Implications and Usefulness of Fundamental and Technical Analysis in Stock Market Decision Making

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Abstract

This paper threw light on the practical usefulness of fundamental and technical analysis. Company level fundamental analysis may involve examination of financial data, management, business concepts, and competition. Technical analysis is about analyzing past price action and from that deriving a predictive model for the future. Fundamental analysis is more useful for long term trades and investments ; whereas, technical analysis is more useful from a short term perspective. For the purpose of data analysis and interpretation, five market capitalization services companies were selected. These are TCS, Reliance, Coal India, HUL, and Hindustan Zinc. Data for 10 years were collected for these companies. Stock market prices of 10 years of these companies were employed for the technical analysis. Also, balance sheets of 10 years of these companies were employed for fundamental analysis. In the study, it was found that both the analysis were useful in dealing with stock market activities.

Key words : **finance, financial crisis, financial economics, financial intermediation, financial markets, stock market forecasting**

JEL Classification : G1, G110, G170

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Despite many books on movement of stocks, bonds, commodities, and currencies, there are only two types of analysis : fundamental and technical. Fundamental analysis involves assessing the economic conditions that influence price, such as supply, demand, and the overall state of the domestic and global economy. In the case of stock and bond markets, it also involves looking at the balance sheet and financial health of a corporation, or maybe at the prospects for a specific industry. Technical analysis, on the other hand, is about analyzing past price action and deriving a predictive model for the future from it.

There is no reason that traders or investors need to choose between fundamental and technical analysis. In an ideal world, each trade would come about from a combination of the two, with technical analysis supporting the fundamental, or vice versa. In general, fundamental analysis is more useful for long term trade and investments ; whereas, technical analysis is more useful from a short term perspective. Over a period of a few minutes to a day or two, technical levels of support and resistance can influence the direction of a price massively (Tillier, 2017).

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Review of Literature

Petrusheva and Jordanoski (2016) showed that fundamental analysis used longer periods when analyzing stocks than technical analysis. Technical analysis used relatively short periods that may be days, weeks, or months, while fundamental analysis used periods of several years. Therefore, this implies that fundamental analysis was used by investors who were trying to pick stocks whose value would increase in the future over several years. They believed that if they had chosen the correct stocks, their price would eventually rise, even if it took several years for it to happen. In contrast, the study revealed that technicians are trying to find stocks that they can trade in the short term, that is, stocks whose prices will experience significant changes in the coming days or weeks.

Roy (2015) opined that fundamental analysis and technical analysis can co-exist in peace and complement each other. Since all the investors in the stock market want to make maximum profits possible, they just cannot afford to ignore either fundamental or technical analysis.

Kulkarni and Kulkarni (2013) pointed out that at the most basic level, a technical analyst approached security from the charts while a fundamental analyst starts with financial statements. By looking at the balance sheet, cash flow statement, and income statement, a fundamental analyst tries to determine a company's value. In financial terms, an analyst attempts to measure a company's intrinsic value. In this approach, investment decisions are fairly easy to make if the price of a stock trades below its intrinsic value, and in such a situation, it would result into a good investment. Although this is an oversimplification, fundamental analysis goes beyond just the financial statements. On the other hand, technical traders believe that there are no reasons to analyze a company's fundamentals because these are all accounted for in the stock's price. Technicians believe that all the information they need about a stock can be found in its charts. Fundamental analysis takes relatively a long-term approach to analyze the market compared to technical analysis. While technical analysis can be used in a time frame of weeks, days, or even minutes, fundamental analysis often looks at data over a number of years. Not only is technical analysis more short term than fundamental analysis, the goals of purchase (or sale) of a stock are usually different for each approach. In general, technical analysis is used for a trade ; whereas, fundamental analysis is used to make an investment. Investors buy assets believing that the stock prices may increase in value, while traders buy assets believing that they can sell it to somebody else at a greater price.

Vasantha, Dhanraj, and Varadharajan (2012) found that technical analysis is the study of historic price movements of securities, trading volumes, and market action, primarily through the use of charts for the purpose of forecasting future price trends. Through technical indicators, investors can analyze the short-term price movement of the stock, the most important market turning points and project the price movement. They applied technical analysis on five selective stocks of the information technology sector such as Tata Consultancy Services (TCS), Hindustan Computers Limited Technologies (HCL), Infosys, Wipro, and Polaris, aiming to help investors identify the current trends and risks associated with the scrip at par with the market. Their study was based on secondary data which had been collected from NSE website, journals, and magazines. The technical indicators were analyzed by using 12 months' share prices of the companies, which was for the period of January - December 2011. Various techniques such as relative strength index, Bollinger bands, moving average convergence divergence, and simple moving average were used to decide whether to buy or sell the stocks of the IT sector.

Dhanaiah, Reddy, and Prasad (2012) examined the behavior of India volatility index (India VIX). The researchers examined two aspects: first, the negative correlation between changes in India VIX and market returns. Second, the asymmetric nature of the changes in India VIX with respect to market returns. S&P CNX NIFTY Index was used as a proxy for the market and the study period covered the period from March 2009 to November 2011. Using OLS regression method on a daily data, their study found an inverse relation between movements in India VIX and movements in NIFTY. The study revealed the asymmetric nature of the volatility index - market return relationship. This study was useful for understanding the behavior of India VIX.

