

Chapter- VI

***COMPANY AND
TECHNICAL ANALYSES***

CHAPTER- VI

COMPANY AND TECHNICAL ANALYSES

6.1 INTRODUCTION

Investors want to determine the financial condition of companies before investment; hence, comparative analysis of the financial status of companies is essential. It is also important to identify the factors responsible for change in stock returns for stock valuation. But, there are very limited research works which have analysed comparative performance of Sensex representative companies and investigated the factors responsible for the future return of stocks. Therefore, an attempt has been carried out to unfold the valuable inference on the basis of the comparison of selected Sensex stocks.

On the other hand, technical analysis is a commonly used appraisal technique to investigate the stock price behaviour and this technique works on two basic market data- price and volume. Technical analysis of stocks shows the path of movement of the stocks which indicates the buy and sell signal. Examination of past movement of stock price assists in determining the future price movement which is useful for market investment decisions. Both company and technical analyses of selected Sensex stocks are performed in this chapter. Under company analysis, financial performance and market performance of companies are analysed and most effective financial performance factor which affect stock price of company are also determined in the section-I. Section-II displays trends of price movements of selected stocks by using oscillators under technical analysis.

SECTION- I

6.2 COMPANY ANALYSIS

Before taking the decision to invest in a company, it is advisable to cautiously analyse its financial condition. In the process of analysing financial condition, analysis of financial statements is one of the popular management tools that provides the prescribed records of the financial operations and assess the overall position of a business and assist executives and investors in providing an accurate picture of short and long run financial condition of a company. After analysing and interpreting financial statements, one may be able to know the firm's liquidity position, solvency and profitability etc. Ratios work as a weapon in this direction to determine whether the company is on right track or not. This is one of the most frequently used tools for comparison. Ratio may be computed for number of years to examine the trend which is called time series analysis. An alternative is to compute ratios at a given time for several firms within an industry and this is called cross-section analysis. Whenever these ways are taken as a group, the ratios give an indication about the direction in which the firm is moving and its comparative position with other firms in the industry. Since, a large number of ratios may be calculated; an individual should select those ratios that are best suited to the specific purpose. The selection of ratio will depend on the type of industry and the interest of the investigator (Bhalla, 2011).

6.2.1 FINANCIAL PERFORMANCE OF COMPANIES: A COMPARISON

Financial performance analysis is one of the appraisal techniques of analysis for rationale decision of investment in stock market and an assisting way to mark the financial strengths and weaknesses of an organisation. Performance analysis with financial and stock valuation ratios has been performed in this section to get an insight of the financial performance of companies. Parameters of companies i.e. Earning per share (EPS), Price earning ratio (P/E), Price to book value ratio (P/B), Dividend Yield

(DY), Book value per share (BV), Market capitalization (MC) and Beta are examined for understanding the real financial condition of companies. Annual growth rate and compound annual growth rate (CAGR) of the parameters are computed separately for different companies. Comparative results of financial performance of companies under the study are reported in table- 6.1 to table- 6.7.

6.2.1.1 Earning Per Share (EPS)

Table- 6.1 unfolds the performance of companies in respect of EPS from 2004-05 to 2013-14. EPS is used to measure the share of earning to each outstanding equity share. The results of EPS show growth and upward trend for all the companies during the period of the study. EPS of Infosys Ltd. is found to be the highest during the last ten years. EPS of this company reached from Rs. 70.38 to Rs. 177.52 with 11% CAGR and shows a mesmerizing growth. It is valuable to note that highest growth (29%) in EPS over the ten years is made by Dr. Reddy and this company has EPS of Rs. 115.06 which is next to the EPS of Infosys in the recent years. Therefore, study shows that Dr. Reddy can be put at second rank in terms of EPS after Infosys. EPS of Tata Steel has risen from Rs. 62.77 to Rs. 67.48. This company has achieved 1% CAGR which is comparatively less than other companies which recorded positive CAGR but it is also important that this company has high rate of EPS over the study period. Similarly, Mahindra & Mahindra is almost steady in EPS and increased from Rs. 43.02 to Rs. 61.02 and this company has achieved 4% CAGR but has comparatively low rate of EPS, so this can be ranked after Infosys, Dr. Reddy and Tata steel. EPS of GAIL is also increased from Rs. 23.11 to Rs. 31.4 over the last ten years with 3% CAGR. Wipro has comparatively low rate of EPS with 4% CAGR. On the contrary, remaining companies i.e. ONGC, Sun Pharma, Hindalco and Tata Motors have revealed negative CAGR.

Table- 6.1 also exhibits the summary of descriptive statistics of EPS. On the basis of mean value, it can be concluded that EPS of Infosys is highest (108.01), while it is least in case of Wipro (21.93). Standard deviation shows that the volatility is very high in all the companies except GAIL, Tata Steel and Wipro.

6.2.1.2 Dividend Yield (DY)

While looking at the results, it is summarised that DY of ONGC is highest throughout the ten years but only -1% CAGR is recorded. Such a negative trend is also observed in case of GAIL which shows -4% CAGR, although its DY was comparatively higher than ONGC in the beginning. Analysis produces first rank to ONGC in terms of annual growth rate and rate of DY which are highest in case of this company in comparison with rest of the companies. However, Tata Steel is ranked first in terms of CAGR because only this company shows the positive CAGR in DY and negative CAGR is recorded for rest of the companies. Wipro and Infosys have shown static condition over the last decade and reports no growth & decline. Further, DY of Mahindra & Mahindra, Hindalco, Dr. Reddy, Sun Pharma and Tata Motors are found to be least and shows no improvement in these companies as their CAGR are -3%, -3%, -2%, -5% and -7% respectively. Table- 6.2 also presents the summary of descriptive statistics of DY of the selected companies. On the basis of mean value, it can be concluded that DY of ONGC and Tata Steel is highest while it is least in case of Dr. Reddy and Sun Pharma. Volatility is very high in all the companies except Sun Pharma and Dr. Reddy. The values of skewness and kurtosis indicate that the coefficient values of all companies have low skewness in distribution with platykurtic nature. Nature of distribution is also tested by J-B statistics which clearly reveals that data series of DY of all companies are not away from normal distribution.

Table: 6.1
Earning Per Share (EPS)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	GAIL	ONGC	Dr. Reddy's	Sun Pharma	Hindalco Industries	Tata Steel
2004-05	43.02 (----)	34.46 (----)	70.38 (----)	21.25 (----)	23.11 (----)	91.03 (----)	11.69 (----)	16.48 (----)	144.27 (----)	62.77 (----)
2005-06	26.86 (-38%)	39.68 (15%)	87.21 (24%)	14.17 (-33%)	27.32 (18%)	97.36 (7%)	29.81 (155%)	24.84 (51%)	14.82 (-90%)	63.35 (1%)
2006-07	35.45 (32%)	46.33 (17%)	57.94 (-34%)	18.37 (30%)	25.01 (-8%)	72.03 (-26%)	53.79 (80%)	30.6 (23%)	21.86 (48%)	66.62 (5%)
2007-08	37.87 (7%)	52.63 (14%)	76.03 (31%)	20.96 (14%)	34.13 (36%)	76.28 (6%)	29.05 (-46%)	61.09 (100%)	18.91 (-13%)	66.21 (-1%)
2008-09	29.64 (-22%)	22.26 (-58%)	101.62 (34%)	20.3 (-3%)	22.1 (-35%)	72.6 (-5%)	33.96 (17%)	61.09 (0%)	12.23 (-35%)	71.2 (8%)
2009-10	34.52 (16%)	61.04 (174%)	100.97 (-1%)	33.36 (64%)	24.75 (12%)	78.3 (8%)	52.01 (53%)	43.39 (-29%)	9.42 (-23%)	56.88 (-20%)
2010-11	41.45 (20%)	33.66 (-45%)	112.22 (11%)	19.73 (-41%)	28.11 (14%)	21.58 (-72%)	56.07 (8%)	13.36 (-69%)	11.16 (18%)	71.58 (26%)
2011-12	42.53 (3%)	4.4 (-87%)	129.58 (15%)	19 (-4%)	31.2 (11%)	22.19 (3%)	54.39 (-3%)	15.44 (16%)	12.04 (8%)	70.46 (-2%)
2012-13	52.6 (24%)	3.83 (-13%)	166.66 (29%)	22.17 (17%)	30.79 (-1%)	26.39 (19%)	77.36 (42%)	13.9 (-10%)	9.02 (-25%)	54.72 (-22%)
2013-14	61.02 (16%)	-3.68 (-196%)	177.52 (7%)	29.95 (35%)	31.4 (2%)	26.08 (-1%)	115.06 (49%)	0.23 (-98%)	8.76 (-3%)	67.48 (23%)
CAGR	4%	-178%	11%	4%	3%	-13%	29%	-38%	-27%	1%
Mean	40.50	29.46	108.01	21.93	27.79	58.38	51.32	28.04	26.25	65.13
SD	10.28	22.11	39.75	5.63	4.02	30.59	29.08	20.87	41.69	5.78
Skewness	0.68	-0.21	0.61	0.96	0.06	-0.21	0.90	0.58	0.71	-0.63
Kurtosis	2.76	1.76	2.22	3.08	1.74	1.33	3.45	2.06	3.94	2.25
Jarque-Bera	0.79	0.71	0.87	1.53	0.67	1.23	1.43	0.92	1.57	0.90
Probability	0.68	0.74	0.25	0.47	0.42	0.54	0.49	0.63	0.50	0.24

Note: Values in the parenthesis represent the annual growth rate.

Table: 6.2
Dividend Yield (DY)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	GAIL	ONGC	Dr. Reddy's	Sun Pharma	Hindalco Industries	Tata Steel
2004-05	1.81 (----)	0.97 (----)	1.5 (----)	1.44 (----)	3.78 (----)	3.4 (----)	0.68 (----)	0.69 (----)	1.28 (----)	1.66 (----)
2005-06	1.04 (-43%)	1.34 (38%)	0.44 (-71%)	0.45 (-69%)	3.77 (0%)	3.44 (1%)	0.35 (-49%)	0.43 (-38%)	1.1 (-14%)	2.42 (46%)
2006-07	2.24 (115%)	1.79 (34%)	1.2 (173%)	1.79 (298%)	3.78 (0%)	3.57 (4%)	0.34 (-3%)	1.16 (170%)	2.99 (172%)	2.89 (19%)
2007-08	0.58 (-74%)	2.41 (35%)	0.87 (-28%)	0.71 (-60%)	1.41 (-63%)	3.16 (-11%)	0.63 (85%)	1.16 (0%)	2.99 (0%)	2.24 (-22%)
2008-09	3 (417%)	8.32 (245%)	2.81 (223%)	1.63 (130%)	3.28 (133%)	4.1 (30%)	0.77 (22%)	0.94 (-19%)	3.56 (19%)	7.77 (247%)
2009-10	0.92 (-69%)	0.79 (-91%)	0.9 (-68%)	0.57 (-65%)	1.22 (-63%)	2.91 (-29%)	0.49 (-36%)	0.77 (-18%)	0.74 (-79%)	2.53 (-67%)
2010-11	1.36 (48%)	1.2 (52%)	1.7 (89%)	1.17 (105%)	1.61 (32%)	4.05 (39%)	0.69 (41%)	0.62 (-19%)	0.65 (-12%)	1.29 (-49%)
2011-12	1.65 (21%)	1.45 (21%)	1.22 (-28%)	1.37 (17%)	2.27 (41%)	3.18 (-21%)	0.64 (-7%)	0.61 (-2%)	1.16 (78%)	2.55 (98%)
2012-13	1.45 (-12%)	1.49 (3%)	1.63 (34%)	1.37 (0%)	3.04 (34%)	3.53 (11%)	0.78 (22%)	0.52 (-15%)	1.69 (46%)	3.84 (51%)
2013-14	1.33 (-8%)	0.5 (-66%)	1.43 (-12%)	1.47 (7%)	2.69 (-12%)	3.06 (-13%)	0.59 (-24%)	0.44 (-15%)	0.99 (-41%)	2.03 (-47%)
CAGR	-3%	-7%	-1%	0%	-4%	-1%	-2%	-5%	-3%	2%
Mean	1.54	2.03	1.37	1.20	2.69	3.44	0.60	0.73	1.72	2.92
SD	0.69	2.27	0.64	0.46	1.01	0.40	0.16	0.27	1.06	1.84
Skewness	0.78	0.55	0.90	-0.53	-0.27	0.52	-0.61	-0.20	0.93	0.92
Kurtosis	3.11	2.28	3.87	1.87	1.55	2.22	2.12	3.14	2.86	3.90
Jarque-Bera	1.02	0.78	1.68	0.99	0.99	0.70	0.94	0.08	1.44	1.79
Probability	0.60	0.71	0.43	0.61	0.61	0.70	0.63	0.96	0.49	0.51

Note: Values in the parenthesis represent the annual growth rate.

6.2.1.3 Price to book value ratio (P/B ratio)

This ratio is useful to compare the market price of share to its book value and it gives the clear picture of undervalued or overvalued shares. This ratio is also used to understand the fundamental condition of a company. This ratio represents a price which investors are ready to give for every rupee of BV per share and helps in judging the future stock returns. Companies with low P/B ratios shows continuously higher returns in comparison with the companies with high P/B ratios. The results of P/B ratio is displayed in table- 6.3. P/B ratio of Hindalco industries Ltd. is found to be lowest during the last ten years which is confirmed from its mean value (1.14) and a huge decline is observed in this ratio because of which -7 % CAGR is recorded. Therefore, the results recommend first rank to Hindalco industries. TATA Steel is ranked second as its P/B ratio declined from 3.14 to 0.63 and recorded -16% CAGR. A negative trend is also recorded in case of GAIL with -2% CAGR and P/B ratio is examined lower than rest of the companies except TATA steel and Hindalco. However, analysis depicts that share of Infosys, Sun Pharma and Wipro are overvalued. Hence, there is more risk to get good future returns in these companies. Table- 6.3 also displays the summary of descriptive statistics of P/B ratio of the selected companies. Mean value conclude that P/B of Infosys and Sun Pharma is highest, while this value is observed least in case of ONGC, GAIL, Tata Steel and Hindalco. Volatility is observed to be comparatively low in these companies.

6.2.1.4 Price earnings ratio (P/E ratio)

It measures the price paid in the market for every rupee of earning on share. Lower ratio is considered better for investors. The results of P/E ratio are summarized in table- 6.4. On the basis of the results, it can be concluded that P/E ratio of TATA Steel has been least throughout the study period which is clearly expressed from its mean value (7.30) and it shows CAGR of -1 %.

Table: 6.3
Price to Book Value (P/B)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	ONGC	GAIL	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2004-05	2.92 (----)	3.64 (----)	11.63 (----)	9.65 (----)	2.69 (----)	2.08 (----)	2.73 (----)	7.92 (----)	1.57 (----)	3.14 (----)
2005-06	5.2 (78%)	6.48 (78%)	11.91 (2%)	12.4 (28%)	3.46 (29%)	2.7 (30%)	4.82 (77%)	11 (39%)	2.2 (40%)	3.04 (-3%)
2006-07	5.1 (-2%)	4.06 (-37%)	12.02 (1%)	9.63 (-22%)	2.81 (-19%)	1.92 (-29%)	2.91 (-40%)	8.34 (-24%)	1.32 (-40%)	1.83 (-40%)
2007-08	3.94 (-23%)	3.08 (-24%)	6.06 (-50%)	5.38 (-44%)	2.97 (6%)	2.76 (44%)	2.07 (-29%)	6.06 (-27%)	1.17 (-11%)	2.32 (27%)
2008-09	2.03 (-48%)	0.66 (-79%)	4.26 (-30%)	2.87 (-47%)	2.12 (-29%)	2.1 (-24%)	1.57 (-24%)	4.47 (-26%)	0.37 (-68%)	0.61 (-74%)
2009-10	4.03 (99%)	2.57 (289%)	6.81 (60%)	5.87 (105%)	2.69 (27%)	3.09 (47%)	3.64 (132%)	6.48 (45%)	1.25 (238%)	1.52 (149%)
2010-11	4.16 (3%)	3.38 (32%)	7.58 (11%)	5.51 (-6%)	2.55 (-5%)	3.06 (-1%)	4.61 (27%)	6.85 (6%)	1.34 (7%)	1.27 (-16%)
2011-12	3.47 (-17%)	3.61 (7%)	5.45 (-28%)	4.13 (-25%)	1.77 (-31%)	2.12 (-31%)	4.44 (-4%)	7.46 (9%)	0.79 (-41%)	0.87 (-31%)
2012-13	3.63 (5%)	3.64 (1%)	4.54 (-17%)	3.78 (-8%)	2.04 (15%)	1.62 (-24%)	3.94 (-11%)	9.84 (32%)	0.54 (-32%)	0.54 (-38%)
2013-14	3.6 (-1%)	5.72 (57%)	4.47 (-2%)	4.56 (21%)	1.99 (-2%)	1.76 (9%)	4.67 (19%)	16.03 (63%)	0.8 (48%)	0.63 (17%)
CAGR	2%	5%	-10%	-8%	-3%	-2%	6%	8%	-7%	-16%
Mean	3.81	3.68	7.47	6.38	2.51	2.32	3.54	8.45	1.14	1.58
SD	0.94	1.60	3.20	3.11	0.52	0.54	1.16	3.25	0.54	0.98
Skewness	-0.21	0.03	0.56	0.81	0.24	0.29	-0.45	1.25	0.43	0.51
Kurtosis	2.73	3.10	1.65	2.35	2.17	1.61	1.81	4.04	2.72	1.84
Jarque-Bera	0.10	0.01	1.29	1.27	0.38	0.94	0.93	3.05	0.35	0.99
Probability	0.95	1.00	0.53	0.53	0.83	0.62	0.63	0.22	0.84	0.61

Note: Values in the parenthesis represent the annual growth rate.

