit. The Goodness of Fit Index (GFI) is above the prescribed limit i.e. 0.944 which is best fit and Adjusted Goodness of Fit does not exceeded 0.9 which is resulting the not adequate fit. Hence, it is concluded that the proposed model is moderately fit. The profitability factors are not adequately influencing the Market Value Added but the market value added influences the share prices of IT Index stocks.

**Relationship between the Direct and Indirect Variables**

The following Table 52 depicts the relationship between the direct and indirect variables affecting the values of IT Index stocks

**Table 52**

**Relationship between Direct and Indirect Variables – IT Index Stocks**

| | | | Estimate | S.E. | C.R. | P | Hypothesis |
|---|---|---|---|---|---|---|---|
| MVA | <--- | Debtors | 952.584 | 325.844 | 2.923 | .003 | Supported |
| MVA | <--- | Debt-Equity | 969.200 | 441.813 | 2.194 | .028 | Supported |
| MVA | <--- | Profit | 3.562 | 10.119 | .352 | .725 | Rejected |
| MVA | <--- | RON | 13080.795 | 2978.759 | 4.391 | *** | Supported |
| MVA | <--- | Price Earnings | 1923.412 | 457.990 | 4.200 | *** | Supported |
| Share price | <--- | MVA | .004 | .001 | 4.535 | *** | Supported |

**Source: Computed Data**

It is observed from the Table 52 that the relationship between Market Value added and IT Index stocks prices ($H_6$), RON to MVA ($H_2$), Price Earnings to MVA ($H_3$), Debtors to MVA ($H_5$) are significant at 1 per cent level and Debt-Equity to MVA ($H_4$) is Significant at 5 per cent level, where as the relationship between Profit to MVA ($H_1$) is insignificant at 5 per cent level. Hence,

it is concluded that the framed hypotheses to test the relationship between direct and indirect variables are accepted except $H_1$.

In this study effort is made to find out the influence of the financial indicators on the share price of IT Non-Index stocks: Market Value Added (MVA), Financial Ratios and Valuations Ratios have been used. In order to find out the dimensions of the ratios, Factor analysis has been applied. Only those factors with an eigen value greater than one were considered.

### 4.5.4 Factor Analysis for IT Sector: Index Stocks

**Table 53**

**KMO and Bartlett's Test – IT Non-Index Stocks**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.639 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1992.334 |
| | Df | 153 |
| | Sig. | .000 |

Source: Computed Data

The resultant factor matrix was rotated using Varimax rotations. The results of the factor analysis are given in Table 54.

**Table 54**

**Factor Analysis: Rotated Component Matrix for IT Non-Index Stocks**

| Ratios | Factors | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| FR9 | **.983** | .025 | -.077 | -.063 | -.034 |
| FR10 | **.981** | .058 | -.074 | -.055 | .009 |
| FR8 | **.980** | -.060 | -.100 | .018 | .087 |
| FR11 | **.973** | .053 | -.065 | -.077 | -.041 |
| FR7 | **.973** | -.001 | -.083 | .004 | .107 |
| VR5 | **.811** | -.075 | .022 | -.056 | .314 |
| FR13 | -.003 | **.852** | -.048 | .118 | .063 |
| FR12 | .078 | **.771** | .126 | -.333 | -.106 |
| FR3 | -.058 | .466 | -.025 | .063 | -.111 |
| FR14 | -.076 | .448 | .021 | .030 | .126 |
| FR6 | .218 | .381 | -.112 | .014 | .239 |
| FR4 | .235 | -.146 | .066 | -.171 | .153 |
| VR4 | -.159 | -.176 | **.747** | .046 | -.180 |
| VR2 | .085 | .542 | **.696** | .117 | -.046 |
| VR1 | -.043 | -.183 | .400 | -.154 | .160 |
| FR1 | .029 | -.159 | -.094 | **.899** | -.032 |
| FR2 | -.193 | .272 | .200 | **.823** | .040 |
| FR5 | .015 | -.185 | .127 | -.144 | **.852** |
| VR3 | -.110 | .188 | .054 | .087 | **.810** |
| **Explained Variance (%)** | **32.582** | **14.623** | **9.825** | **9.248** | **6.027** |
| **Cumulative Variance (%)** | **32.582** | **47.205** | **57.029** | **66.277** | **72.305** |
| **Name of the Variables** | **Profit (0.32)** | **Net worth (0.47)** | **EPS (0.57)** | **Debt-equity (0.66)** | **Fixed assets (0.72)** |