Prasad and Verma (2013) observed that the size effect was one of the prominent anomalies which had been observed in the stock markets around the world. Their study attempted to find whether the portfolio of small stocks yielded higher returns vis-a-vis the portfolio of large stocks, and whether the size effect was present in the Indian stock market. The sample consisted of monthly returns of the stocks included in the S&P CNX 500 index from April 1, 2001 to March 31, 2010. Equal weighted portfolios of 30 smallest and largest stocks were constructed for each year for the entire period of the study on the basis of criteria of total assets and market capitalization. Using correlation analysis, CNX Nifty Junior was finalized as the market proxy, and the market model was applied by using the variables of excess returns on the portfolio of the stocks and the returns on the market proxy. The results indicated that the returns on the portfolio of small stocks were not significantly different from the returns on the portfolio of large stocks. Therefore, on the basis of the results, the study concluded that the size effect was not present in the Indian stock market.

Objectives of the Study

- To know the usefulness of fundamental analysis in stock market investment decisions.
- To know the usefulness of technical analysis method in stock market short term perspectives.
- To offer suggestions.

Hypotheses of the Study

- **H01:** Fundamental analysis is not useful in stock market investment decisions.
- **Ha1:** Fundamental analysis is useful in stock market investment decisions.
- **H02:** Technical analysis is not useful in stock market short term investment perspectives.
- **Ha2:** Technical analysis is useful in stock market short term investment perspectives.

Research Methodology

This research paper is based on secondary sources of data and information collected from the financial website www.moneycontrol.com. This study also employed data and information from various articles, reports, books, and magazines.

(1) Sampling Method : For the purpose of data analysis and interpretation, a total of five market capitalization services companies were selected. These are TCS, Reliance Industries, Coal India, HUL, and Hindustan Zinc. Data for 10 years were collected for these companies. Stock market prices of 10 years of these companies were used for the technical analysis. Also, the balance sheets of these companies of 10 years were employed for conducting fundamental analysis.

The analysis was done based on secondary data by using descriptive statistical tools. The main data sources used were various business magazines, company websites, and other websites containing information about technical indicators. The sample size of the research study was five companies selected on the basis of investment. These companies are listed on BSE. The selected companies are : Tata Consultancy Services, Reliance Industries, Hindustan Unilever, Hindustan Zinc, and Coal India. For the purpose of analysis, secondary data of daily share prices of five companies were collected.

(2) Techniques of Analysis : Daily returns for each sample company were computed for the estimation period and also for the event period as :

Exponential moving average *(EMA)* : EMA assigns weights to the data before calculating the average. The formula used is :

(i) EMA = Previous EMA + (current closing price - Previous EMA)* f,
$f = 2/(n+1)$

where, n = number of days for which EMA is calculated.

(ii) Rate of Change

ROC = {Current price/(price prevailed $'n'$ period ago)} – 1

(iii) Relative Strength Index
RSI was developed by Wells Wilder.

$RSI = 100 – [100/(1+ RS)]$

where, RS = average gain per day /average loss per day.

(iv) Moving Average Convergence and Divergence *(MACD)* : The difference between the short term and long term exponential moving average represents *MACD*.

MACD = Short term exponential moving average – Long term exponential moving average.

Data Analysis and Results

Table 1. Profitability Ratio of Top Five Companies from 2007 - 2016

	TCS		Reliance		Coal India		HUL		Hind Zinc	
Year	Basic EPS	PBIT	Basic EPS	PBIT	Basic EPS	PBIT	Basic EPS	PBIT	Basic EPS	PBIT
2016	116.13	35.74	84.66	20.46	25.87	10051.81	18.87	19.47	19.33	65.86
2015	98.31	34.65	70.25	12.25	21.19	3591.56	19.95	18.91	19.35	69.24
2014	94.15	38.11	68.05	10.2	23.76	4991.45	17.88	18.18	16.34	64.52
2013	65.22	34.14	64.82	10.76	15.65	3042.94	17.56	17.86	16.33	67.03
2012	55.95	36.21	61.21	12.06	12.83	2160.62	12.46	16.14	13.08	66.74
2011	38.61	31.62	62	16.59	7.42	1204.83	10.58	14.95	11.6	64.48
2010	28.71	29.72	49.64	17.19	5.98	946.31	10.09	15.32	95.65	66.93
2009	47.99	24.83	97.29	18.14	5.22	1291.77	11.45	15.5	64.55	63.99
2008	46.07	29.49	134.21	18.09	388.4	1109.29	8.84	16.91	104.04	77.01
2007	38.39	30.23	85.73	18.38	446.6	1131.76	8.41	16.35	105.12	77.56
AVG	62.953	32.474	77.786	15.412	95.292	2952.23	13.609	16.959	46.539	68.336

(1) Profitability Ratio : It can be deduced from the Table 1 that among the five companies, Coal India has highest EPS of ₹ 446.6 in the year 2007, and it has the lowest *EPS* of ₹ 5.22 in the year 2009. Coal India has the highest

Table 2. Turnover Ratio of Top Five Companies from 2007-2016

	TCS		Reliance		Coal India		HUL		Hindustan Zinc	
Year	ITR	ATR	ITR	ATR	ITR	ATR	ITR	ATR	ITR	ATR
2016	9551.04	110.55	8.32	50.93	1.09	0.79	12.65	225.78	13.44	25.75
2015	5962.57	116.66	9	82.72	6.64	1.74	11.84	225.94	12.2	30.18
2014	7546.43	112.27	9.09	106.13	7.88	1.25	10.2	215.55	11.38	32.71
2013	7638.19	112.58	8.43	113.11	22.49	1.03	10.21	224.19	11.43	35.8
2012	9386.12	113.42	9.18	111.77	22.47	1.35	8.79	201.82	14.29	38.68
2011	5451.66	112.41	8.32	87.16	11.47	1.47	0.63	0	13.17	40.07
2010	3398.89	102.73	7.12	76.45	16.86	1.86	0.47	0	17.76	39.67
2009	1321.65	120.82	9.57	57.71	16.29	1.42	0.5	0.2	10.43	35.69
2008	1078.17	125.77	9.39	89.11	26.04	1.37	0.25	0.06	15.24	59.76
2007	1238.80	138.77	9.2	94.94	11.85	1.47	0.34	0.03	17.12	97.57
AVG	5257.35	116.60	8.76	87.003	14.308	1.375	5.588	109.357	13.646	43.588