Table: 6.4
Price to Earning (P/E)

Year	Mahindra & Mahindra	Tata Motors.	Infosys	Wipro	G A I L	ONGC	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2004-05	11.56 (----)	12.01 (----)	32.01 (----)	31.59 (----)	9.17 (----)	9.7 (----)	63.23 (----)	28.61 (----)	8.97 (----)	6.39 (----)
2005-06	23.35 (102%)	23.5 (96%)	34.18 (7%)	39.41 (25%)	11.65 (27%)	13.45 (39%)	47.64 (-25%)	34.88 (22%)	12.31 (37%)	8.47 (33%)
2006-07	22.01 (-6%)	15.71 (-33%)	34.74 (2%)	30.39 (-23%)	10.58 (-9%)	12.19 (-9%)	13.53 (-72%)	34.45 (-1%)	5.96 (-52%)	6.75 (-20%)
2007-08	18.37 (-17%)	11.85 (-25%)	18.81 (-46%)	20.29 (-33%)	12.45 (18%)	12.87 (6%)	20.34 (50%)	20.16 (-41%)	8.71 (46%)	10.47 (55%)
2008-09	12.93 (-30%)	8.1 (-32%)	13.03 (-31%)	12.09 (-40%)	11.05 (-11%)	10.74 (-17%)	14.39 (-29%)	18.21 (-10%)	4.24 (-51%)	2.89 (-72%)
2009-10	15.79 (22%)	12.38 (53%)	25.9 (99%)	21.19 (75%)	16.56 (50%)	14.03 (31%)	24.55 (71%)	41.25 (127%)	19.29 (355%)	11.12 (285%)
2010-11	16.86 (7%)	37.06 (199%)	28.84 (11%)	24.24 (14%)	16.54 (0%)	13.44 (-4%)	29.22 (19%)	33.06 (-20%)	18.69 (-3%)	8.67 (-22%)
2011-12	16.39 (-3%)	62.63 (69%)	22.11 (-23%)	23.11 (-5%)	12.02 (-27%)	12.05 (-10%)	32.34 (11%)	36.89 (12%)	10.75 (-42%)	6.68 (-23%)
2012-13	16.37 (0%)	70.37 (12%)	17.34 (-22%)	19.72 (-15%)	10.37 (-14%)	11.81 (-2%)	22.83 (-29%)	58.87 (60%)	10.14 (-6%)	5.71 (-15%)
2013-14	16.07 (-2%)	77.25 (10%)	18.47 (7%)	18.11 (-8%)	11.97 (15%)	12.22 (3%)	22.26 (-2%)	25.22 (-57%)	16.17 (59%)	5.84 (2%)
CAGR	4%	23%	-6%	-6%	3%	3%	-11%	-1%	7%	-1%
Mean	16.97	33.09	24.54	24.01	12.24	12.25	29.03	33.16	11.52	7.30
SD	3.60	27.02	7.70	7.84	2.47	1.31	15.50	11.65	5.11	2.44
Skewness	0.41	0.97	0.03	0.56	0.93	-0.56	1.21	2.67	0.30	-0.02
Kurtosis	2.53	2.31	1.61	2.72	2.68	2.60	3.43	3.11	1.93	2.48
Jarque-Bera	0.37	1.58	0.81	0.55	1.48	0.60	2.50	1.71	0.63	0.11
Probability	0.83	0.45	0.67	0.76	0.48	0.74	0.29	0.30	0.73	0.94

Note: Values in the parenthesis represent the annual growth rate.

Hence, it is the best option for investment among the selected companies of the study on the basis of price paid for per rupee earning. It is clear that P/E ratio of Hindalco, GAIL, ONGC, Mahindra & Mahindra are almost same with CAGR of 7%, 3%, 3%, 4 % respectively. Per rupee earning of the stocks of these companies is comparatively better. However, P/E ratio of Infosys, Dr. Reddy, Sun Pharma and Wipro are found to be reduced which is depicted from their negative value of CAGR. Therefore, stocks of these companies are also considerable. On the contrary, P/E ratio of TATA Motors and Sun Pharma confirms that the position of these companies is comparatively not satisfactory in the market as depicted from their high P/E ratio. Table- 6.4 also exhibits that mean value of P/E ratio of Tata Motors and Sun Pharma is highest, while this value is least in case of Tata Steel and Hindalco. However, comparatively low volatility is observed in case of ONGC, GAIL, Hindalco and Tata Steel companies.

6.2.1.5 Book Value per share (BV)

This ratio is used to measure the level of safety related to each share after paying all the debt. A good record of previous financial performance can be judged with high book value. Table- 6.5 shows the results of BV ratio of the selected companies. Highest average of book value per share is observed in case of Infosys and Tata Steel with highest CAGR. Positive trend of book value per share is an indication of strong position of these shares in the market. Therefore, the level of safety for the investment in these companies is good. It is important to note that Wipro and Sun Pharma have least BV per share in comparison with other companies and these companies failed to improve their BV per share which shows weak performance of these companies. Hence, investment in the shares of these companies is not profitable. Table- 6.5 also conveys the descriptive statistics of BV ratio of the selected companies. Mean value expresses that BV of Infosys and Tata Steel is highest, while it is found least in case of Wipro and Sun Pharma. Low volatility is

observed in case of GAIL, Wipro & Mahindra. The values of kurtosis, skewness and J-B statistics indicate low skewness in the distribution with platykurtic nature.

6.2.1.6 Market Capitalization (MC)

Along with judging the soundness of a company's financial position by financial ratios, stock market ratios are also relevant for taking rationale decision of investment in market. Market capitalization (MC) is an indicator which is applied to determine the size of a company and it can be calculated by multiplying the share price with the number of outstanding shares of a company. Usually, better investment opportunities are provided by large size companies as shares of these companies are actively traded. Table- 6.6 shows the results of MC. It can be summarized on the basis of results that average of MC is highest for ONGC with 10 % CAGR. It is inferred that ONGC may offer better opportunities for investment than rest of the companies under the study due to its highest size. Hence, there are more chances of liquidity and marketability of the shares. Infosys reflects 16% CAGR with large average value of market capitalisation. However, least market capitalisation is found in case of Hindalco and Dr. Reddy which is the reason of the last preference of these companies while choosing a company for investment. The results also depict that Sun Pharma has achieved highest CAGR (34%) with an increasing annual growth rate during the whole study period which proves that market value of its share is accelerating and creating more temptation for the investors. Table- 6.6 also explores the mean value of the MC of the selected companies, which expresses that MC of Infosys and ONGC is highest.

6.2.1.7 Coefficient of Beta

It is the measurement of the stock volatility and systematic risk that represents the propensity of a security's returns to react with the swings in the market.

Table: 6.5
Book Value per Share (BV)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	GAIL	ONGC	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2004-05	170.38 (----)	113.65 (----)	193.75 (----)	69.54 (----)	102.01 (----)	328.52 (----)	271.05 (----)	59.51 (----)	826.36 (----)	127.55 (----)
2005-06	120.51 (-29%)	143.94 (27%)	250.29 (29%)	45.03 (-35%)	117.94 (16%)	378.42 (15%)	294.95 (9%)	78.8 (32%)	83.01 (-90%)	176.25 (38%)
2006-07	153 (27%)	179.43 (25%)	167.46 (-33%)	58 (29%)	138.11 (17%)	312.88 (-17%)	250.35 (-15%)	126.37 (60%)	98.91 (19%)	245.78 (39%)
2007-08	176.78 (16%)	202.69 (13%)	235.84 (41%)	79.05 (36%)	153.79 (11%)	330.16 (6%)	286.12 (14%)	203.15 (61%)	140.95 (43%)	298.77 (22%)
2008-09	188.51 (7%)	273.55 (35%)	310.9 (32%)	85.42 (8%)	116.44 (-24%)	368.12 (11%)	312.17 (9%)	248.72 (22%)	139.73 (-1%)	338.13 (13%)
2009-10	135.22 (-28%)	293.78 (7%)	384.02 (24%)	120.49 (41%)	132.43 (14%)	408.08 (11%)	350.3 (12%)	276.08 (11%)	145.87 (4%)	416.6 (23%)
2010-11	168.02 (24%)	369.51 (26%)	426.74 (11%)	86.87 (-28%)	151.78 (15%)	113.97 (-72%)	355.69 (2%)	64.51 (-77%)	155.14 (6%)	487.55 (17%)
2011-12	200.66 (19%)	76.42 (-79%)	526.13 (23%)	106.2 (22%)	176.78 (16%)	151.41 (33%)	396.38 (11%)	76.35 (18%)	163.47 (5%)	541.74 (11%)
2012-13	237.3 (18%)	74.08 (-3%)	636.81 (21%)	115.56 (9%)	197.32 (12%)	152.53 (1%)	447.8 (13%)	83.2 (9%)	170.84 (5%)	576.29 (6%)
2013-14	272.66 (15%)	69.64 (-6%)	733.03 (15%)	119.03 (3%)	213.42 (8%)	159.81 (5%)	548.41 (22%)	35.77 (-57%)	177.92 (4%)	629.6 (9%)
CAGR	5%	-5%	16%	6%	9%	-8%	8%	-5%	-16%	19%
Mean	182.30	179.67	386.50	88.52	150.00	270.39	351.32	125.25	210.22	383.83
SD	45.75	104.33	193.21	26.42	36.37	112.39	91.77	85.89	218.56	173.64
Skewness	0.66	0.54	0.59	-0.20	0.47	-0.26	1.00	0.79	1.07	-0.05
Kurtosis	2.71	2.03	2.06	1.81	2.08	1.36	3.09	2.03	3.12	1.68
Jarque-Bera	0.76	0.87	0.94	0.66	0.72	1.24	1.66	1.43	2.71	0.73
Probability	0.68	0.65	0.63	0.72	0.70	0.54	0.44	0.49	0.40	0.69

Note: Values in the parenthesis represent the annual growth rate.

Table: 6.6
Market Capitalisation (MC)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	G A I L	ONGC	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2004-05	55033.02 (---)	156619.73 (---)	481186.16 (---)	439146.82 (---)	172150.00 (---)	1098985.15 (---)	58717.13 (---)	80888.74 (---)	112196.32 (---)	168096.62 (---)
2005-06	96302.55 (-75%)	214566.81 (-37%)	695553.14 (-45%)	592748.24 (-35%)	212674.33 (-24%)	1491449.71 (-36%)	71113.16 (-21%)	120498.70 (-49%)	142664.43 (-27%)	215206.38 (-28%)
2006-07	178680.84 (-86%)	317632.50 (-48%)	1056061.13 (-52%)	779681.86 (-32%)	222674.16 (-5%)	1754882.52 (-18%)	114934.97 (-62%)	172963.81 (-44%)	199495.70 (-40%)	287425.62 (-34%)
2007-08	181232.07 (-1%)	276883.37 (-13%)	1015147.17 (-4%)	709934.40 (-9%)	322644.27 (-45%)	2155867.65 (-23%)	106853.55 (-7%)	215785.97 (-25%)	212385.55 (-6%)	499635.76 (-74%)
2008-09	111861.82 (-38%)	129016.23 (-53%)	847940.23 (-16%)	494333.44 (-30%)	298826.84 (-7%)	1769765.51 (-18%)	88693.51 (-17%)	260046.71 (-21%)	142729.17 (-33%)	320887.99 (-36%)
2009-10	249167.19 (-123%)	257704.40 (-100%)	1255499.82 (-48%)	816506.09 (-65%)	449833.79 (-51%)	2398059.32 (-36%)	160233.05 (-81%)	284487.30 (-9%)	219967.44 (-54%)	413920.41 (-29%)
2010-11	395401.84 (-59%)	544731.55 (-111%)	1699993.93 (-35%)	1049130.80 (-28%)	589921.27 (-31%)	2636329.72 (-10%)	256394.13 (-60%)	411917.39 (-45%)	366396.86 (-67%)	535666.52 (-29%)
2011-12	446825.30 (-13%)	559926.60 (-3%)	1578089.13 (-7%)	984433.25 (-6%)	524980.51 (-11%)	2352332.00 (-11%)	272342.27 (-6%)	526278.43 (-28%)	294062.93 (-20%)	469625.69 (-12%)
2012-13	500414.43 (-12%)	725072.30 (-29%)	1447205.87 (-8%)	965300.17 (-2%)	438100.38 (-17%)	2435142.02 (-4%)	295711.54 (-9%)	716027.25 (-36%)	218795.11 (-26%)	384443.13 (-18%)
2013-14	564154.29 (-13%)	942193.41 (-30%)	1778426.15 (-23%)	1158749.53 (-20%)	426123.84 (-3%)	2536667.17 (-4%)	408625.15 (-38%)	1161767.61 (-62%)	221407.17 (-1%)	314248.83 (-18%)
CAGR	30%	22%	16%	11%	11%	10%	24%	34%	8%	7%
Mean	277907.34	412434.69	1185510.28	798996.47	365792.94	2062948.08	183361.85	395066.20	213010.07	360915.70
SD	183795.58	269539.73	439647.41	242096.06	141137.20	509147.06	117750.26	332393.89	74895.34	121359.53
Skewness	0.33	0.78	-0.12	-0.09	0.10	-0.65	0.64	1.32	0.67	-0.09
Kurtosis	1.59	2.39	1.78	1.79	1.76	2.17	2.16	3.80	2.94	1.89
Jarque-Bera	1.01	1.17	0.64	0.62	0.66	0.98	0.98	3.17	0.76	0.53
Probability	0.60	0.56	0.73	0.73	0.72	0.61	0.61	0.20	0.68	0.77

Note: Values in the parenthesis represent the annual growth rate.

Table: 6.7
Coefficient of Beta

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	GAIL	ONGC	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2004-05	1.01 (----)	0.92 (----)	1.3 (----)	1.78 (----)	0.97 (----)	0.82 (----)	0.62 (----)	0.65 (----)	0.65 (----)	0.93 (----)
2005-06	0.93 (-8%)	0.88 (-4%)	1.15 (-12%)	1.57 (-12%)	1.09 (12%)	0.99 (21%)	0.7 (13%)	0.53 (-18%)	0.83 (28%)	1.11 (19%)
2006-07	0.93 (0%)	0.88 (0%)	1.15 (0%)	1.57 (0%)	1.09 (0%)	0.99 (0%)	0.7 (0%)	0.53 (0%)	0.83 (0%)	1.11 (0%)
2007-08	0.88 (-5%)	0.84 (-5%)	0.56 (-51%)	0.75 (-52%)	1.08 (-1%)	1.1 (11%)	0.58 (-17%)	0.44 (-17%)	1.11 (34%)	1.16 (5%)
2008-09	1.08 (23%)	1.02 (21%)	0.49 (-13%)	0.78 (4%)	0.87 (-19%)	0.86 (-22%)	0.52 (-10%)	0.38 (-14%)	1.33 (20%)	1.35 (16%)
2009-10	1.09 (1%)	1.13 (11%)	0.48 (-2%)	0.74 (-5%)	0.69 (-21%)	0.9 (5%)	0.47 (-10%)	0.33 (-13%)	1.33 (0%)	1.43 (6%)
2010-11	1.1 (1%)	1.16 (3%)	0.46 (-4%)	0.73 (-1%)	0.64 (-7%)	0.86 (-4%)	0.44 (-6%)	0.34 (3%)	1.33 (0%)	1.42 (-1%)
2011-12	1.1 (0%)	1.16 (0%)	0.46 (0%)	0.73 (0%)	0.64 (0%)	0.86 (0%)	0.44 (0%)	0.34 (0%)	1.33 (0%)	1.42 (0%)
2012-13	1.1 (0%)	1.23 (6%)	0.45 (-2%)	0.7 (-4%)	0.65 (2%)	0.81 (-6%)	0.41 (-7%)	0.31 (-9%)	1.39 (5%)	1.51 (6%)
2013-14	0.97 (-12%)	1.52 (24%)	0.49 (9%)	0.51 (-27%)	0.58 (-11%)	0.99 (22%)	0.44 (7%)	0.35 (13%)	1.45 (4%)	1.55 (3%)
CAGR	0%	6%	-10%	-13%	-6%	2%	-4%	-7%	9%	6%
Mean	1.02	1.07	0.70	0.99	0.83	0.92	0.53	0.42	1.16	1.30
SD	0.09	0.21	0.35	0.46	0.21	0.09	0.11	0.11	0.29	0.21
Skewness	-0.38	0.79	0.90	0.83	0.19	0.60	0.50	0.90	-0.73	-0.47
Kurtosis	1.54	2.95	1.91	1.93	1.30	2.23	1.72	2.49	1.93	1.91
Jarque-Bera	1.13	1.04	1.84	1.64	1.27	0.86	1.11	1.45	1.36	0.86
Probability	0.57	0.59	0.40	0.44	0.53	0.65	0.57	0.49	0.51	0.65

Note: Values in the parenthesis represent the annual growth rate.