**Source: Computed data**

The financial and valuation ratios resulted into five factors which explained 72.937 per cent of total variance. Therefore, it indicates that the data set is adequate to perform factor analysis. The first factor consists of ratios with FR9 (PBIDTM) 0.983, FR10 (PBITM (0.981), FR8 (Interest cover) 0.980, FR7

(Total asset turnover) 0.973, FR11 (PBDTM) 0.973, and VR5 (Market capitalization to sales) 0.811. This factor accounts for 32.582 per cent of the total variance and is named as **Profit** factor. The second factor consists of ratios with FR13 (RONW) 0.852 and FR12 (ROCE) 0.771. This factor accounts for 14.623 per cent of variance and is named as **networth**. The third factor consists of ratios with VR4 (EV to EBIDTA) 0.747 and VR2 (Price to book value) 0.696. This factor accounts for 9.825 per cent of variance and is named as **EPS**. The fourth factor consists of ratios with FR1 (Debt- Equity) 0.899 and FR2 (Long-term debt equity) 0.823. This factor accounts for 9.248 per cent of variance and is named as **Debt-Equity**. The fifth factor consists of ratios with FR5 (Debtors) 0.852 and VR3 (Price to cash EPS) 0.810". This factor accounts for 6.027 per cent of variance and is named as **Fixed assets**.

To know the relationship of the financial indicators influencing the Market Valued Added and to know how the Market Value Added influences on the values of Share prices of IT Non-Index sectors. The path analysis has been employed to test the five hypotheses ($H_1$ – $H_5$) proposed for direct relationship of Market Valued Added and next hypothesis ($H_6$) proposed for inter relationship of the Market Value Added influencing the share prices of the IT Non-Index stocks. This analytical technique allows for the evaluation of the overall fit of the proposed model and the estimation of all the corresponding coefficients simultaneously. Based on the conceptual frame work of the study, in order to identify the variables influencing share prices of IT Non-Index stocks following hypotheses were framed to test the existence of a linear relationship if any, between the variables and the share prices.

H1: A significant relationship exists between Profit and the Market Valued Added.

H2: A significant relationship exists between Net worth and the Market Valued Added.

H3: A significant relationship exists between EPS and the Market Valued Added.

H4: A significant relationship exists between Debt-Equity and the Market Valued Added.

H5: A significant relationship exists between Fixed Assets and the Market Valued Added.

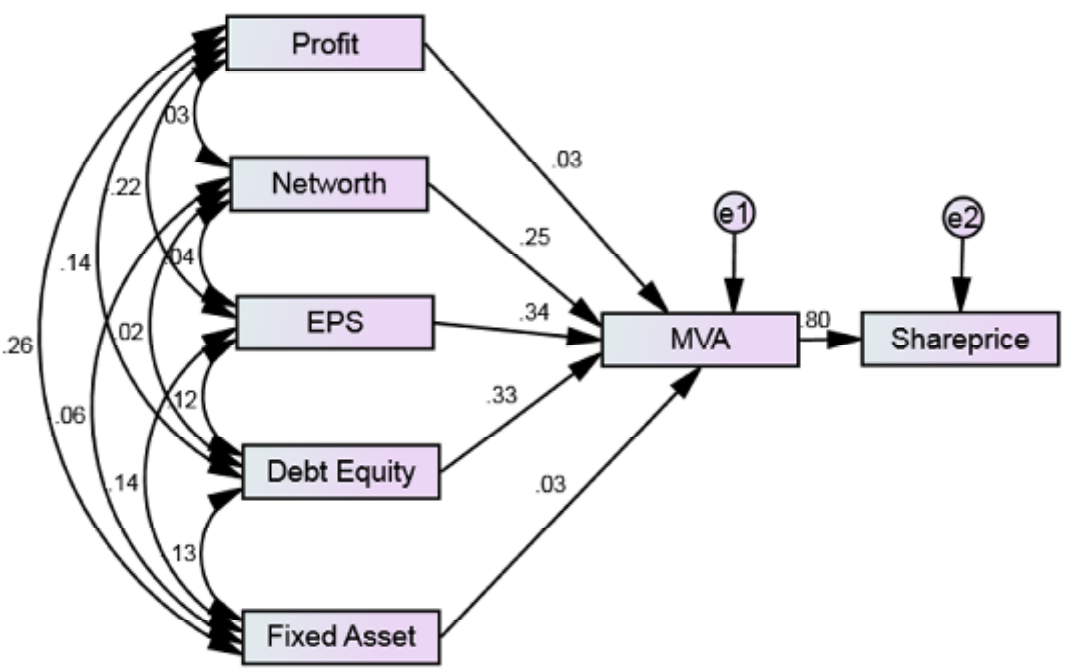
H6: A significant relationship exists between Market Value Added and the Share prices.