Table 3. Equity Ratio of Top Five Companies from 2007-2016

	TCS		Reliance Industry		Coal India		HUL		Hind Zinc	
Year	LTDER	STDER	LTDER	STDER	LTDER	STDER	LTDER	STDER	LTDER	STDER
2016	0.019	0.319	0.385	0.906	0.216	0.343	0.364	2.842	0.072	0.478
2015	0.003	0.389	0.418	0.840	0.187	0.324	0.302	2.660	0.061	0.130
2014	0.029	0.308	0.380	0.865	0.165	0.523	0.341	2.966	0.046	0.114
2013	0.024	0.321	0.307	0.769	0.165	0.659	0.442	3.305	0.041	0.099
2012	0.023	0.378	0.362	0.777	0.168	0.570	0.284	2.119	0.042	0.097
2011	0.016	0.330	0.081	1.960	0.166	0.553	0.250	0.458	0.001	0.026
2010	0.005	0.484	0.043	1.875	0.086	0.405	0.000	0.027	0.000	0.019
2009	0.011	0.379	0.049	1.997	0.117	0.406	0.000	0.033	0.000	0.014
2008	0.012	0.339	0.107	1.982	0.113	0.475	0.000	0.054	0.000	0.010
2007	0.009	0.336	0.128	1.969	0.130	0.505	0.000	0.020	0.000	0.024
AVG	0.017	0.358	0.226	1.395	0.151	0.482	0.198	1.449	0.026	0.101
	TCS		Reliance Industry		Coal India		HUL		Hind Zinc	
Year	LTDER	STDER	LTDER	STDER	LTDER	STDER	LTDER	STDER	LTDER	STDER
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2015	0.003	0.389	0.418	0.840	0.187	0.324	0.302	2.660	0.061	0.130
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2009	0.011	0.379	0.049	1.997	0.117	0.406	0.000	0.033	0.000	0.014
2008	0.012	0.339	0.107	1.982	0.113	0.475	0.000	0.054	0.000	0.010
2007	0.009	0.336	0.128	1.969	0.130	0.505	0.000	0.020	0.000	0.024
AVG	0.017	0.358	0.226	1.395	0.151	0.482	0.198	1.449	0.026	0.101

average *EPS* of ₹ 95.292 and HUL has the lowest average *EPS* of ₹ 13.609. Coal India has the highest 10 years' average EBIT (2952.23) and Reliance has the lowest average EBIT (15.412).

(2) Turnover Ratio : It can be inferred from the Table 2 that among the five companies, TCS has the highest inventory turnover ratio of 9551.04 in the year 2016 and HUL has the lowest inventory turnover ratio of 0.34 in the year 2007. TCS has the highest average inventory turnover ratio of 5253.35 and HUL has the lowest average inventory turnover ratio of 5.588. TCS has the highest average asset turnover ratio of 116.10 and Coal India has the lowest asset turnover ratio of 1.375. TCS is the best company among all the five companies as it has the highest *ATR* and *ITR*.

(3) Debt - Equity Ratio : It is deduced from the Table 3 that the lower debt equity ratio is better for both the companies and the investors. HUL and Hindustan Zinc have zero (0) long term debt - equity ratio for four consecutive years from 2007-2010. Among the five companies, Reliance has the highest average long term debt equity ratio and TCS shows the lowest average long term debt equity ratio. HUL has the highest average short term debt equity ratio (1.448) and TCS has the lowest average short term debt equity ratio (0.35).

(4) PE Ratio : It can be inferred from the Table 4 that among the five companies, HUL has the highest average PE ratio and Coal India has the lowest average PE ratio. The share price of HUL is highest as it has the highest PE ratio.

From the Figure 1, it is evident that the price curve cuts the moving average from below at share price (1000) on 8/3/2016 and it is a buying signal. The price curve cuts the moving average curve from above at share price 1050 on 4/5/2016 and is a selling signal. The Figure 2 reveals the MACD for 10 days and 50 days EMA. The MACD line cuts zero line from below and shows the buying signal. The MACD line cuts the zero line from above, indicating the selling signal.

From the Figure 3, it can be inferred that the 10 days' rate of change curve is taken for buying and selling decisions. If the ROC curve cuts the zero line from above, it indicates selling signal and if the ROC curve cuts the

Table 4. PE Ratio of Top Five Companies from 2007-2016

	TCS	Reliance Industry	Coal India	HUL	Hindustan Zinc
Year	PE Ratio	PE Ratio	PE Ratio	PE Ratio	PE Ratio
2016	21.6658	12.3464	1	46.0784	9.4930
2015	25.9083	11.7395	1	43.7543	8.3643
2014	22.6048	13.6590	1	33.7611	7.8549
2013	24.0999	11.9361	1	26.5432	7.4188
2012	20.8731	12.224	1	32.8972	10.1108
2011	30.6267	16.9	1	26.8998	11.8577
2010	27.1960	21.6488	-	23.6570	1.2579
2009	5.6261	7.8281	-	20.8034	0.6931
2008	8.8007	8.4364	-	25.8710	0.5060
2007	16.0354	7.9806	-	24.4054	0.5359
Avg	20.3437	12.4699	-	30.4671	5.8092