The price of security will move with the market if the value of beta is 1, while value of beta < 1 indicates less volatile nature of security than the market and beta > 1 indicates more volatile nature of security than the market. Ultimately, it helps to uncover the risk associated with the security. It is observed from table- 6.7 that stocks of Hindalco, Mahindra & Mahindra, Tata Motors and Tata steel have been more volatile during the last decade as their beta values are greater than 1 and their risk has been increased over the period of time. Among these companies, the volatility of Tata steel is seems to be highest. On the other hand, remaining companies are found less volatile and hence; less risky, while Sun Pharma and Dr. Reddy are found to be least risky as indicated by the value of beta of these companies which recorded CAGR of -7% and -4% respectively. Infosys, Wipro and GAIL are the companies which are although under risk but risk has been declined over the period of time, whereas beta of ONGC and Wipro are found to be close to 1 during the study period. It can be reasonably concluded that more risk is involved in the investment of ONGC and Wipro. Table- 6.7 also exhibits the mean value which is highest for Hindalco and Tata Steel.

6.2.2 PERFORMANCE EVALUATION OF COMPANIES' STOCK RETURNS: A COMPARISON

After gaining insight of the existing divergence in the financial performace of different companies, next step is to analyse whether such difference truly reflects in the market performance of these stocks or not. Returns on the closing price of stocks are considered to investigate the differences in company's stock price. The results of the various sample companies are displayed in table- 6.8. The strength of the stocks is measured by CAGR of returns. The growth of returns in the selected companies displays huge up & down but highest growth is observed for Hindalco industries. Highest 70 % growth in returns is found in 2009-10. However, returns of this company are comparatively lesser than other companies but shows highest

Table: 6.8 Return on Stocks (RET)

Year	Mahindra & Mahindra	Tata Motors	Infosys	Wipro	GAIL	ONGC	Dr. Reddy	Sun Pharma	Hindalco	Tata Steel
2005-06	1.04 (----)	1.13 (----)	1.04 (----)	0.97 (----)	1.08 (----)	1.06 (----)	1.10 (----)	1.10 (----)	0.73 (----)	1.05 (----)
2006-07	1.03 (0%)	0.96 (-15%)	0.95 (-8%)	1.00 (3%)	0.97 (-10%)	0.94 (-11%)	0.91 (-17%)	1.03 (-6%)	0.94 (29%)	0.97 (-7%)
2007-08	0.98 (-5%)	0.98 (1%)	0.96 (0%)	0.96 (-4%)	1.08 (12%)	1.02 (8%)	0.97 (7%)	1.02 (-1%)	1.05 (12%)	1.07 (10%)
2008-09	0.91 (-8%)	0.81 (-17%)	0.99 (4%)	0.91 (-5%)	0.91 (-16%)	0.97 (-5%)	0.97 (0%)	0.99 (-4%)	0.77 (-26%)	0.81 (-24%)
2009-10	1.06 (17%)	1.28 (58%)	1.09 (11%)	1.19 (31%)	1.09 (20%)	1.05 (9%)	1.16 (19%)	1.07 (8%)	1.32 (70%)	1.21 (49%)
2010-11	1.04 (-2%)	1.08 (-16%)	1.03 (-6%)	0.94 (-21%)	1.02 (-7%)	0.81 (-23%)	1.03 (-10%)	0.81 (-24%)	1.03 (-22%)	1.00 (-18%)
2011-12	1.00 (-4%)	0.79 (-27%)	0.98 (-4%)	0.99 (5%)	0.96 (-5%)	0.99 (22%)	1.01 (-2%)	1.04 (28%)	0.91 (-11%)	0.96 (-4%)
2012-13	1.03 (3%)	1.00 (26%)	1.00 (2%)	1.00 (1%)	0.97 (1%)	1.03 (4%)	1.00 (-1%)	1.06 (1%)	0.93 (2%)	0.93 (-2%)
2013-14	1.02 (-1%)	1.07 (7%)	1.02 (1%)	1.04 (4%)	1.03 (6%)	1.00 (-2%)	1.05 (5%)	0.95 (-10%)	1.10 (18%)	1.04 (11%)
CAGR	0%	-1%	0%	1%	-1%	-1%	0%	-2%	5%	0%
Mean	1.01	1.01	1.01	1.00	1.01	0.98	1.02	1.01	0.97	1.00
SD	0.05	0.15	0.04	0.08	0.06	0.08	0.07	0.09	0.18	0.11
Skewness	-1.44	0.07	0.63	1.54	-0.13	-1.43	0.36	-1.35	0.47	0.18
Kurtosis	4.19	2.39	2.88	4.75	1.81	4.31	2.52	4.03	2.81	3.18
Jarque-Bera	3.62	0.15	0.61	4.71	0.56	3.69	0.28	3.13	0.34	0.06
Probability	0.16	0.93	0.74	0.10	0.76	0.16	0.87	0.21	0.84	0.97

Note: Values in the parenthesis represent the annual growth rate.

growth which is an indication of improvement in the market price of the stocks of this company. On the basis of this, it can be summarized that stocks of Hindalco may offer good returns in future. Positive growth in returns is also observed in case of Wipro with 1 % CAGR. On the contrary, no growth/decline is observed for Infosys, Mahindra & Mahindra, Dr. Reddy and TATA Steel. However, stock returns of these companies are highest as compared with other companies. Negative trend is observed in rest of the companies which is also found to be more volatile and makes the investment opportunities risky in these stocks. Further, mean value expresses that returns of Dr. Reddy is highest, while it is least in case of Hindalco and ONGC. Low volatility is observed in Infosys & Mahindra. Overall, it is observed from the small values of skewness and kurtosis in all series of selected companies that these series have low skewness in distribution with platykurtic shape. The results of nature of distribution are confirmed by J-B statistics which clearly convey that all data series of the companies under the study are not away from normal distribution.

6.2.3 RELATIONSHIP OF FINANCIAL PERFORMANCE OF COMPANY WITH STOCK RETURNS

The study of relationship between financial performance and stock price helps the investor while choosing the better investment decision. Various researchers (Srinivasan, 2012 and Raithatha & Bapat, 2013) examined the significant relationships between stock price and financial performance parameters and it is observed that number of financial performance variables affect stock price. In the current study, correlation analysis has been used to estimate the extent of relationships between financial performance variables such as DY (dividend yield), P/B (Price to book value), BV (book value), MC (market capitalisation), EPS (earning per share), P/E (price to earning ratio), beta and stock price. Table- 6.9 to 6.18 present the summary of correlation coefficients of the selected companies.

6.2.3.1 Relationship in Mahindra and Mahindra Ltd.

The results of correlation analysis are displayed in case of Mahindra and Mahindra in table- 6.9. All variables show positive relation with stock price except BETA and DY which are proved to be negatively related. On the other side, results show that financial performance variables such as BV (0.611), EPS (0.750), and MC (0.771) are significantly correlated with stock price.

Table: 6.9
Correlation Matrix for Mahindra & Mahindra Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	.181	1						
	Sig. (2-tailed)	.617							
DY	Pearson Correlation	.290	.110	1					
	Sig. (2-tailed)	.416	.763						
EPS	Pearson Correlation	.143	.882*	-.171	1				
	Sig. (2-tailed)	.693	.001	.636					
P/B	Pearson Correlation	-.476	-.453	-.499	-.194	1			
	Sig. (2-tailed)	.164	.188	.142	.590				
P/E	Pearson Correlation	-.559	-.390	-.330	-.318	.912**	1		
	Sig. (2-tailed)	.093	.265	.351	.371	.000			
MC	Pearson Correlation	.391	.755**	-.220	.804**	-.014	-.065	1	
	Sig. (2-tailed)	.264	.012	.541	.005	.969	.859		
Clop	Pearson Correlation	-.219	.611**	-.464	.750*	.421	.378	.771*	1
	Sig. (2-tailed)	.543	.050	.072	.013	.075	.282	.009	

Note: * significant at 1% level of Significance.
** significant at 5% level of Significance.

Correlation coefficient of stock price with other variables indicates insignificant correlation. Highest coefficient of correlation of Mahindra & Mahindra is observed with MC (0.771) which is significant at 1 % level of significance. Table- 6.9 shows that all independent variables are related to each other and their degree of correlation is either low or moderate.

6.2.3.2 Relationship in Tata Motors Ltd.

Correlation matrix is calculated to establish the relationship of stock price with the variables of financial performance of Tata Motors in table- 6.10. BETA, P/B and P/E show insignificant correlation with stock price. On the contrary, It is clearly depicted in table- 6.10 that financial performance variables such as BV (0.606) and EPS (0.580) are significantly correlated. BV is found to be highly correlated with

stock price which is significant at 5 % level of significance. The relationships of stock price are positive with all variables except BETA, DY and P/E. Table- 6.18 depicts that all independent variables are related to each other but their degree of correlation is either low or moderate.

Table: 6.10
Correlation Matrix for Tata Motors Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.228	1						
	Sig. (2-tailed)	.526							
DY	Pearson Correlation	-.242	.318	1					
	Sig. (2-tailed)	.500	.370						
EPS	Pearson Correlation	-.714**	.602	-.036	1				
	Sig. (2-tailed)	.020	.066	.921					
P/B	Pearson Correlation	.166	-.528	-.692**	-.184	1			
	Sig. (2-tailed)	.646	.117	.026	.611				
P/E	Pearson Correlation	.822*	-.574	-.388	-.856*	.422	1		
	Sig. (2-tailed)	.004	.083	.268	.002	.224			
MC	Pearson Correlation	.874*	-.414	-.433	-.738*	.399	.946*	1	
	Sig. (2-tailed)	.001	.234	.212	.015	.253	.000		
Clop	Pearson Correlation	-.232	.606**	-.496	.580**	.308	-.279	.435	1
	Sig. (2-tailed)	.520	.053	.071	.059	.387	.436	.70	

Note: * significant at 1% level of Significance.

** significant at 5% level of Significance.

6.2.3.3 Relationship in Infosys Ltd.

The results of correlation analysis are displayed in table- 6.11 in case of Infosys that is constructed to show the relationship of stock price of Infosys with financial performance. Results reveal that financial performance variables such as BV (0.640), EPS (0.603), P/E (0.553) and MC (0.698) are significantly correlated

Table: 6.11
Correlation Matrix for Infosys Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.686**	1						
	Sig. (2-tailed)	.029							
DY	Pearson Correlation	-.333	.167	1					
	Sig. (2-tailed)	.348	.645						
EPS	Pearson Correlation	-.660**	.988*	.222	1				
	Sig. (2-tailed)	.038	.000	.538					
P/B	Pearson Correlation	.932**	.718*	-.467	-.725*	1			
	Sig. (2-tailed)	.000	.019	.174	.018				
P/E	Pearson Correlation	.783*	-.548	-.556	-.590	.944**	1		
	Sig. (2-tailed)	.007	.101	.095	.073	.000			
MC	Pearson Correlation	-.745**	.822*	.066	.747*	-.608	-.347	1	
	Sig. (2-tailed)	.013	.004	.856	.013	.062	.326		
Clop	Pearson Correlation	-.137	.640**	-.414	.603**	-.002	.553**	.698**	1
	Sig. (2-tailed)	.705	.046	.078	.051	.996	.058	.040	

Note: * significant at 1% level of Significance, ** significant at 5% level of Significance.

with stock price. On the contrary, BETA and P/B show insignificant correlation with stock price. EPS is found to be highest correlated at 5 % level of significance. Further, the relationships of stock price are observed positive with all variables except BETA, DY and P/B. The results also show that all independent variables are related to each other but their degree of correlation is either low or moderate in Infosys.

6.2.3.4 Relationship in Wipro Ltd.

The results of correlation analysis in case of Wipro are displayed in table- 6.12. Correlation matrix has been calculated to show the relationship of stock price with the financial performance of this company. Table- 6.12 reveals that financial performance variables such as EPS (0.590) and P/E (0.673) are significantly correlated with stock price.

Table: 6.12
Correlation Matrix for Wipro Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.818*	1						
	Sig. (2-tailed)	.004							
DY	Pearson Correlation	.035	.083	1					
	Sig. (2-tailed)	.925	.820						
EPS	Pearson Correlation	-.513	.778*	-.090	1				
	Sig. (2-tailed)	.130	.008	.806					
P/B	Pearson Correlation	.892**	-.789**	-.294	-.421	1			
	Sig. (2-tailed)	.001	.007	.410	.225	.			
P/E	Pearson Correlation	.830*	-.718**	-.306	-.510	.953*	1		
	Sig. (2-tailed)	.003	.019	.390	.132	.000			
MC	Pearson Correlation	-.666**	.644**	.107	.369	-.451	-.296	1	
	Sig. (2-tailed)	.036	.044	.768	.294	.191	.406		
Clop	Pearson Correlation	-.404	-.029	-.426	.590**	.494	.673**	.004	1
	Sig. (2-tailed)	.084	.937	.057	.035	.064	.023	.991	.000

Note: * significant at 1% level of Significance
** significant at 5% level of Significance.

On the contrary, BV and MC show insignificant correlation with stock price. P/E is found to be highest correlated at 5 % level of significance. The relationships of stock price are positive with all variables except beta, BV and DY. The results also show that all independent variables are related to each other but their degree of correlation is either low or moderate.

6.2.3.5 Relationship in GAIL (India) Ltd.

The results of correlation analysis are displayed in table- 6.13 for GAIL. The results show that financial performance variables such as DY (-0.887) and EPS (0.636), P/B (0.610), P/E (0.825) and MC (0.773) are significantly correlated with stock price of GAIL. The highest coefficient of correlation of stock price is observed with DY (-0.887) which is significant at 1 % level of significance.

Table: 6.13
Correlation Matrix for GAIL (India) Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.660*	1						
	Sig. (2-tailed)	.038							
DY	Pearson Correlation	.440	-.289	1					
	Sig. (2-tailed)	.203	.418						
EPS	Pearson Correlation	-.243	.763*	-.449	1				
	Sig. (2-tailed)	.498	.010	.193					
P/B	Pearson Correlation	.115	-.416	-.631	-.042	1			
	Sig. (2-tailed)	.751	.231	.050	.909				
P/E	Pearson Correlation	-.421	.058	-.818**	.093	.802**	1		
	Sig. (2-tailed)	.225	.873	.004	.799	.005			
MC	Pearson Correlation	-.854**	.615	-.721*	.446	.228	.681*	1	
	Sig. (2-tailed)	.002	.058	.019	.196	.526	.030		
Clop	Pearson Correlation	-.497	.358	-.887*	.636**	.610**	.825*	.773*	1
	Sig. (2-tailed)	.065	.183	.001	.058	.041	.003	.001	

Note: * significant at 1% level of Significance,
** significant at 5% level of Significance.

The results show that almost all independent variables are related to each other but their degree of correlation is either low or moderate. The relationships of stock price are positive with all variables except BETA and DY.

6.2.3.6 Relationship in Oil and Natural Gas Corporation Ltd.

The results of correlation analysis in case of ONGC are displayed in table- 6.14. Correlation matrix has been calculated to show the relationship of stock price of ONGC with the financial performance of this company. Table- 6.14 reveals that financial performance variables such as BV (0.844), DY (-0.482), EPS (0.901), P/B (0.840) and MC (-0.640) are significantly correlated with stock price. On the contrary, beta and P/E show insignificant correlation. EPS is found to be highest correlated at 1 % level of significance.

Table: 6.14
Correlation Matrix for Oil and Natural Gas Corporation Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	.299	1						
	Sig. (2-tailed)	.401							
DY	Pearson Correlation	-.368	-.138	1					
	Sig. (2-tailed)	.295	.704						
EPS	Pearson Correlation	.309	.947**	-.086	1				
	Sig. (2-tailed)	.386	.000	.813					
P/B	Pearson Correlation	.516	.633 [†]	-.042	.767**	1			
	Sig. (2-tailed)	.127	.050	.909	.010				
P/E	Pearson Correlation	.439	.005	-.273	-.094	.369	1		
	Sig. (2-tailed)	.205	.990	.446	.797	.294			
MC	Pearson Correlation	.007	-.637*	-.149	-.803**	-.502	.566	1	
	Sig. (2-tailed)	.985	.057	.680	.005	.139	.095		
Clop	Pearson Correlation	-.133	.844*	-.482**	.901*	.840*	.176	-.640**	1
	Sig. (2-tailed)	.211	.000	.042	.000	.002	.226	.032	

Note: * significant at 1% level of Significance, ** significant at 5% level of Significance.