## Financial Indicators Affecting the Market Value Added and the Share Prices of IT Non-Index: Path Analysis

The following figure represents the proposed model to find out the financial indicators affecting the market value added and the share prices of IT Non-Index stocks using Path analysis

**Model 4**

**Influence of Financial and Valuation Ratios on MVA and Share Prices of IT Non-Index Sector**




## Confirmatory Factor Analysis

The following table reveals about the goodness of the fit index for measurement model by using path analysis.

**Table 55**

**Goodness of the Fit Index for Measurement Model – IT Non-Index Stocks**

| Parameters | Model values | Accepted values |
|---|---|---|
| CMIN/DF | **2.210** | **≤ 3** |
| GFI | **0.971** | **0.9** |
| AGFI | **0.901** | **0.9** |
| CFI | **0.959** | **0.9** |
| RMSEA | **0.073** | **<0.08** |

**Source: Computed Data**

Chi square test is a reasonable measure of fit. In this study, the analysis obtained the results for the theoretical model revealed a Chi- Square of 11.050 (degrees of freedom 5; P>0.05). CMIN/DF, Results of relative Chi-square is 2.210 which is best fit. A comparative fit index (CFI) is 0.959, indicating a best fit. It measures as it compares the fit of a target model to the fit of an independent model (a model in which variables are to be uncorrelated). RMSEA value is 0.073 which also indicating that this model is fit. The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index exceeded 0.9 resulted the good fit level. Hence, it is concluded that the proposed model is adequately fit. The profitability factors are influencing the Market Value Added and the market value added influences the share prices of IT Non-Index stocks

**Relationship between the Direct and Indirect Variables**

Table depicts the relationship between the direct and indirect variables affecting the values of IT Non-Index stocks.

**Table 56**

**Relationship between Direct and Indirect Variables – IT Non-Index Stocks**

| | | | Estimate | S.E. | C.R. | P | Hypothesis |
|---|---|---|---|---|---|---|---|
| MVA | <--- | Fixed Asset | 754.620 | 191.900 | 3.932 | *** | Supported |
| MVA | <--- | Debt-Equity | 2.683 | 7.214 | .372 | .710 | Rejected |
| MVA | <--- | Profit | 93.778 | 30.928 | 3.032 | .002 | Supported |
| MVA | <--- | Net Worth | 89.569 | 22.453 | 3.989 | *** | Supported |
| MVA | <--- | EPS | .045 | .003 | 13.202 | *** | Supported |
| Share price | <--- | MVA | 754.620 | 191.900 | 3.932 | *** | Supported |

**Source: Computed Data**

It is observed from the Table 58 that the relationship between Market Value added and IT Non-Index share price ($H_6$), EPS to MVA ($H_3$), Profit to MVA ($H_1$), Fixed Asset to MVA ($H_5$) and Net worth to MVA ($H_2$) are significant at 1 per cent level, whereas the relationship between Equity to MVA ($H_4$) is insignificant at 5 per cent level. Hence, it is concluded that the framed hypotheses to test the relationship between direct and indirect variables are accepted except $H_4$.

The following matrix helps to explain the significant level of select Index and Non-Index of Banking and IT sectors.

**Matrix 6**

**Summary of Hypotheses Testing of both Banking and IT Sectors**

| Sectors | Index | Non-Index |
|---|---|---|
| Banking Sector | There is a significant relationship between the selected variables such as Net Worth, Net Return, Interest, Price Earnings with MVA | The selected variables such as, Interest, Operating cost, ROI and Net profit are highly significant with MVA. |
| IT Sector | The ROI, Price Earnings, Debt-equity and Debtors are highly significant with MVA | EPS, Profit, Fixed Assets, Net Worth and Debt-equity are significant with MVA |

**Source : Computed Data**

**SUMMARY**

Significant relationship exists between financial and valuation ratios on Market value added and Share Prices of Both Selected Index and Non-index Stocks in Banking and IT Sectors.