Figure 1. EMA of 10 Days and 50 Days for TCS

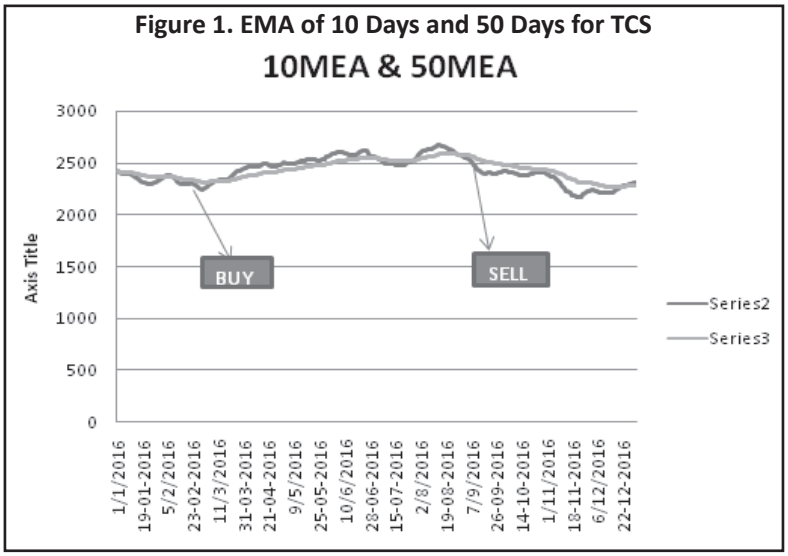


Figure 2. MACD for TCS

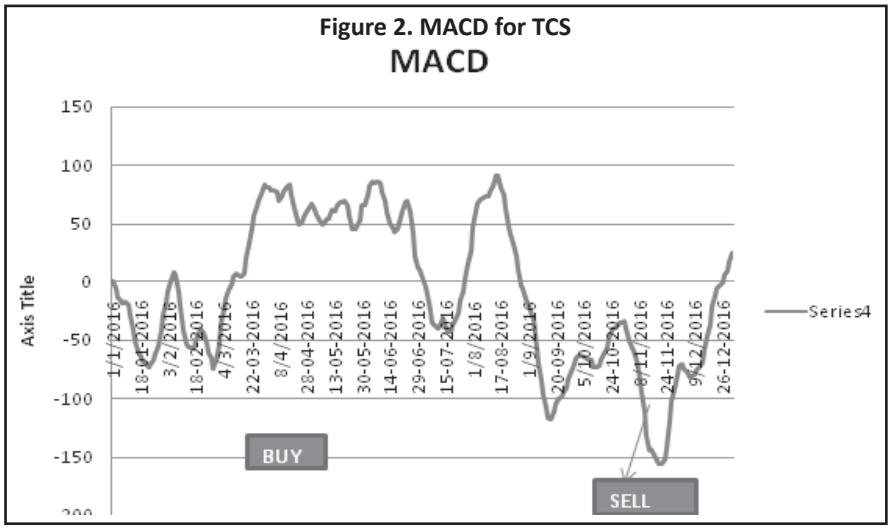


Figure 3. ROC for TCS

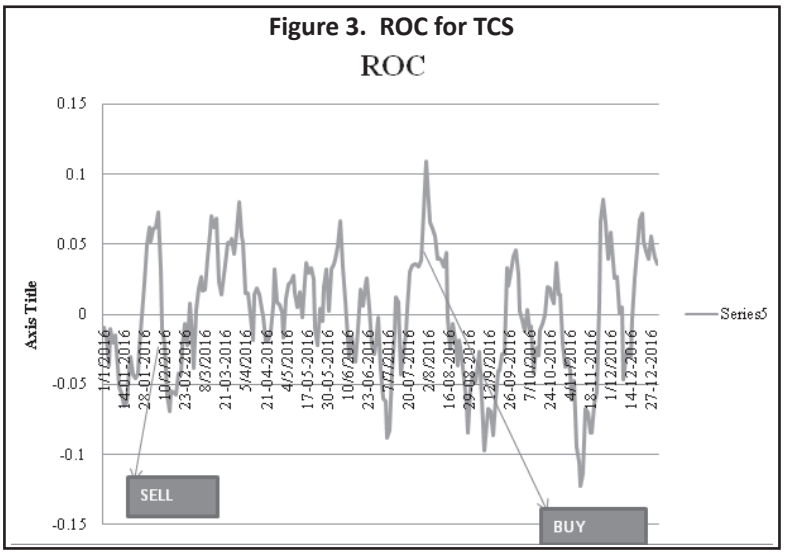


Figure 4. RSI for TCS

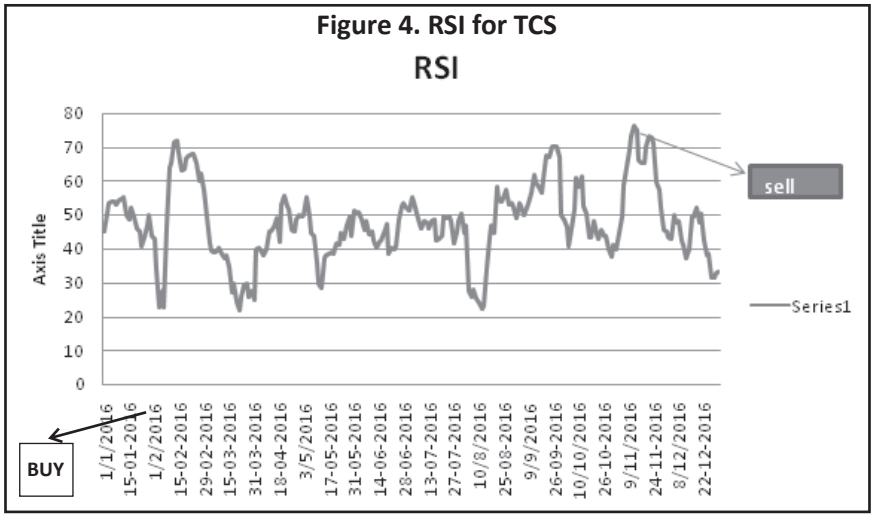
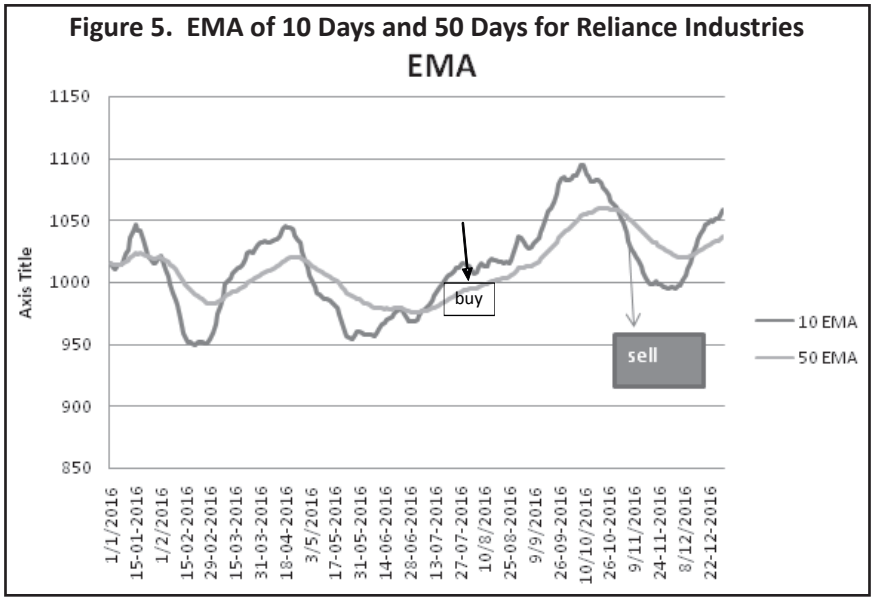


Figure 5. EMA of 10 Days and 50 Days for Reliance Industries



zero line from below, it indicates the buying signal. The Figure 3 shows buying and selling signals. On 27/7/16, the share price is at its peak, and it declined to the lowest on 9/11/16.

It can be observed from the Figure 4 that for 14 days, RSI overbought and oversold levels drawn at 70 and 30 levels of RSI, respectively. If the RSI lines cut 70 levels from top, it indicates selling signal and if RSI lines cut 30 levels from below, it indicates buying signal. TCS shows three selling signals and four buying signals in 2016.

It is evident from the Figure 5 that the price curve cuts the moving average curve from below at share price (1000) on 8/3/2016 and it is a buying signal. The price curve cuts the moving average curve from above at share price 1050 on 4/5/2016 and is the selling signal.

It is deduced from Figure 6 that the MACD is for 10 days and EMA is for 50 days. When the MACD line crosses zero line from below, it shows a buying signal, and when the MACD line crosses the year line from above, it shows a selling signal. In Figure 6, we can see three selling signals on 1/2/16, 29/4/16, and 1/11/16. It also indicates four buying signals on 7/1/16, 8/3/16, 7/7/16, and 14/12/16.

It can be inferred from Figure 7 that 10 days' rate of change curve is taken for buying and selling decisions. If the ROC curve cuts the zero line from above, it indicates selling signal ; and if the ROC curve cuts the zero line from