The relationships of stock price are positive with all variables except beta, MC and DY. The results also show that all independent variables are related to each other but their degree of correlation is either low or moderate.

6.2.3.7 Relationship in DR. Reddy's Laboratories Ltd.

The results of correlation analysis are displayed in table- 6.15 for Dr. Reddy's. The results show that financial performance variables such as BETA (-0.596), BV (0.895), EPS (0.828), P/B (0.866) and MC (0.896) are significantly correlated with

Table: 6.15
Correlation Matrix for Dr. Reddy's Laboratories Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.770*	1						
	Sig. (2-tailed)	.009							
DY	Pearson Correlation	-.675**	.333	1					
	Sig. (2-tailed)	.032	.347						
EPS	Pearson Correlation	-.598	.896*	.060	1				
	Sig. (2-tailed)	.068	.000	.869					
P/B	Pearson Correlation	-.301	.559	-.256	.528	1			
	Sig. (2-tailed)	.398	.093	.476	.117				
P/E	Pearson Correlation	.299	-.224	-.048	-.476	.248	1		
	Sig. (2-tailed)	.401	.534	.896	.164	.490			
MC	Pearson Correlation	-.781*	.941*	.290	.922*	.613	-.308	1	
	Sig. (2-tailed)	.008	.000	.416	.000	.059	.387		
Clop	Pearson Correlation	-.596**	.895*	.040	.828*	.866*	.002	.896*	1
	Sig. (2-tailed)	.059	.000	.913	.003	.001	.995	0.000	

Note: * significant at 1% level of Significance, ** significant at 5% level of Significance.

stock price. The relationships are positive with all variables except beta. Highest correlation of stock price is observed with MC (0.896) which is significant at 1 %

level of significance. The results show that almost all independent variables are related to each other but their degree of correlation is either low or moderate.

6.2.3.8 Relationship in Sun Pharmaceutical Industries Ltd.

Correlation matrix has been constructed to find the relationship of stock price with financial performance of this company. Table- 6.16 depicts that financial performance variables such as BV (0.802), EPS (0.738), P/E (0.525) and MC (0.422) are significantly correlated with stock price of Sun Pharma.

Table: 6.16
Correlation Matrix for Sun Pharmaceutical Industries Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.197	1						
	Sig. (2-tailed)	.585							
DY	Pearson Correlation	.125	.163	1					
	Sig. (2-tailed)	.730	.653						
EPS	Pearson Correlation	.043	.897*	.002	1				
	Sig. (2-tailed)	.907	.000	.996					
P/B	Pearson Correlation	-.012	-.656**	-.236	-.717**	1			
	Sig. (2-tailed)	.973	.039	.512	.020				
P/E	Pearson Correlation	-.307	-.218	.102	-.429	.156	1		
	Sig. (2-tailed)	.388	.545	.779	.217	.666			
MC	Pearson Correlation	-.633	-.404	-.224	-.575	.697**	.194	1	
	Sig. (2-tailed)	.049	.247	.534	.082	.025	.590		
Clop	Pearson Correlation	-.168	.802*	.106	.738**	-.390	.525**	.422**	1
	Sig. (2-tailed)	.643	.000	.771	.015	.265	.045	.054	

Note: * significant at 1% level of Significance, ** significant at 5% level of Significance.

The highest coefficient of correlation is observed with BV (0.802) which is significant at 1 % level of significance. The results show that almost all independent variables are related to each other but their degree of correlation is either low or moderate. The relationships of stock price are positive with all variables except BETA and P/B.

6.2.3.9 Relationship in Hindalco Industries Ltd.

Table- 6.17 presents correlation analysis for Hindalco. Correlation matrix has been constructed to find the relationship of stock price with financial performance of this company. It is found that financial performance variables such as BETA (-0.644), BV (0.779), DY (-0.640), EPS (0.888) and P/E (0.601) are significantly correlated with stock price of Hindalco.

Table: 6.17
Correlation Matrix for Hindalco Industries Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	-.518	1						
	Sig. (2-tailed)	.125							
DY	Pearson Correlation	-.093	-.080	1					
	Sig. (2-tailed)	.798	.825						
EPS	Pearson Correlation	-.690*	.975*	-.024	1				
	Sig. (2-tailed)	.027	.000	.948					
P/B	Pearson Correlation	-.730*	.185	-.375	.322	1			
	Sig. (2-tailed)	.017	.609	.285	.364				
P/E	Pearson Correlation	.398	-.129	-.666**	-.234	.246	1		
	Sig. (2-tailed)	.255	.722	.035	.515	.493			
MC	Pearson Correlation	.582	-.406	.384	-.494	-.192	.555	1	
	Sig. (2-tailed)	.077	.244	.274	.147	.594	.096		
Clop	Pearson Correlation	-.644**	.779*	-.640**	.888*	.375	.601**	.481	1
	Sig. (2-tailed)	.053	.000	.059	.000	.285	.051	.080	

Note: * significant at 1% level of Significance.

** significant at 5% level of Significance.

The highest coefficient of correlation is observed with EPS which is significant at 1 % level of significance. The results show that almost all independent variables are related to each other but their degree of correlation is either low or moderate. The relationships of stock price are positive with all variables except beta and DY.

6.2.3.10 Relationship in Tata Steel Ltd.

Table- 6.18 exhibits the results of correlation analysis of Tata Steel. Correlation matrix has been calculated to show the relationship of stock price of Tata Steel with the financial performance of this company. It is observed that financial performance variables such as DY (-0.700), EPS (0.532) and P/E (0.861) are significantly correlated with stock price. On the contrary, beta, BV, MC and P/B show insignificant correlation. P/E is found to be highest correlated at 1 % level of significance. The relationships of stock price are positive with all variables except BETA, BV and DY. The results also show that all independent variables are related to each other but their degree of correlation is either low or moderate.

Table: 6.18
Correlation Matrix for Tata Steel Ltd.

		BETA	BV	DY	EPS	P/B	P/E	MC	Clop
BETA	Pearson Correlation	1							
	Sig. (2-tailed)								
BV	Pearson Correlation	.954*	1						
	Sig. (2-tailed)	.000							
DY	Pearson Correlation	.171	-.005	1					
	Sig. (2-tailed)	.636	.989						
EPS	Pearson Correlation	-.016	.024	.121	1				
	Sig. (2-tailed)	.964	.948	.739					
P/B	Pearson Correlation	-.898*	-.869*	-.444	-.150	1			
	Sig. (2-tailed)	.000	.001	.198	.679				
P/E	Pearson Correlation	-.123	-.131	-.660**	-.291	.445	1		
	Sig. (2-tailed)	.735	.719	.038	.414	.198			
MC	Pearson Correlation	.558	.580	-.126	.226	-.470	.401	1	
	Sig. (2-tailed)	.094	.079	.729	.530	.170	.251		
Clop	Pearson Correlation	-.143	-.119	-.700**	.532**	.334	.861*	.490	1
	Sig. (2-tailed)	.693	.744	.024	.053	.210	.000	.081	

Note: * significant at 1% level of Significance.

** significant at 5% level of Significance.

On the basis of the comparison of all five industries, it is noticed that BETA and DY are negatively while EPS, P/B and MC are positively correlated with all indices of this study. Overall, it can be concluded that selected financial performance variables for company analysis under the study are robust enough to detect the impact of financial performance on stock price.

6.2.4 SIGNIFICANT DIFFERENCE IN THE PERFORMANCE OF COMPANIES

One way ANOVA is applied to understand the broader outlook of financial performance of all the companies. On the basis of the descriptive statistics of all the variables, it is obvious that data series are normal. The results of ANOVA are displayed in table- 6.19. It is clear that there is significant difference in the performance variables of all the companies which is indicated by p-values (<0.05). Therefore, it is required to study the financial performance parameters indepth to better understand the companies for rational investment decision which is earlier evaluated by CAGR and descriptive statistics.

Table: 6.19
Analysis of Variance for Association in Companies

		Sum of Squares	df	Mean Square	F	P-Value Sig.
Beta	Between Groups	6.886	9	.765	12.984	.000
	Within Groups	5.304	90	.059		
	Total	12.190	99			
BV	Between Groups	1070150.773	9	118905.641	7.494	.000
	Within Groups	1428098.816	90	15867.765		
	Total	2498249.589	99			
Clop	Between Groups	38711231.185	9	4301247.909	27.025	.000
	Within Groups	14324389.303	90	159159.881		
	Total	53035620.487	99			
EPS	Between Groups	63196.043	9	7021.783	11.305	.000
	Within Groups	55901.611	90	621.129		
	Total	119097.654	99			
P/B	Between Groups	568.685	9	63.187	17.046	.000
	Within Groups	333.618	90	3.707		
	Total	902.304	99			
P/E	Between Groups	635534.731	9	70614.970	5.138	.045
	Within Groups	5582321.556	90	62025.795		
	Total	6217856.287	99			
DY	Between Groups	83.904	9	9.323	7.689	.000
	Within Groups	109.124	90	1.212		
	Total	193.029	99			
MC	Between Groups	31323733402814.523	9	3480414822534.947	44.497	.000
	Within Groups	7039543829426.333	90	78217153660.293		
	Total	38363277232240.860	99			

6.2.5 IMPACT OF FINANCIAL PERFORMANCE OF COMPANY ON STOCK RETURNS

Now, it is required to check the performance indicators that have more effect on stock returns and panel data based on fixed effect model is used to estimate the directions of effects of performance indicators on stock returns. As heterogeneity is observed in the performance of companies under the study, so techniques of panel data estimation are more informative, efficient and better to detect the effects (Gujrati et al., 2012) in this case. Stationarity of panel data has been checked by applying panel data unit root test in the first phase and inferential measures are computed with fixed effect model in the later phase. The impact of financial performance parameters of company on stock returns has been checked by considering company stock returns as dependent variable and financial performance variables as independent variables in the model. The results are shown in tables- 6.20 & 6.21.

6.2.5.1 Panel Data Unit Root Test

Stationarity is examined by using panel data unit root tests. Hence, LLC and IPS tests are applied which were developed by Levin, Lin & Chu (2002) and Im, Pesaran & Shin (2003) respectively. Both tests are based on the null hypothesis of presence of unit root. The results of unit root tests are presented in table- 6.20. It is observed from the results of LLC and IPS tests that the null hypothesis of non stationary is rejected for BV and DY at level.

Table: 6.20
Panel data Unit Root Test

Variables	IPS		LLC	
	Statistic	p-value	Statistic	p-value
CLOP	-2.8094*	0.0025	-0.2347	0.4072
CLOP	-34.7110*	0.0000	-37.7524*	0.0000
BV	-0.8264**	0.02043	-3.5966*	0.0002
BV	-31.6113*	0.0000	-36.3384*	0.0000
BETA	0.1968	0.5780	-2.3247**	0.0100
BETA	-22.5641*	0.0000	-26.4358*	0.0000
DY	-6.4627*	0.0000	-2.1030**	0.0177
DY	-28.3143*	0.0000	-24.5803*	0.0000
EPS	0.5254	0.7003	2.7083	0.9966
EPS	-30.4642*	0.0000	-31.3748*	0.0000
MC	-0.7055	0.2403	-1.2430	0.1069
MC	-32.5868*	0.0000	-34.0973*	0.0000
PB	-0.7608	0.2234	0.2976	0.6170
PB	-28.0808*	0.0000	-27.4330*	0.0000
PE	0.6949	0.83	0.6606	0.7456
PE	-24.9136*	0.0000	-24.7361*	0.0000

Note: **Significant at 1% level of Significance, *** Significant at 5% level of Significance, **** Significant at 10% level of Significance.

‘ ’ symbol indicates that the first differences of the variables.

Hence, BV and DY are found stationary at levels at 1% level of significance, while null hypothesis can be rejected at first difference for all other variables. Hence, other variables are found to be stationary at first difference. The results show that the stock price and performance variables are not stationary at levels but became stationary at the first difference (except BV and DY) and these variables are stationary at 5% level of significance. Multicollinearity status among the independent variables is also checked which provides an evidence of the absence of multicollinearity problem.

6.2.5.2 Stock return and financial performance: An Empirical Model

Fixed effect model has been employed to estimate the impact of financial performance parameters on stock price. This study uses monthly time series data for the period of April, 2004 to March, 2014 with 1200 observations pertaining to ten selected companies under the study. The explanatory power of the performance variables has been checked by applying fixed effect model to explain the company stock returns. The model is considered in equation-(6.1).

$$\text{Stock Price} = + \text{ }_1\text{DY} + \text{ }_2\text{EPS} + \text{ }_3\text{BV} + \text{ }_4\text{P/E} + \text{ }_5\text{P/B} + \text{ }_6\text{Beta} + \text{ }_7\text{MC} \\ + \dots\dots\dots(6.1)$$

Where, is constant term, is error term, represents the coefficients of independent financial performance indicators of industry such as: Dividend Yield, Earning per share, Book value per share, Price-earning ratio, Price to book value ratio, Beta and Market capitalisation which are represented by DY, EPS, BV, P/E, P/B, BETA and MC respectively. The model is applied to check the following null hypothesis:

Null hypothesis (H₀): There is no significant impact of financial performance parameters on company stock returns

Table- 6.21 presents the results of fixed effect model which estimate the relationship between company stock returns and financial performance. The empirical results of F-statistics demonstrates that the model is fit as p-value < 0 and significant at 1% level of significance which means coefficients of selected variables are not jointly equal to zero. It is depicted from table- 6.21 that estimates of coefficient of all the regressors are significant except DLBETA, DLPB and LDY. Therefore, DLBETA, DLPB and LDY are not important to determine company stock returns. Further, the coefficients of LBV, DLEPS, DLMC and DLPE explain the positive impact on stock returns and hence, null hypothesis is rejected in case of these variables. 10.39%, 76.56%, 20.77% and 75.28% impact is shown by LBV, DLEPS, DLMC and DLPE respectively.

Results of the model reveal that the direction of variability is negative for LDY and DLBETA but these are found to be insignificant.

Table: 6.21
Fixed Effect Model (FEM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.03163	0.009529	-3.31956	0.0009*
DLBETA	-0.00152	0.044849	-0.03382	0.973
LBV	0.103982	0.0042	3.328967	0.0009*
LDY	-0.00528	0.004618	-1.14297	0.2533
DLEPS	0.765617	0.01282	59.7221	0*
DLMC	0.207694	0.050514	4.111608	0*
DLPB	0.010094	0.050169	0.201205	0.8406
DLPE	0.752832	0.019314	38.97858	0*
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.856247	Mean dependent var		-0.0011
Adjusted R-squared	0.854234	S.D. dependent var		0.072265
S.E. of regression	0.02759	Akaike info criterion		-4.32817
Sum squared resid	0.870066	Schwarz criterion		-4.25408
Log likelihood	2527.341	Hannan-Quinn criter.		-4.30022
F-statistic	425.5079	Durbin-Watson stat		2.073425
Prob. (F-statistic)	0			

Note: '*' Significant at 1% level of Significance, '**' Significant at 5% level of Significance, '***' Significant at 10% level of Significance.

Highest effect on stock returns is examined from DLEPS (76.56%) and DLPE (75.28%), while DLBV showed least effect. Hence, R^2 (0.85) value reveals that 85 percent variability in the stock price of companies is due to the variables that are taken under the study.