Figure 6. MACD for Reliance Industries

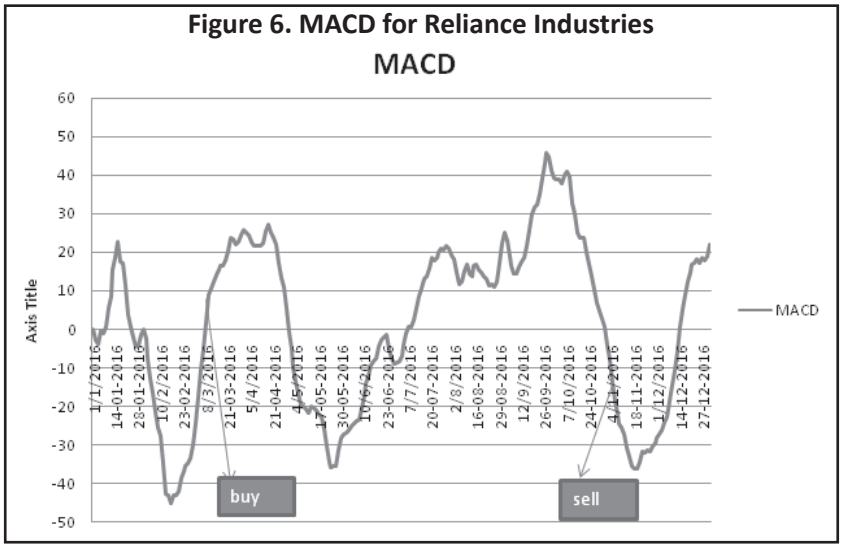


Figure 7. ROC for Reliance Industries

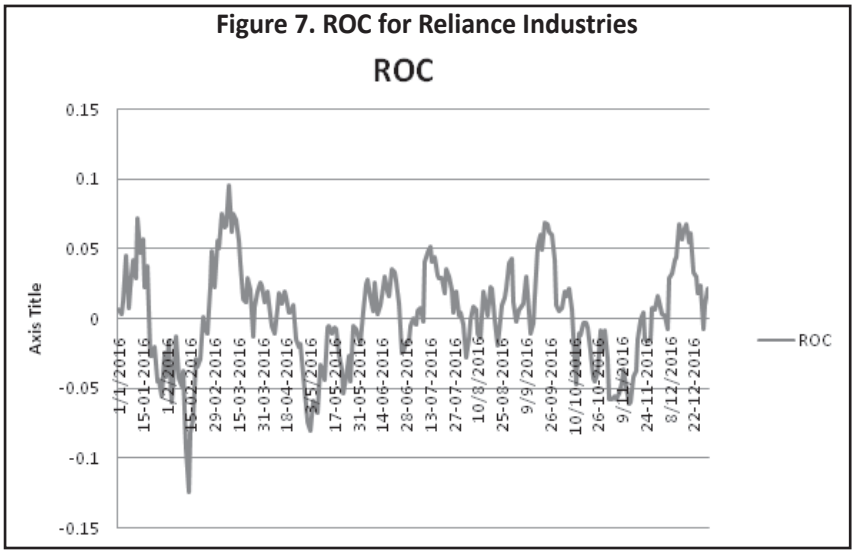


Figure 8. RSI for Reliance Industries

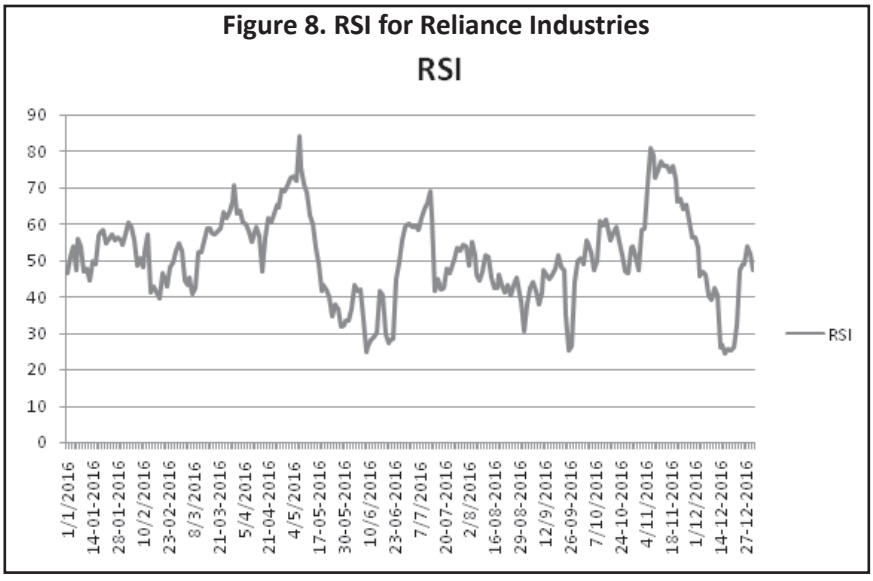


Figure 9. EMA of 10 Days and 50 Days for Coal India

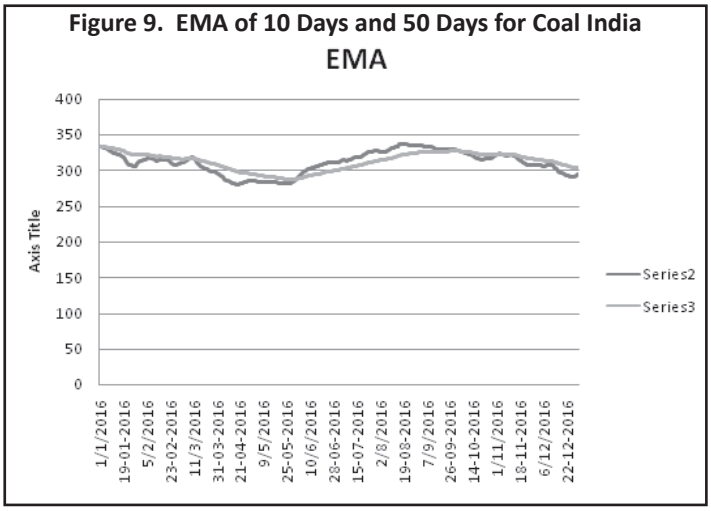


Figure 10. MACD for Coal India

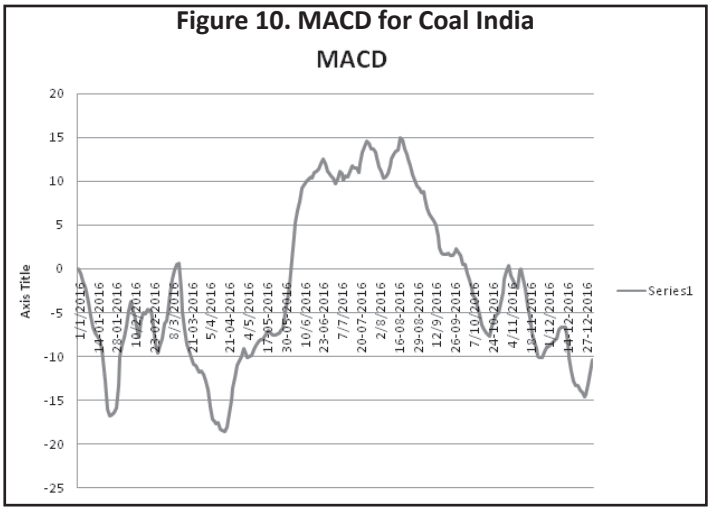
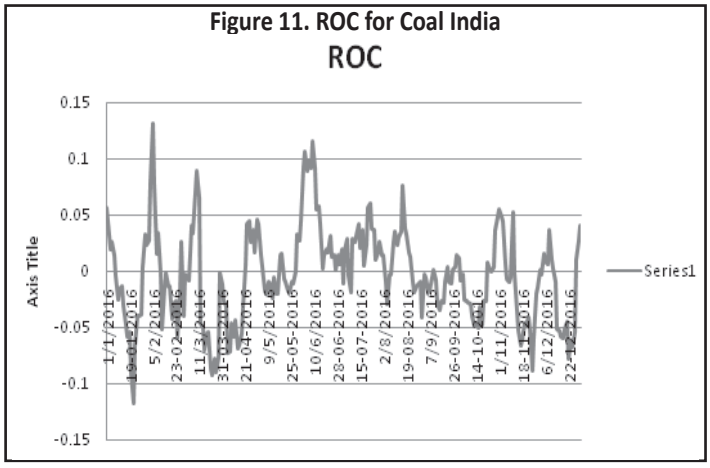


Figure 11. ROC for Coal India



below, it indicates the buying signal. Figure 7 shows 10 buying signals and 11 selling signals. On 9/3/16, the share price was at peak and it declined to the lowest level on 12/2/16.