SECTION - II

6.3 TECHNICAL ANALYSIS

Technical analysis works to understand the trends of the market/stock and to convey the message regarding movements in stock prices as indicators are the set of methods to confirm the price movements. With the help of indicators of technical analysis an investor can find the signal of buy and sell of a particular stock. Hence, technical analysis is very useful to know the breadth of the market and helpful to indicate the pattern of stock prices on the basis of which future situation can be estimated. In this part of the study movements of monthly closing stock prices of

selected companies are analysed through various indicators of technical analysis such as RSI, MACD, EMA, volume and trend line from April 2004 to August 2015. Oscillators have been employed to observe the market trend of stock prices in the current study and according to oscillators, details of the trends are as follows:

6.3.1 Trend Analysis of the Stock Prices of Mahindra & Mahindra Ltd.

Figure- 6.1 is prepared to reveal the market trend of the stock prices of Mahindra & Mahindra Ltd from April 2004 to August 2015. Oscillators have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Mahindra & Mahindra Ltd. Figure- 6.1 presents the stock price movements of Mahindra & Mahindra through oscillators and MACD shows sell signal when it touched the extreme in the periods: March 2005, August 2005, May 2007, December 2007, March 2010, December 2010, April 2011, October 2011, July 2013, March 2014, February 2015 and July 2015. MACD shows buy signal when it touched the bottom in the following periods: October 2004, March 2009, and April 2015. MACD showed a signal of bearish trend because it reached above zero in the following period: March 2005 to July 2005, August 2005 to February 2006, May 2007 to November 2007, December 2007 to October 2008, March 2010 to September 2010, December 2010 to March 2011, April 2011 to July 2011, October 2011 to July 2012, August 2013 to September 2013, March 2015 to April 2015 and August 2015. MACD expressed the bullish trend because it moved below zero in these periods: October 2004 to December 2004, April 2009 to July 2009, April 2014 to February 2015 and May 2015 to July 2015. Figure- 6.1 shows the RSI (Relative Strength Index) of stock price and it shows sell signal when RSI cross 70 from downward, it shows the overbought condition. Figure- 6.1 for Mahindra & Mahindra clearly depicts the overbought condition in June 2005, July 2005, October 2006, November 2006,

October 2009, November 2009, December 2009, March 2013, April 2013, June 2013, April 2014, July 2014 and October 2014. Buy signal can be observed whenever RSI is in oversold region. Security will decline at unreasonably low level in oversold condition. Figure- 6.1 displays RSI plot and various periods of oversold situation which are as follows: May 2008, October 2008, November 2008, January 2009, January 2011, March 2014 and August 2015. Whenever RSI dipped from 70 to 30, it creates bearish market. Hence, bearish trend is depicted during the following period: August 2005 to September 2005, March 2006 to April 2006, May 2006 to September 2006, February 2007 to May 2007, June 2007 to July 2007, August 2007 to October 2007, November 2007 to January 2008, March 2008 to April 2008, July 2008 to September 2008, July 2009 to September 2009, February 2010 to August 2010, October 2010 to December 2010, May 2011 to July 2011, September 2011 to December 2011, March 2012 to May 2012, September 2012 to May 2012, August 2013 to December 2013 and November 2014 to July 2015. Whenever RSI rise from 30-70, it creates bullish market. Hence, bullish trend is depicted during the following period. September 2005 to March 2006, April 2006 to May 2006, August 2006 to September 2006, May 2005 to June 2007, July 2007 to August 2007, October 2007 to November 2007, January 2008 to March 2008, June 2008 to July 2008, February 2009 to July 2009, August 2010 to October 2010, February 2011 to May 2011, July 2011 to September 2011, December 2011 to March 2012, April 2012 to September 2012, November 2012 to February 2013, July 2013 to September 2013 and December 2013 to February 2014.

Overall, MACD and RSI indicate bullish trend in the stock price from April 2014 to July 2015. Hence, buy signal is observed but it reached to overbought situation in July 2015 and started to decline in August 2015 which is an indication of the initiation of bearish trend; therefore, stock price are expected to decline. RSI also depicts the bearish trend from November 2014 which indicates sell signal for the

stocks of this company. But, trend line of stock price of this company shows the contrary picture and depicts an upward trend with low volume which is not in accordance to oscillators movements. Therefore, there is not strong sell signal for the stocks of this company. So, investors may hold the stock for some time in near future.

6.3.2 Trend Analysis of the Stock Prices of Tata Motors Ltd.

Oscillators have been employed for technical analysis which depicts the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Tata Motors Ltd. Figure- 6.2 is prepared to reveal the market trend from of the stock prices of Tata Motors Ltd. April 2004 to August 2015. Figure- 6.2 presents the picture of stock price movement of Tata Motors and it is depicted that MACD touched its peak and showed sell signal during January 2007 and May 2011 and touched the bottom and showed buy signal for the following instances: October 2004, June 2005, June 2009 and March 2013. MACD gave a signal of bearish trend in the following period of the study period because it reached above zero and it was falling: January 2007 to August 2008, June 2011 to December 2011 and June 2015 to August 2015. Signal of bullish trend is observed in the following periods during the whole study period because it was rising and touched the points below zero: October 2004 to February 2005, June 2005 to October 2005, June 2009 to May 2010 and April 2013 to May 2015.

RSI (Relative Strength Index) of the stock price of this company is plotted in figure-6.2 and overbought condition is observed for several time periods. Whenever price falls & RSI rise, this is known as divergence and presents a noteworthy point of the market. If RSI is in increasing trend in the overbought zone, it clearly depicts a sharp fall in prices and produces an obvious sell signal. Figure-6.2 shows the overbought condition in following period: November 2005, December 2005, January 2006, February 2006, March 2006, July 2006, November 2006, November 2009,

February 2010, March 2010, July 2010, November 2010, February 2012, September 2013, April 2014 and January 2015. RSI below 30 indicates the oversold condition and create an opportunity to buy the stocks. The following periods are observed under oversold condition: January 2008, February 2008, May 2008, June 2008, August 2008, September 2008, October 2008, January 2009, May 2009, September 2011, October 2011, November 2011, December 2011, January 2012, April 2012, and August 2015. Whenever RSI moves between 70-30 in downward trend, it generates bearish market. It is clear from figure- 6.2 that stock price had bearish trend and bearish trend is observed during the following periods: June 2005 to July 2005, August 2005 to September 2005, May 2006 to June 2006, August 2006 to October 2006, December 2006 to May 2007, August 2007 to October 2007, November 2007 to December 2007, March 2008 to April 2008, August 2009 to September 2009, December 2010 to January 2011, April 2011 to May 2011, June 2011 to August 2011, December 2012 to February 2013, April 2013 to May 2013, June 2013 to July 2013, November 2013 to February 2014 and March 2015 to August 2015. Whenever RSI move between 30-70 in upward trend, it generates bullish market. It is clear from figure- 6.2 that stock price of Tata Motors had bullish trend and bullish trend is observed during the following periods: May 2005 to June 2005, July 2005 to August 2005, September 2005 to October 2005, April 2006 to May 2006, July 2007 to August 2007, October 2007 to November 2007, July 2009 to August 2009, September 2009 to October 2009, May 2011 to June 2011, February 2013 to April 2013, May 2013 to June 2013, July 2013 to August 2013 and December 2013 to January 2013.

Overall, sell signal is observed from RSI because stocks are in bearish trend from March 2015 which is supported by MACD. The trend line shows downward trend in the stock price of this company with decreasing volume which means decline in stock price will not remain in force but there is strong sell signal.

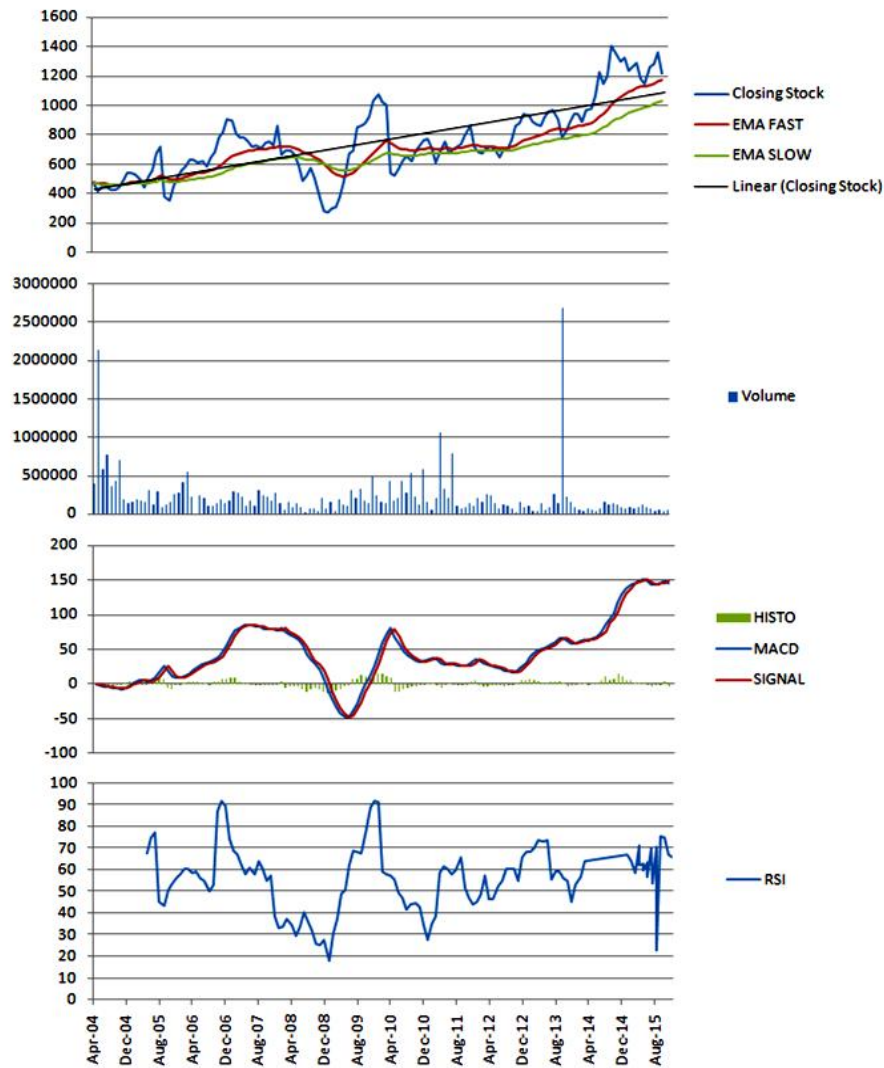


Figure- 6.1: Stock Price Movements of Mahindra & Mahindra Ltd.

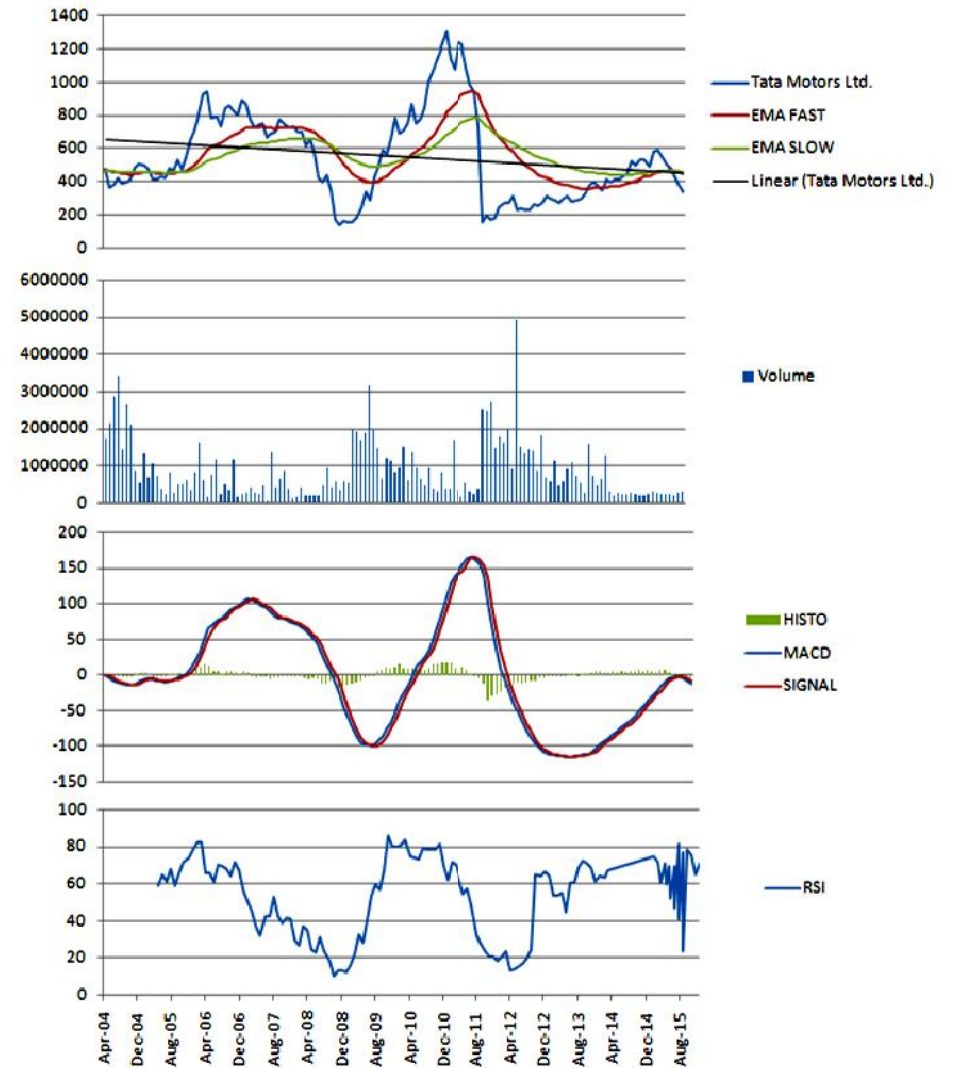


Figure- 6.2: Stock Price Movements of Tata Motors Ltd.

6.3.3 Trend Analysis of the Stock Prices of Infosys Ltd.

Figure- 6.3 is prepared to reveal the market trend of the stock prices of Infosys Ltd. from April 2004 to August 2015. 'Oscillators' have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Infosys Ltd. Figure- 6.3 displays the extreme points of MACD of stock price of Infosys with 12-day EMA and 26-day EMA which express sell signal in April 2011, October 2011, March 2012, March 2013, March 2014 and November 2014. Figure- 6.3 also shows that MACD touched bottom with 12-day EMA & 26-day EMA and hence, buy signal is generated in the following periods: July 2005, November 2006, March 2008, December 2008, June 2013, May 2014 and May 2015. MACD was reducing but reached above zero and gave a signal of bearish trend in the following periods during the whole study periods: April 2011 to September 2011, October 2011 to January 2012 and April 2012 to December 2012. MACD showed bullish trend in the following instances: July 2005 to June 2006, November 2006 to October 2007, March 2008 to August 2008, January 2009 to July 2010 and June 2015 to August 2015.

Figure- 6.3 also depicts RSI (Relative Strength Index) of the stock price of this company and overbought condition is found when level of price at which the momentum will no longer remain same and price will go down. Figure- 6.3 depicts this condition in the following periods: October 2009, November 2009, December 2009, January 2010, March 2010, August 2010, November 2010, December 2013, January 2014 and October 2014. The time to pick the stocks considers when RSI value move beyond 30 from downward. Oversold condition is observed in the following period: June 2005, June 2006, May 2007, December 2007, January 2008, February 2008, March 2014 and August 2015. Movement of RSI between 70-30 in downward trend indicates bearish market. It is clear from figure- 6.3 that stock price

of this company had bearish trend during the following periods: November 2005 to January 2006, March 2006 to April 2006, November 2006 to January 2007, March 2007 to April 2007, August 2007 to November 2007, April 2008 to June 2008, July 2008 to August 2008, September 2008 to November 2008, December 2008 to January 2008, April 2009 to May 2009, August 2009 to September 2009, February 2011 to July 011, September 2011 to October 2011, November 2012 to January 2011, February 2012 to April 2012, May 2012 to June 2012, September 2012 to November 2012, February 2013 to March 2013, September 2013 to October 2013, February 2014 to April 2014, November 2014 and February 2015 to July 2015. Movement of RSI between 30 to 70 in upward trend indicates bullish market. It is clear that stock price of this company had bullish trend and this trend is observed during the following periods: October 2005 to November 2005, January 2006 to March 2006, April 2006 to May 2006, July 2006 to September 2006, October 2006 to November 2006, January 2007 to March 2007, July 2007 to August 2007, March 2008 to April 2008, June 2008 to July 2008, August 208 to September 2008, November 2008 to December 2008, January 2009 to April 2009, May 2009 to August 2009, January 2011 to February 2011, July 2011 to August 2011, October 2011 to November 2011, January 2012 to February 2012, April 2012 to may 2012, June 2012 to September 2012, November 2012 to December 2012, May 2013 to September 2013, October 2013 to November 2013, May 2014 to September 2014 and December 2014 to January 2015.

Overall, MACD of Infosys shows that there is bullish trend in the stock of this company from June 2015 after the oversold situation of May 2015. On the basis of RSI, the stock price crossed the oversold situation. However, there is the beginning of bullish trend in the stock price from July 2015. On the basis of this; investors are recommended to buy the stock of this company as the stock prices of Infosys are expected to touch its extreme and may enter in overbought situation. Therefore, investor can choose to invest in this stock. The trend line shows an upward trend in

the stock price of this company which supports bullish trend. Increasing price and volume are showing the growth in trading which indicates that this trend will remain in force and prices will continue to increase. Therefore, there is strong buy signal for the stocks of this company.

6.3.4 Trend Analysis of the Stock Prices of Wipro Ltd.

Oscillators have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Wipro Ltd. Figure- 6.4 is prepared to reveal the market trend of the stock prices of Wipro Ltd. from April 2004 to August 2015. Figure- 6.4 displays the sell signal for stocks of Wipro when MACD touched the extreme in March 2015 and buy signal when MACD touched the bottom in December 2005, March 2009, February 2011 and November 2011. Signal of bearish trend is found when MACD reached above zero but it was falling. This condition is observed in following periods: May 2004 to November 2005, December 2006 to March 2007, July 2007 to December 2007 and April 2015 to August 2015. On the contrary, the signal of bullish trend can be observed in December 2008 to February 2009, March 2009 to September 2010, February 2011 to May 2011, November 2011 to June 2012, October 2012 to April 2013, June 2013 to February 2014 and April 2014 to February 2015.

Figure- 6.4 shows RSI (Relative Strength Index) of stock price of Wipro. Overbought condition is found when a fall in price takes place and it clearly depicts a sell signal. The following are the periods under which stock price of Wipro shows the overbought condition: October 2006, November 2006, October 2009, November 2009, January 2010, February 2010, November 2013, January 2014, May 2014 and August 2014. Oversold is the situation when a security decline to extremely low level. The sales of the company will increased in this condition. Therefore, there is signal to hold the stocks. Oversold condition is depicted from figure- 6.4 in the following

periods: June 2005, July 2005, August 2005, December 2005, February 2006, March 2006, December 2007, November 2008, January 2009, April 2011, June 2011, March 2014 and August 2015. Bearish trend is observed whenever RSI moves in downward trend from 70-30. Figure- 6.4 displays the bearish trend in the following periods: May 2006 to June 2006, January 2007 to February 2007, March 2007 to May 2007, June 2007 to July 2007, September 2007 to October 2007, January 2008 to February 2008, April 2008 to May 2008, July 2008 to October 2008, April 2009 to May 2009, August 2009 to September 2009, March 2010 to October 2010, November 2010 to January 2011, February 2011 to March 2011, June 2011 to July 2011, September 2011 to October 2011, December 2011 to January 2012, February 2012 to April 2012, May 2012 to June 2012, October 2012 to November 2012, February 2013 to April 2013, August 2013 to October 2013, February 2014 to April 2014 and September 2014 to March 2015. Bullish trend is observed whenever RSI moves in upward trend from 30-70. Figure- 6.4 displays the bullish trend in the following periods: June 2006 to September 2006, July 2007 to September 2007, October 2007 to November 2007, February 2008 to April 2008, May 2008 to July 2008, February 2009 to April 2009, May 2009 to August 2009, October 2011 to December 2011, April 2012 to May 2012, June 2012 to October 2012, November 2012 to December 2012, January 2013 to February 2013, April 2013 to August 2013 and May 2015 to June 2015.

Overall, according to MACD, stock price of Wipro reached to the situation of overbought in March 2015 and started to decline from April 2015. Therefore, there is sell signal for the stock of Wipro. However, according to RSI analysis, the stock price reached to oversold situation in August 2015. Trend line shows downward trend in the stock price of Wipro with huge volatility in the volume throughout the study period which supports the sell signal for the stocks of this company.

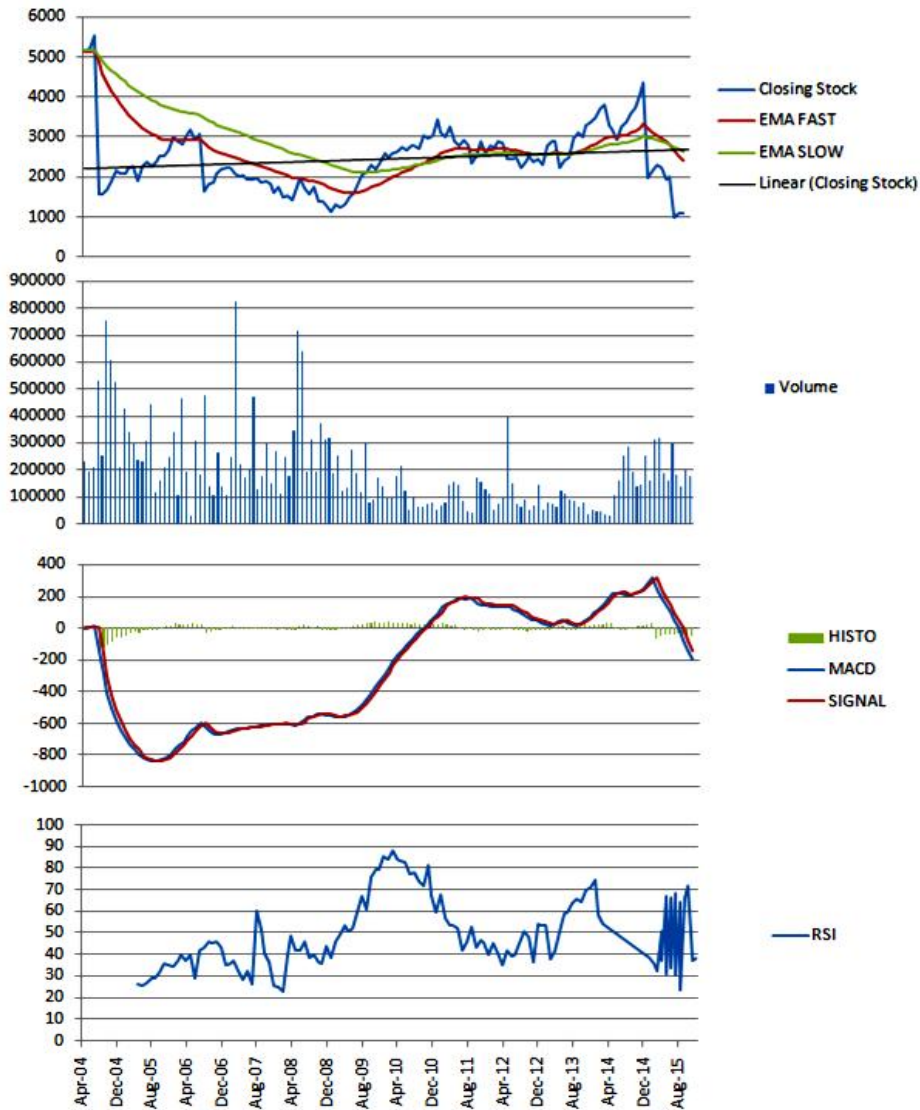


Figure- 6.3: Stock Price Movement of Infosys Ltd.

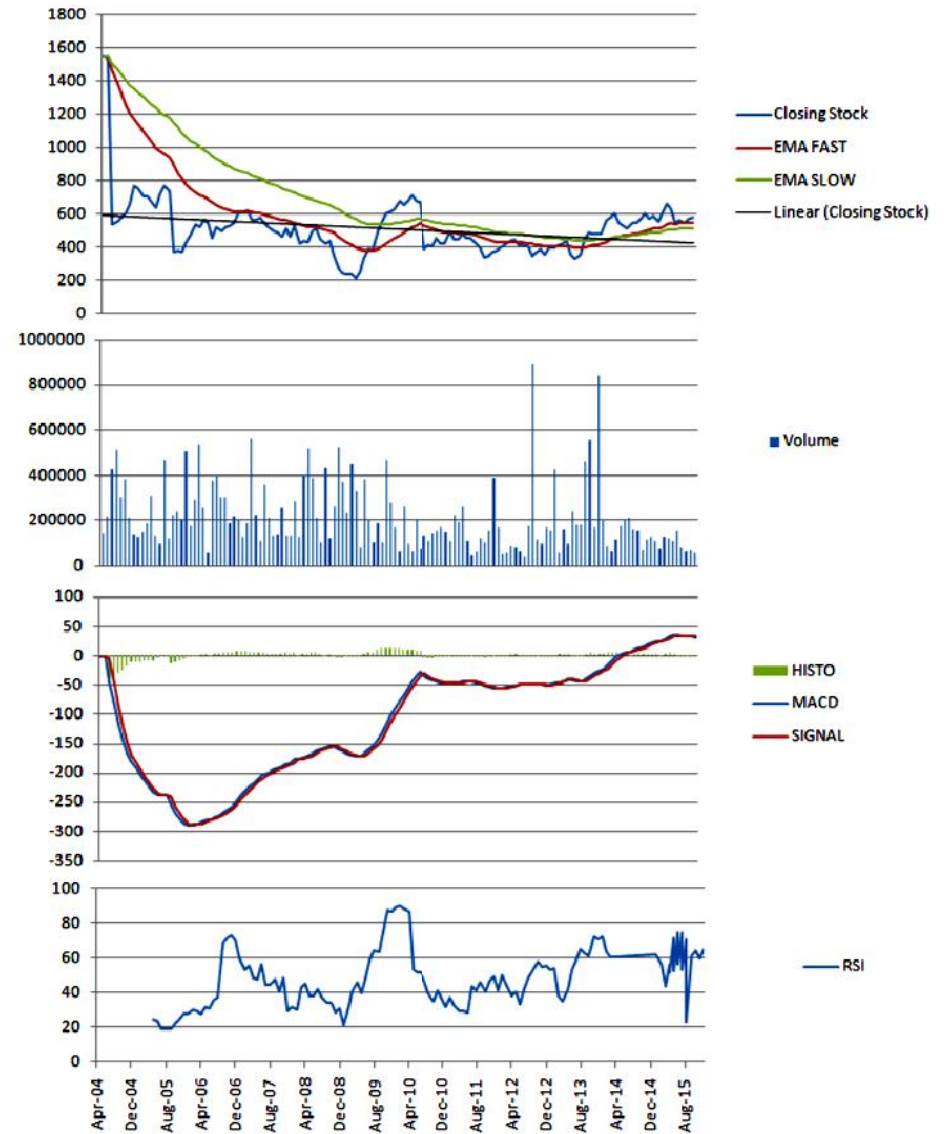


Figure- 6.4: Stock Price Movements of Wipro Ltd.

6.3.5 Trend Analysis of the Stock Prices of Gail (India) Ltd.

Figure- 6.5 is prepared to reveal the market trend of the stock prices of Gail (India) Ltd. from April 2004 to August 2015. 'Oscillators' have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Gail (India) Ltd. It is clearly depicts from figure- 6.5 that MACD touched the extreme in the following instances: April 2006, May 2008, and January 2011. MACD also touched its bottom in the various cases and these are the cases when MACD touched its bottom: October 2004, September 2013. MACD showed a signal of bearish trend when MACD reached above zero but it started to fall in the following period: April 2006 to December 2006, May 2008 to August 2009 and February 2011 to January 2013. The signal of bullish trend can be observed in the following mentioned periods when MACD rise and hence, generates buy signal: April 2005 to April 2006, May 2012 to August 2013, October 2004 to March 2005 and October 2013 to August 2015.

The broad rule of RSI considers the magnitude of gains and losses to measure overbought and oversold conditions of stocks. Overbought condition is that when RSI cross 70 from downwards. It is obvious from figure- 6.5 that RSI of GAIL Ltd. was in overbought condition for the following periods: July 2005, August 2005, October 2005, December 2005, February 2006, June 2007, August 2007, September 2007, October 2007, November 2007, November 2009, February 2010, March 2010, May 2010, July 2010, September 2010, November 2010 and June 2014 to September 2014. The condition is said to be oversold condition, when RSI cross 30 from upwards. It is obvious from figure- 6.5 that RSI of GAIL Ltd. was in oversold condition for the following periods: January 2009, January 2012, April 2012, March 2014, March 2014 and May 2014. Bearish market is observed whenever RSI moves in downward trend from 70-30. Figure- 6.5 displays bearish trend in the following periods: March 2006

to April 2006, May 2006 to June 2006, August 2006 to October 2006, November 2006 to December 2006, March 2007 to April 2007, January 2008 to February 2008, March 2008 to May 2008, July 2008 to December 2008, April 2009 to May 2009, July 2009 to September 2009, December 2010 to January 2011, may 2011 to July 2011, August 2011 to December 2011, October 2012 to November 2012, December 2012 to February 2013, March 2013 to April 2013, May 2013 to July 2013, September 2013 to October 2013, November 2014 to March 2015 and July 2015 to August 2015. Bullish trend is observed whenever RSI moves in upward trend from 30-70. Figure- 6.5 displays the bullish trend in the following periods: April 2006 to May 2006, June 2006 to August 2006, October 2006 to November 2006, December 2006 to January 2007, February 2007 to March 2007, April 2007 to May 2007, December 2007 to January 2008, February 2008 to March 2008, May 2008 to July 2008, February 2009 to April 2009, May 2009 to July 2009, September 2009 to October 2009, January 2011 to March 2011, July 2011 to August 2011, August 2012 to October 2012, November 2012 to December 2012, February 2013 to March 2013, April 2013 to May 2013, July 2013 to September 2013, October 2013 to February 2014 and April 2015 to May 2015.

According to MACD, stock price of GAIL shows bullish trend from October 2013. Therefore, there is buy signal for the stock of GAIL upto the overbought situation in the market. However, RSI reached to its extreme point in June 2015 and bearish trend is found from July 2015. It is found that there has been upward trend in the stock price of GAIL, while the volume remained very low throughout the study period, this indicate no strong movement in price. But oscillators show movement according to trend line; hence, there is buy signal for the stocks of GAIL.

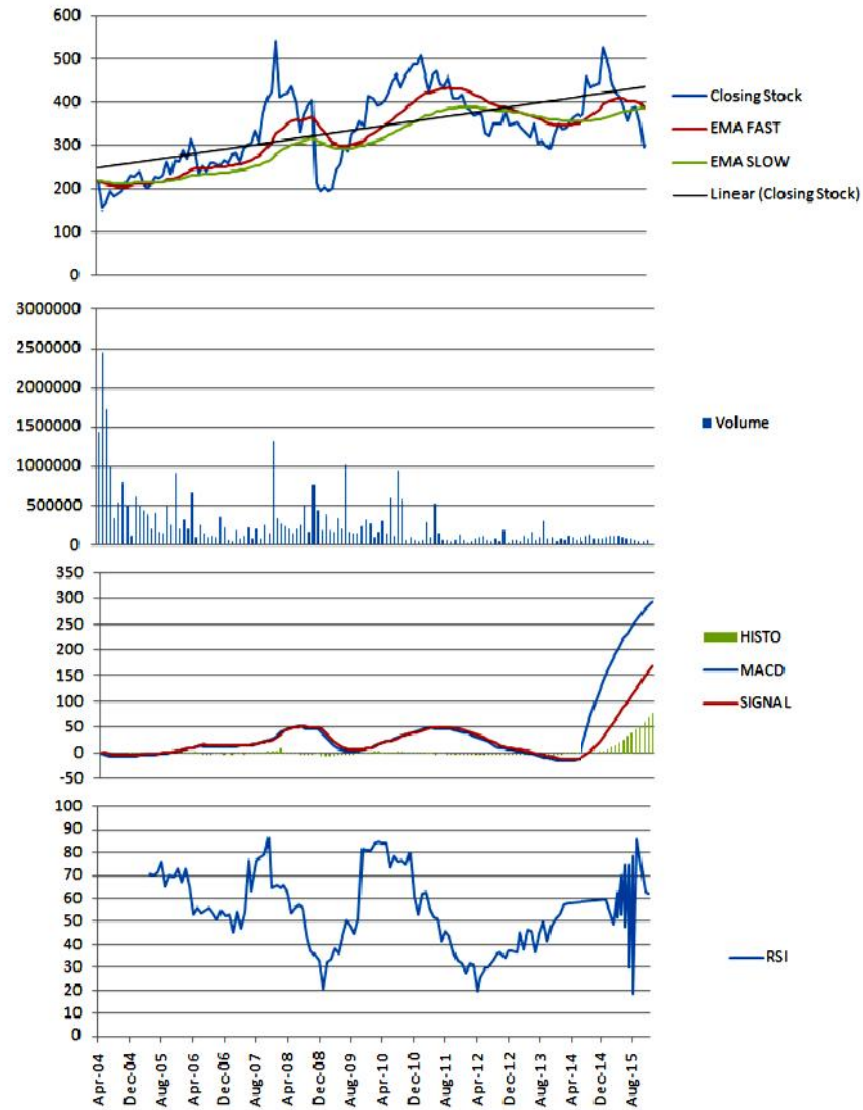


Figure- 6.5: Stock Price Movement of Gail (India) Ltd.