In Figure 8, RSI of 14 days is considered. In 14 days, RSI overbought and oversold levels at 70 and 30 levels of

RSI, respectively. If the RSI lines cut 70 levels from top, it indicates selling signal and if the RSI lines cut 30 levels from below, it indicates buying signal. Reliance Industry shows three selling signals and four buying signals.

The Figure 9 shows the buying and selling signals for Coal India on the basis of short term exponential moving average and long term exponential moving average. If the short term exponential moving average curve cuts the long term exponential moving average from below and moves upwards, it indicates buying signal. If the short term exponential moving average curve cuts the long term exponential moving average curve from above, it indicates selling signal. The Figure 9 shows one buying signal and two selling signals for Coal India.

From the Figure 10, it can be deduced that the MACD for 10 days and 50 days EMA is taken. If the MACD line crosses zero line from below, it shows buying signal ; if the MACD line crosses the year line from above, it indicates the selling signal. From Figure 10, we can see four selling signals on 4/1/16, 11/3/16, 3/10/16, and 11/11/16. It also shows one buying signal on 2/6/16.

From Figure 11, it is inferred that the 10 days' rate of change curve is taken for buying and selling decisions. If the ROC curve cuts the zero line from above, it indicates selling signal and if the ROC curve cuts the zero line from

Figure 12. RSI for Coal India

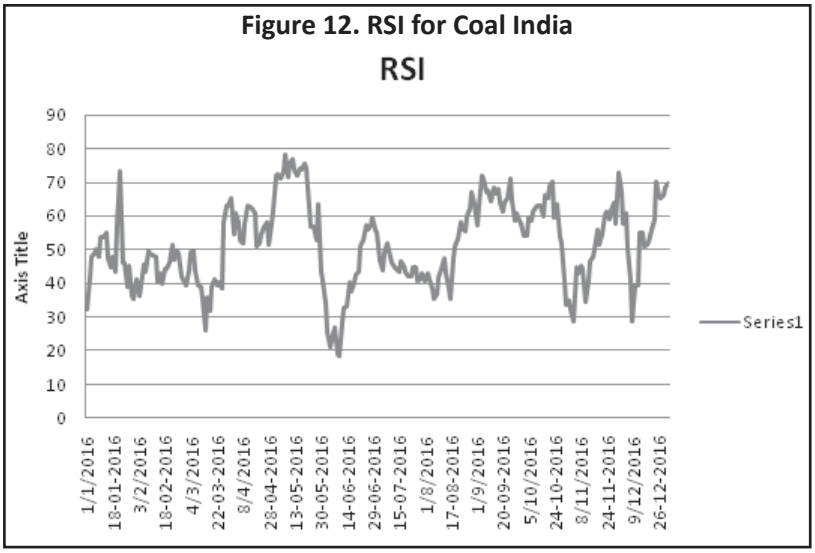
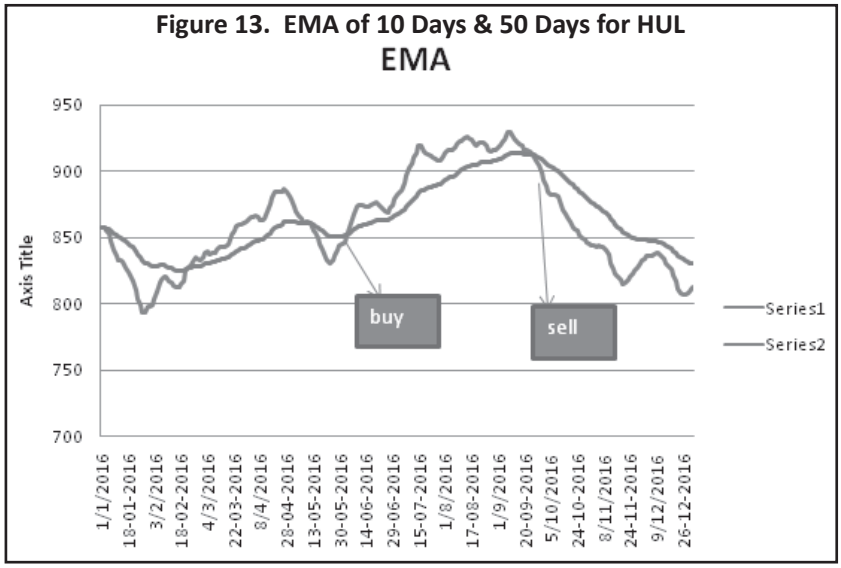


Figure 13. EMA of 10 Days & 50 Days for HUL



below, it indicates buying signal. The Figure 11 shows 13 buying signals and 14 selling signals. The share price is at its peak on 5/2/16 and it declined to the lowest on 21/1/16.

From Figure 12, it can be inferred that 14 days RSI is taken. In 14 days RSI, the overbought and oversold levels were drawn at 70 and 30 levels of RSI, respectively. If the RSI lines cut 70 levels from top, it indicates the selling signal and if the RSI lines cut 30 levels from bottom, it indicates the buying signal. Coal India shows six selling signals and four buying signals in the year 2016.