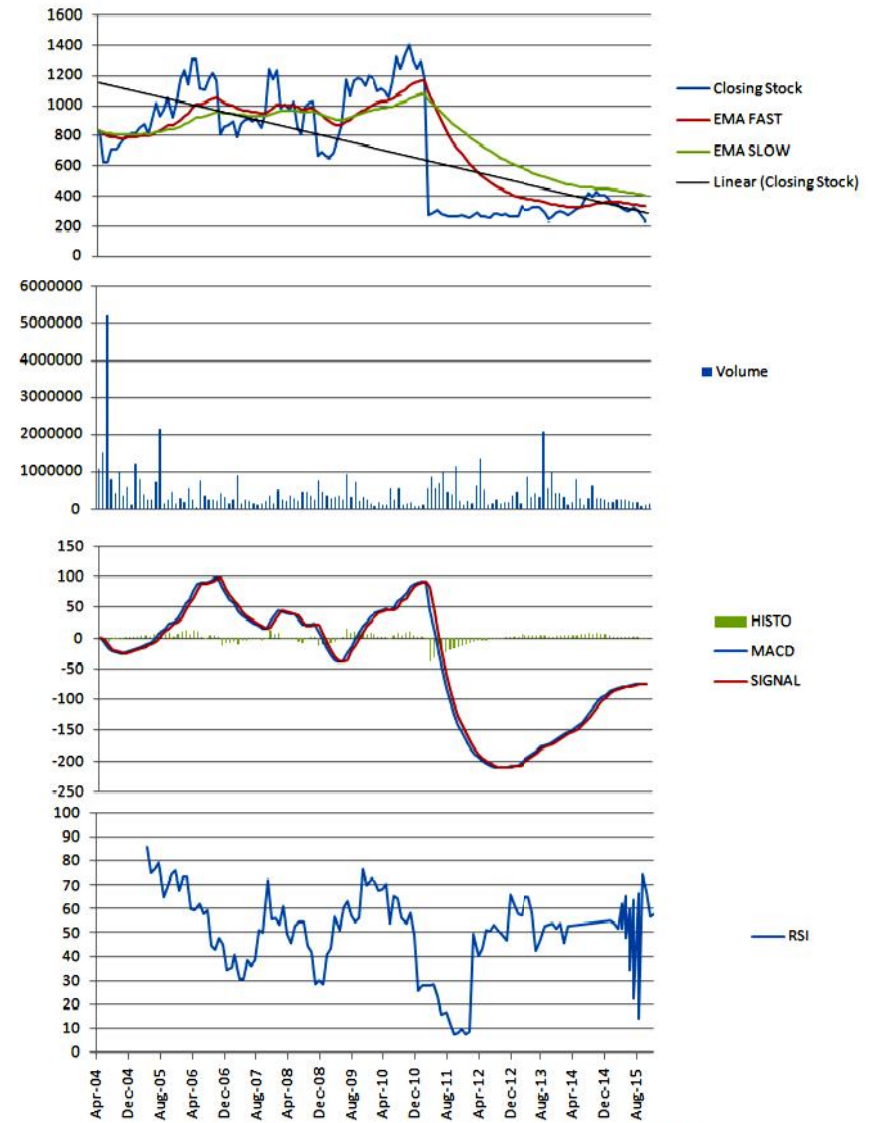


Figure- 6.6: Stock Price Movement of Oil and Natural Gas Corporation Ltd.

6.3.6 Trend Analysis of the Stock Prices of Oil and Natural Gas Corporation Ltd.

Oscillators have been employed for technical analysis to depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Oil and Natural Gas Corporation Ltd. Figure- 6.6 is prepared to reveal the market trend of the stock prices of Oil and Natural Gas Corporation Ltd. from April 2004 to August 2015. MACD is displayed in figure- 6.6 for stock price of ONGC and MACD touched its peak which shows sell signal during the following instances: September 2006, December 2007, September 2008 and December 2010. MACD touched the bottom in the following mentioned periods which shows buy signal: September 2004, March 2009, and August 2009. MACD showed a signal of bearish trend because it reached above zero in the following period: October 2006 to September 2007, December 2007 to August 2008 and December 2010 to March 2011. MACD expressed bullish trend for stock price of ONGC as it moved below zero in these periods: September 2004 to May 2005, March 2009 to July 2009 and August 2012 to July 2015.

From the plotted picture of RSI (Relative Strength Index) which is displayed in figure- 6.6, it is clear that the overbought condition is observed in following periods: July 2005, August 2005, November 2005, December 2005, February 2006, November 2007, November 2009, January 2010 and May 2010. A fall in price takes place in the overbought zone and if RSI falls in this zone, it clearly depicts a sell signal. Buy signal can be observed whenever RSI is in oversold region. Security will decline at unreasonably low level in oversold condition. Figure- 6.6 displays the RSI plot and various periods of oversold situation are as follows: January 2009, January 2011, April 2011, June 2011, July 2011, September 2011, October 2011, January 2012, March 2014, July 2015 and August 2015. Whenever RSI dipped from 70 to 30, it creates bearish trend and this trend is depicted from figure- 6.6 of this company

during the following period: April 2006 to May 2006, June 2006 to July 2006, August 2006 to October 2006, November 2006 to January 2007, March 2007 to May 2007, June 2007 to July 2007, September 2007 to October 2007, January 2008 to February 2008, March 2008 to May 2008, July 2008 to October 2008, April 2009 to May 2009, July 2009 to September 2009, July 2010 to October 2010, November 2010 to December 2010, March 2012 to May 2012, June 2012 to July 2012, August 2012 to November 2012, December 2012 to March 2013, May 2013 to July 2013, November to February 2014 and October 2014 to June 2015. Whenever RSI rise from 30-70, it creates bullish market trend and this trend is depicted during the following period. September 2005 to October 2005, May 2006 to June 2006, July 2006 to September 2006, October 2006 to November 2006, January 2007 to March, May 2007 to June 2007, July 2007 to September 2007, December 2007 to January 2008, February 2008 to March 2008, May 2008 to September 2008, February 2009 to April 2009, May 2009 to July 2009, September 2009 to October 2009, June 2010 to July 2010, October 2010 to November 2010, April 2012 to June 2012, July 2012 to August 2012, November 2012 to December 2012, February 2013 to May 2013, July 2013 to November 2013, December 2013 to January 2014 and March 2014 to September 2014.

Overall, MACD of ONGC indicates bullish trend in the stock price from August 2012 to July 2015, hence; buy signal is observed but it started to decline in August 2015 which is an indication of the initiation of bearish trend. On the basis of RSI, bearish trend is observed from October 2014 to June 2015. Trend line of stock price of this company also shows downward trend with low volatility in volume, hence; this trend will not follow the same pattern for the longer period of time. The movement of oscillators is observed in accordance to trend line of price; Therefore, investors are recommended to sell their holdings as there is an expectation of decline in the stock price of this company.

6.3.7 Trend Analysis of the Stock Prices of Dr. Reddy's Laboratories Ltd.

Figure- 6.7 is prepared to find out the market trend of the stock prices of Dr. Reddy's Laboratories Ltd. from April 2004 to August 2015. 'Oscillators' have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal for the stocks of Dr. Reddy's Laboratories Ltd. Figure- 6.7 shows that MACD of the stocks price of Dr. Reddy's Laboratories Ltd with 12-day EMA (fast) and 26-day EMA (slow). In the figure- 6.7, MACD is plotted in red line as EMA fast and green line as EMA slow and it shows extreme in the following periods: July 2006, May 2011, April 2012, January 2013 and June 2014. Figure- 6.7 shows that MACD of stocks of this company touched bottom with 12-day EMA and 26-day EMA in the following periods: May 2005, April 2008 and March 2009. Further, bearish trend is observed when MACD reached above zero in the following periods: August 2006 to March 2007, May 2011 to September 2011, April 2012 to October 2012, January 2013 to March 2013, July 2014 to August 2015. However, MACD touched points below zero also but it was rising; hence, delivered the signal of bullish trend in the following period: May 2005 to December 2005, April 2008 to June 2008 and March 2009 to November 2009.

RSI shows the overbought level of price when RSI cross 70 and at which the momentum will no longer remain same and price will go down. Figure- 6.7 depicts this condition in the following periods: January 2006, February 2006, March 2006, August 2009, September 2009, October 2009, November 2009, February 2010, March 2010, April 2010, September 2010, February 2011, March 2011, December 2012, May 2013 to October 2013, December 2013, January 2014, March 2014, August 2014, October 2014 and June 2015 to July 2015. Oversold market is observed whenever RSI falls below 30. It indicates the buy signal in the market. The following periods indicate that the stocks of this company have been in oversold situation:

March 2007, April 2007, May 2007, August 2007, January 2009, March 2014, June 2014 and July 2014. Whenever RSI moves in downward trend from 70-30 zone, it creates bearish market. The following periods indicate bearish trend for this company: June 2005 to July 2005, August 2005 to September 2005, June 2006 to August 2006, September 2006 to October 2006, November 2006 to February 2007, November 2007 to January 2008, April 2008 to June 2008, July 2008 to October 2008, November 2008 to December 2008, May 2009 to June 2009, April 2011 to July 2011, September 2011 to November 2011, April 2012 to May 2012, October 2012 to November 2012, January 2013 to April 2013, April 2014 to May 2014 and November 2014 to May 2015. Whenever RSI moves in upward trend from 30-70 zone, it creates signal of bullish trend. The following periods indicate bullish trend: May 2005 to June 2005, July 2005 to August 2005, September 2005 to December 2005, May 2006 to June 2006, August 2006 to September 2006, August 2006 to September 2006, October 2006 to November 2006, September 2007 to November 2007, January 2008 to April 2008, October 2008 to November 2008, February 2009 to May 2009, June 2009 to July 2009, July 2011 to September 2011, December 2011 to March 2012, May 2012 to July 2012, August 2012 to October 2012 and February 2013 to March 2013.

Overall, oscillators of Dr. Reddy reveal bearish signal in the stock price from July 2014 to August 2015 which mean the stock prices of this company will go down in near future. During such period, investors are advised to sell their holdings and re-enter in the market whenever price reach to oversold situation. Bearish trend is observed most of the times during the whole study period. However, the trend line is not moving in the direction of oscillators and shows an upward trend in the stock price of this company, while volume is almost found to be the same, this indicate no strong movement in price. Therefore, sell signal is not strong in present time period.

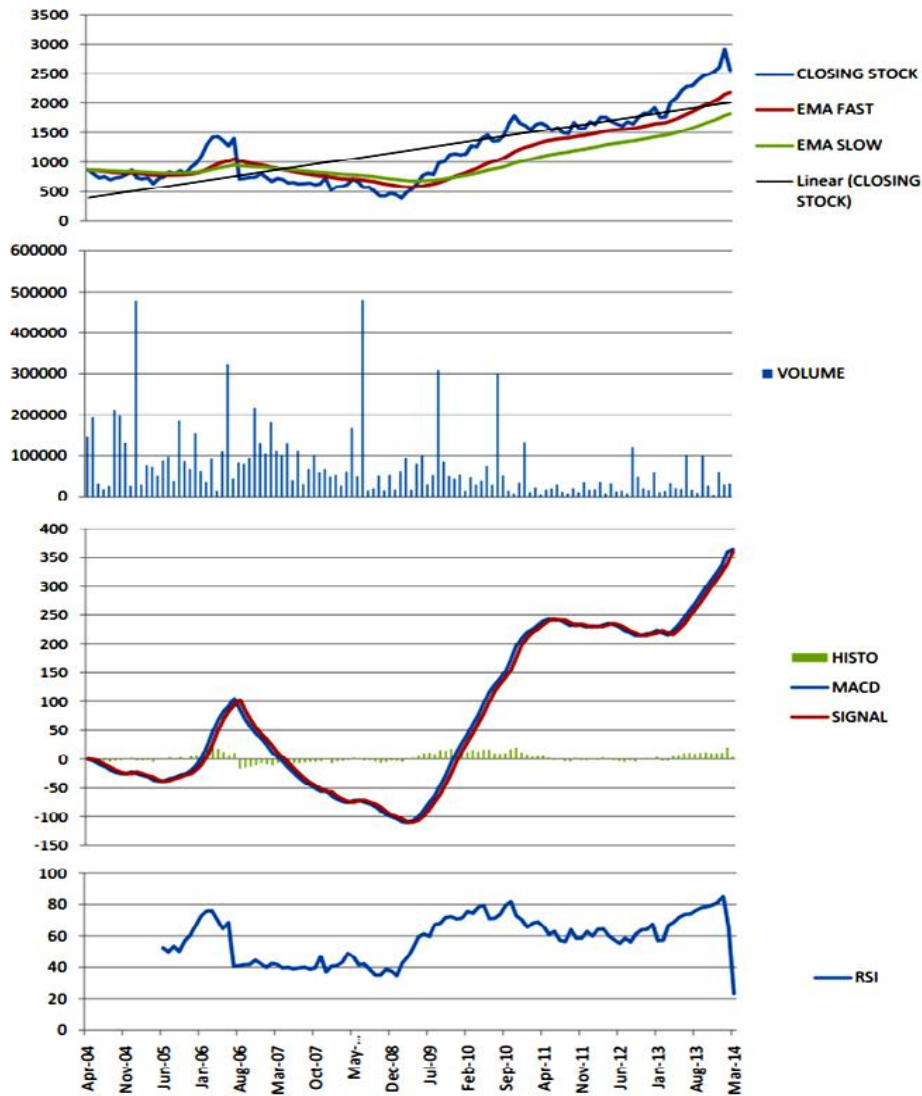


Figure- 6.7: Stock Price Movement of Dr. Reddy's Laboratories Ltd.

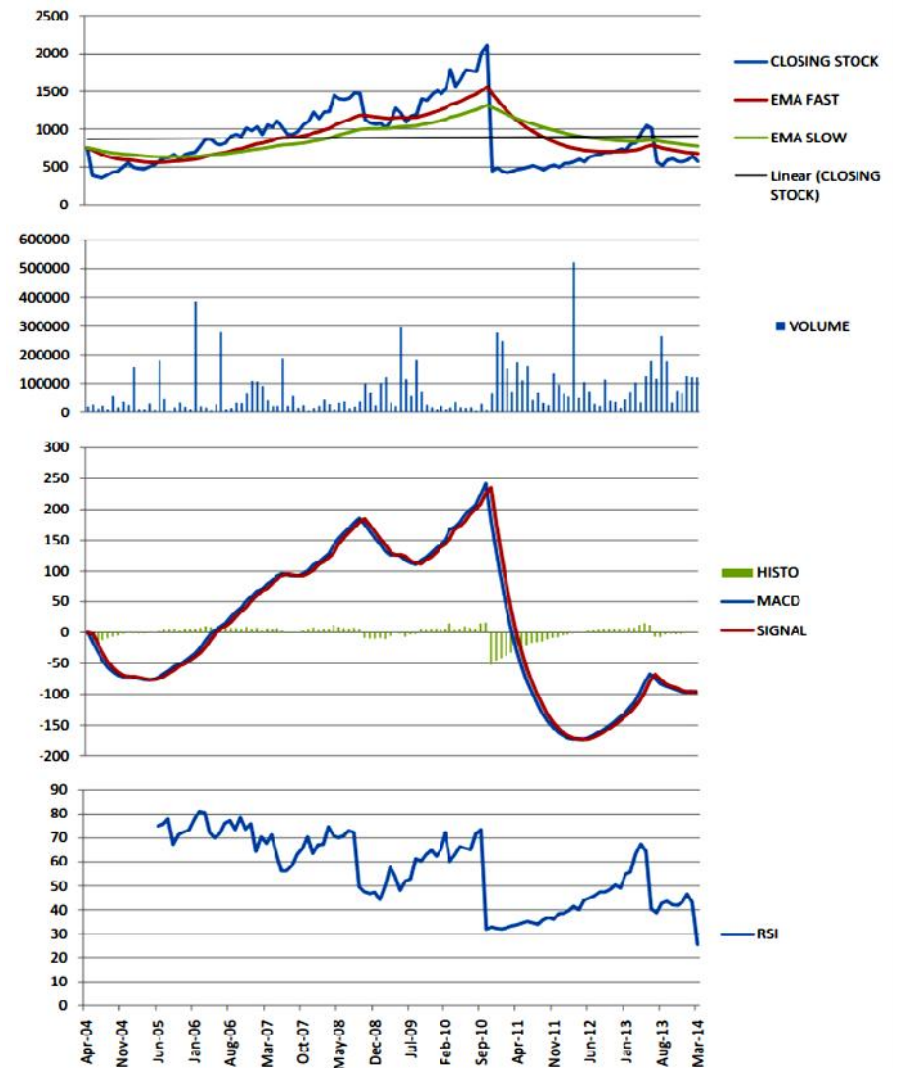


Figure- 6.8: Stock Price Movement of Sun Pharmaceutical Industries

6.3.8 Trend Analysis of the Stock Prices of Sun Pharmaceutical Industries Ltd.

Oscillators have been employed to depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal for the stocks of Sun Pharmaceutical Industries Ltd. Figure- 6.8 is prepared to reveal the market trend of the stock prices of Sun Pharmaceutical Industries Ltd. from April 2004 to August 2015. It is depicted from the figure- 6.8 that MACD of stock of Sun Pharma touched the extreme in the following periods: June 2007, September 2008 and October 2010 and touched the bottom in the following periods: April 2005, May 2012 and December 2014. On the contrary, MACD was reducing but reached above zero and hence, gave a signal of bearish trend in the following periods of the study: June 2007 to September 2007, September 2008 to March 2009, October 2010 to March 2011 and January 2015 to August 2015. MACD showed bullish trend in May 2005 to April 2006 and June 2012 to August 2013 for the company.

Trend reversal condition of the stock price of this company is also established with RSI (Relative Strength Index) which shows overbought market whenever a fall in price take place in the above 70 zone. It clearly depicts a sell signal. Market shows overbought condition in the following instances for this company: June 2005, July 2005, October 2005, November 2005, December 2005, January 2006, February 2006, June 2006, July 2006, October 2006, November 2006, February 2007, March 2008, July 2008, August 2008, January 2010, February 2010, June 2010, July 2010, August 2010, September 2010, March 2012, May 2012, August 2012, September 2012, October 2012, January 2013, March 2013, April 2013, May 2015 and June 2015. Oversold is the situation when a security decline to extremely low level (below 30). The sales of the company increase in this condition and shows signal to hold the stocks. Stock price of Sun Pharmaceutical Industries Ltd. showed oversold condition in the following periods: January 2011, March 2011, April 2011, June 2011, July

2011, August 2011, October 2011, November 2011, March 2014, and March 2014 to November 2014. Whereas, figure- 6.8 clearly depicts the bearish trend which is the movement of RSI between 70-30 in downward trend during the following periods: March 2007 to May 2007, November 2007 to December 2007, January 2008 to February 2008, May 2008 to June 2008, September 2008 to January 2009, March 2009 to May 2009, August 2009 to September 2009, March 2010 to May 2010, November 2010 to December 2010, December 2011 to January 2012, June 2013 to July 2013, August 2013 to November 2013, January 2014 to February 2014 and July 2015 to August 2015. Bullish trend is observed when movement of RSI found in upward between 30 to 70. Bullish trend of the stock price of this company are observed from figure- 6.8 during the following periods: May 2007 to November 2007, December 2007 to January 2008, April 2008 to May 2008, January 2009 to March 2009, May 2009 to August 2009, September 2009 to December 2009, January 2012 to February 2012, July 2013 to August 2013, December 2013 to January 2014 and December 2014 to April 2015.

Oscillators of Sun Pharma show that there is bearish trend in the stock price of the company from January 2015 to August 2015 and hence, the stock prices of Sun Pharma are expected to touch its bottom Therefore, sell signal is found and investor can choose to invest in this stock in near future. It is also depicted that the price of the stock is declining but volume is increasing, this indicates that this trend will remain in force and prices will continue to decline. However, trend line movement is matched to oscillators and shows a downward trend in the stock price of this company. On the basis of this, investors are recommended to sell their holdings.

6.3.9 Trend Analysis of the Stock Prices of Hindalco Industries Ltd.

Figure- 6.9 is prepared to reveal the market trend of the stock prices of Hindalco Industries Ltd. from April 2004 to August 2015. ‘Oscillators’ have been

employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Hindalco Industries Ltd. Oscillators are plotted in figure- 6.9 for the stock of Hindalco. It is depicted that MACD reached its extreme point in March 2005 and MACD touched the bottom in June 2004, March 2007 and December 2011. On the contrary, MACD gave a signal of bearish trend in the following period of the study because it reached above zero and it was falling: March 2005 to July 2005 and March 2015 to August 2015. MACD gave a signal of bullish trend in the following periods of the study because it was rising and touched the points below zero: June 2004 to August 2004, March 2007 to November 2011 and January 2012 to February 2015.

RSI (Relative Strength Index) of the stock of Hindalco is also plotted in figure- 6.9 which expresses overbought condition when RSI cross 70 from downward and overbought condition is found in November 2009, January 2010, February 2010, March 2010, July 2010, August 2010, September 2010, November 2010, April 2014 and June 2014. RSI below 30 indicates the oversold condition and creates an opportunity to buy the stocks. Following periods are observed under oversold condition in this company: July 2006, August 2006, November 2008, January 2009, March 2009, May 2009, November 2011, January 2012, February 2012, April 2012, May 2012, February 2013, July 2015 and August 2015. Whenever RSI move between 70-30 in downward trend, it generates bearish market. It is clear from figure- 6.9 that stock of Hindalco had bearish trend and this trend is observed during the following periods: June 2005 to July 2005, August 2005 to September 2005, March 2006 to June 2006, September 2006 to October 2006, November 2006 to February 2007, March 2007 to May 2007, June 2007 to July 2007, September 2007 to October 2007, November 2007 to December 2007, January 2008 to February 2008, April 2008 to May 2008, July 2008 to October 2008, December 2010 to January 2011, February

2011 to April 2011, June 2011 to October 2011, November 2012 to January 2013, May 2013 to June 2013, November 2013 to January 2014 and July 2014 to June 2015. Whenever RSI moves between 30-70 in upward trend, it generates bullish market. It is clear from figure- 6.9 that stock had bullish trend during the following periods: May 2005 to June 2005, September 2005 to May 2006, October 2006 to November 2006, February 2007 to March 2007, May 2007 to June 2007, July 2007 to September 2007, October 2007 to November 2007, December 2007 to January 2008, February 2008 to April 2008, May 2008 to June 2008, July 2009 to October 2009, January 2011 to February 2011, May 2011 to June 2011, August 2012 to December 2012, March 2013 to May 2013, June 2013 to September 2013, October 2013 to November 2013 and February 2014 to March 2014.

Oscillators of Hindalco show bullish trend in the stock price from January 2012 to February 2015 due to which buy signal is observed but from March 2015 MACD shows bearish trend in the market, hence; stock price of this company has been coming down consistently which indicates the sell signal for the stock of this company. However, RSI analysis also shows oversold situation in the market from July 2015. The trend line of the stock price of this company shows downward trend which is in accordance to bearish trend with decreasing volume and it means decline in stock price is not the actual condition of the stock of this company. Therefore, strong sell signal is observed but that will not remain in force in the near future.

6.3.10 Trend Analysis of the Stock Prices of Tata Steel Ltd.

Oscillators have been employed for technical analysis which depict the overbought/ oversold condition and bullish/ bearish trend of stock price in the historical period to suggest the buy/sell signal in the stocks of Tata Steel Ltd. Figure- 6.10 is prepared to reveal the market trend of the stock prices of Tata Steel Ltd. from April 2004 to August 2015. MACD of the stock of Tata Steel is displayed in figure-

6.10 which indicates that MACD exhibits sell signal when reached its extreme in September 2005, October 2006, May 2008 and June 2011. For the following cases MACD touched its bottom during the whole study period and indicates buy signal: November 2004, June 2005, June 2009 and September 2013. MACD reached above zero and bearish trend is observed in the following periods: September 2005 to November 2005. October 2006 to March 2007, May 2008 to January 2009, June 2011 to November 2011 and December 2014 to August 2015. MACD touched points below zero but it was rising and delivered the signal of bullish trend in the following period: November 2004 to February 2005, June 2009 to February 2010 and October 2013 to November 2014.

RSI (Relative Strength Index) for the stock of Tata Steel is also plotted in figure- 6.10 and overbought market is observed whenever share price falls and RSI rise. This is known as divergence and it presents a noteworthy point of the market. If RSI is in increasing trend in the overbought zone, it clearly depicts a sharp fall in prices and produces an obvious sell signal. Figure- 6.10 shows the overbought condition in Tata Steel in following period: March 2006, August 2007, September 2007, November 2007, November 2009, December 2009, February 2010 and June 2014. Oversold condition is observed whenever RSI falls below 30, it indicates the buy signal in the market. October 2008, January 2009, March 2009, October 2011, March 2013, April 2013 and May 2013 are the periods which indicate that stocks of this company have been in oversold condition. Whenever RSI moves in downward trend from 70-30 zone, it creates bearish market. Figure- 6.10 expresses bearish trend in August 2005 to September 2005, May 2006 to June 2006, August 2006 to October 2006, November 2006 to February 2007, March 2007 to May 2007, January 2008 to February 2008, April 2008 to September 2008, April 2009 to June 2009, April 2010 to June 2010,

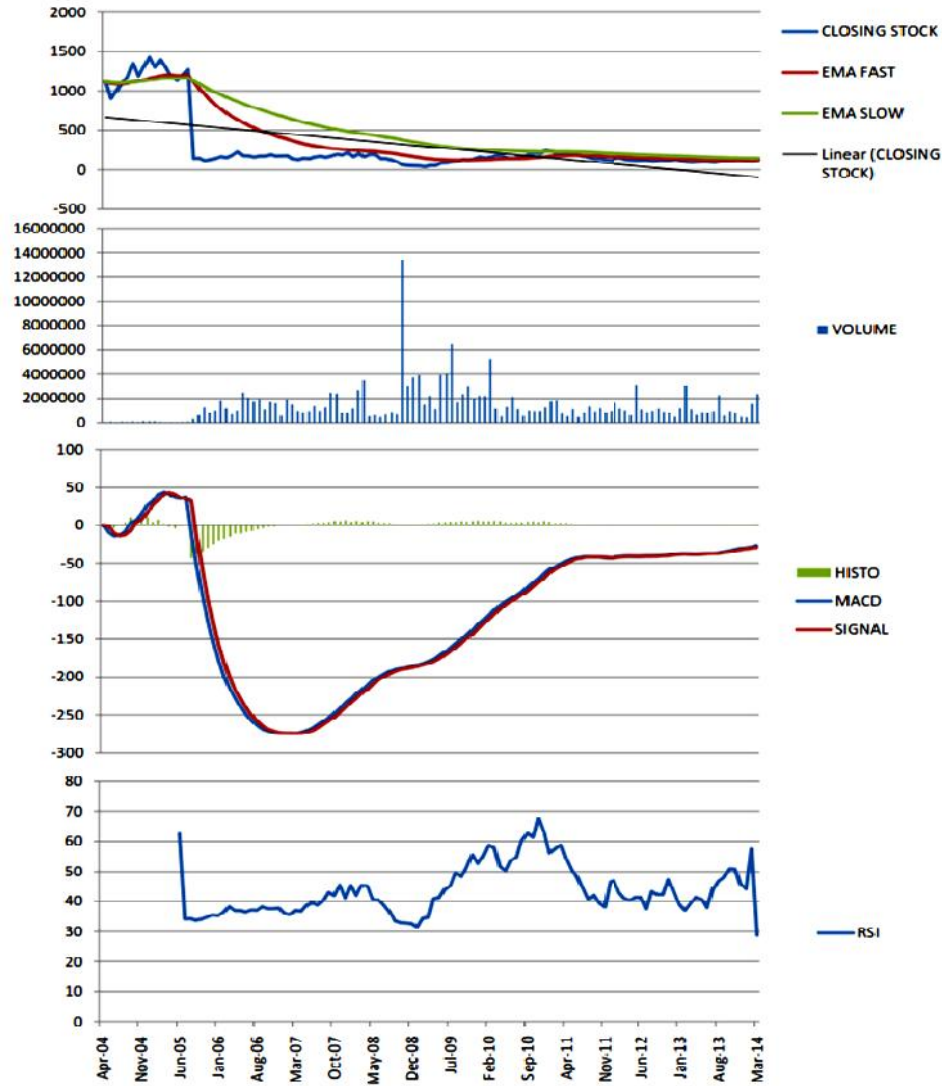


Figure- 6.9: Stock Price Movements of Hindalco industries Ltd

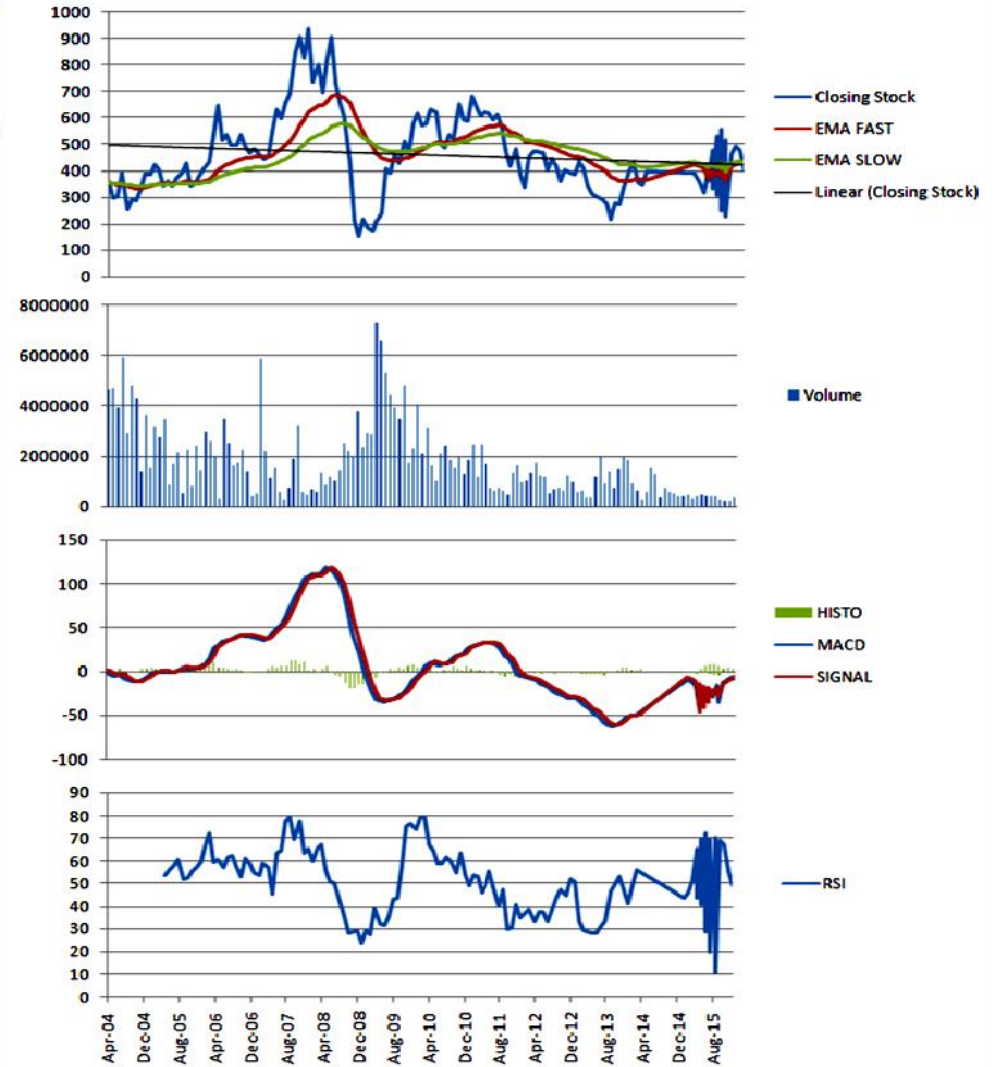


Figure- 6.10: Stock Price Movements of Tata Steel Ltd.

August 2010 to October 2010, November 2010 to January 2011, February 2011 to April 2011, June 2011 to August 2011, December 2011 to January 2012, March 2012 to April 2012, May 2012 to July 2012, October 2012 to November 2012, December 2012 to February 2013, November 2013 to January 2014, February 2014 to March 2014 and July 2014 to August 2015. Whenever RSI moves in upward trend from 30-70 zone, it creates bullish market. The following periods indicate bullish trend: June 2005 to August 2005, September 2005 to February 2006, April 2006 to May 2006, June 2006 to August 2006, October 2006 to November 2006, February 2007 to March 2007, June 2007 to July 2007, December 2007 to January 2008, February 2008 to April 2008, June 2009 to October 2009, June 2010 to August 2010, January 2011 to February 2011, April 2011 to June 2011, August 2011 to September 2011, November 2011 to December 2011, January 2012 to March 2012, April 2012 to May 2012, July 2012 to October 2012, November 2012 to December 2012, July 2013 to November 2012 and February 2014 to May 2014.

Overall, MACD of TATA Steel shows bearish signal from December 2014. The stock price of this company has been coming down consistently after July 2014 which is observed from RSI. So, the stock price of this company will go down in near future which shows sell signal for the stock of this company. The trend line shows downward movement of the stock price of this company with small change in volume. Therefore, these stocks are found to be less volatile in the market. This indicates the strong sell signal.

6.4 SUMMARY ON THE BASIS OF COMPANY AND TECHNICAL ANALYSES

An analysis of comparison based on financial performance parameters is performed for evaluating the comparative performance of companies and to assist the investors while selecting better investment opportunity. The results of the study

concluded that all companies have shown growth in performance ratios except Oil and Natural Gas Corporation Ltd., Sun Pharmaceutical Industries Ltd., Hindalco Industries Ltd. and Tata Motors Ltd. over the last ten years. But highest growth was observed in case of Infosys Ltd. followed by Dr. Reddy's Laboratories Ltd. and Wipro Ltd. which is a signal of sound financial strength of these companies and creates a positive mark for investment in these companies. Results suggested these companies as the best investment options. It is noteworthy that the risk was found low in case of Dr. Reddy's Laboratories Ltd., Oil and Natural Gas Corporation Ltd., Wipro Ltd. and Infosys Ltd. with better returns on investments, whereas Hindalco Industries Ltd., Mahindra & Mahindra Ltd., Oil and Natural Gas Corporation Ltd., Tata Motors Ltd. and Tata Steel Ltd. were proved to have more risky stocks and their risk has been increased over the last decade. Overall, Infosys Ltd. and Dr. Reddy's Laboratories Ltd. were proved to be the most attractive choice to consider while taking any decision of investment among all selected companies. While estimating the impact of determinants on stock price, it is noticed that an increase in book value per share, earning per share, market capitalization and price to earning ratio will positively change the stock returns. It was also found that beta, dividend yield and price to book value are not important determinants to affect of stock returns. Overall, 85 percent variability in the stock price of companies was calculated due to the selected variables. It was obvious from the trends shown by oscillators that only four companies (Dr. Reddy's Laboratories Ltd., GAIL (India) Ltd., Infosys Ltd. and Mahindra & Mahindra Ltd.) have shown bullish trend and there was an upward momentum for stock price of these companies. The current study advised to buy or hold the stocks of these companies. However, stock price of remaining companies of the study showed downward movement. Therefore, it is advised to investors to sell the stocks of these companies.