It can be deduced from Figure 13 that the price curve cuts the moving average curve from below at share price (1000) on 8/3/2016 and it is the buying signal. The price curve cuts the moving average curve from above at share price 1050 (4/5/2016) and is the selling signal.

It is evident from Figure 14 that the MACD for 10 days and 50 days EMA is taken. The MACD line crosses zero line from below, which shows buying signal and the MACD line crosses the year line from above, and it indicates

Figure 14. MACD for HUL

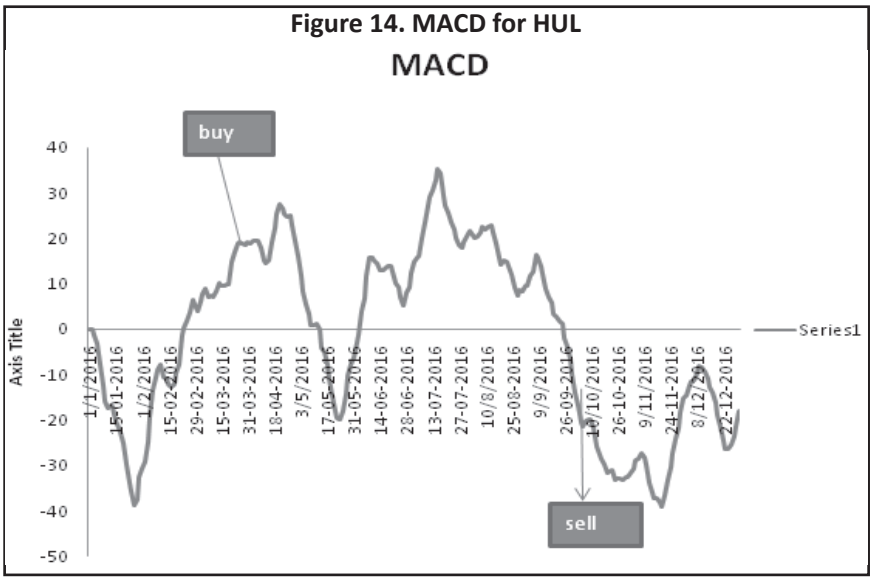


Figure 15. ROC for HUL

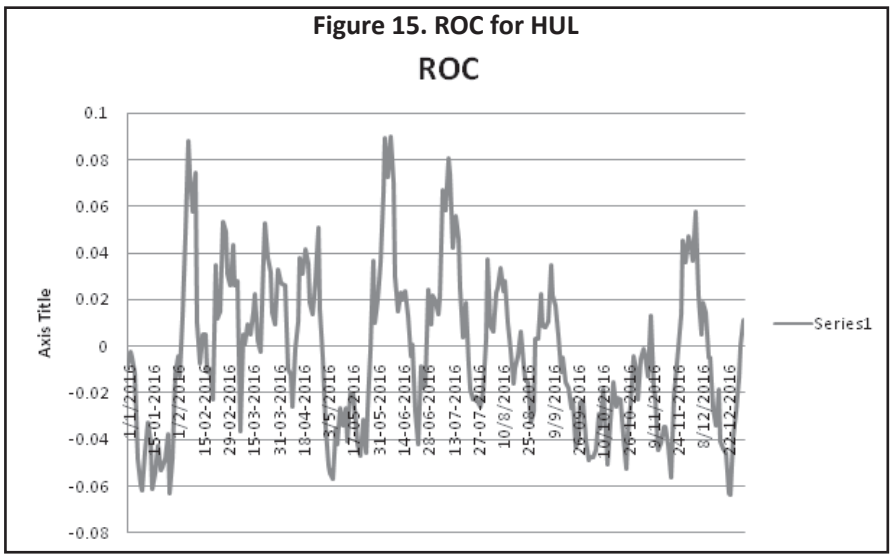


Figure 16. RSI for HUL

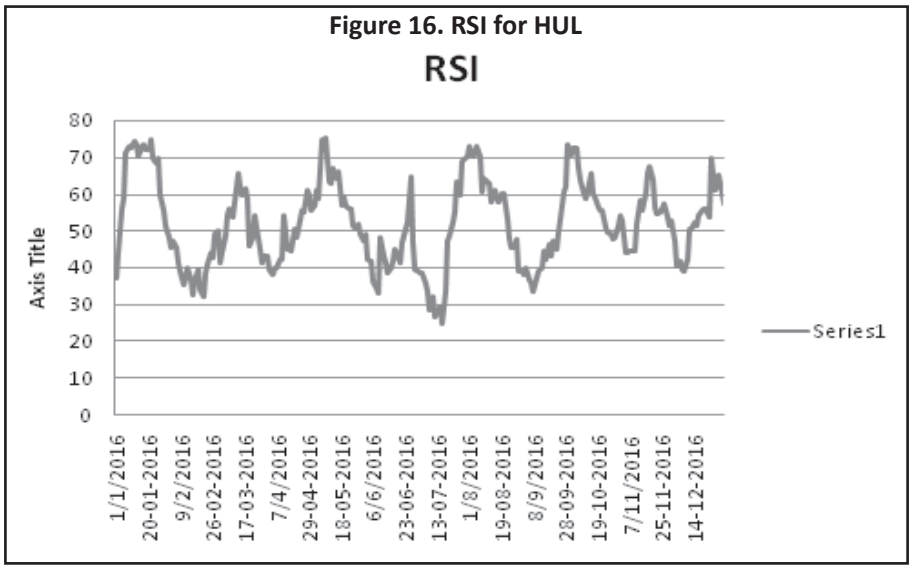
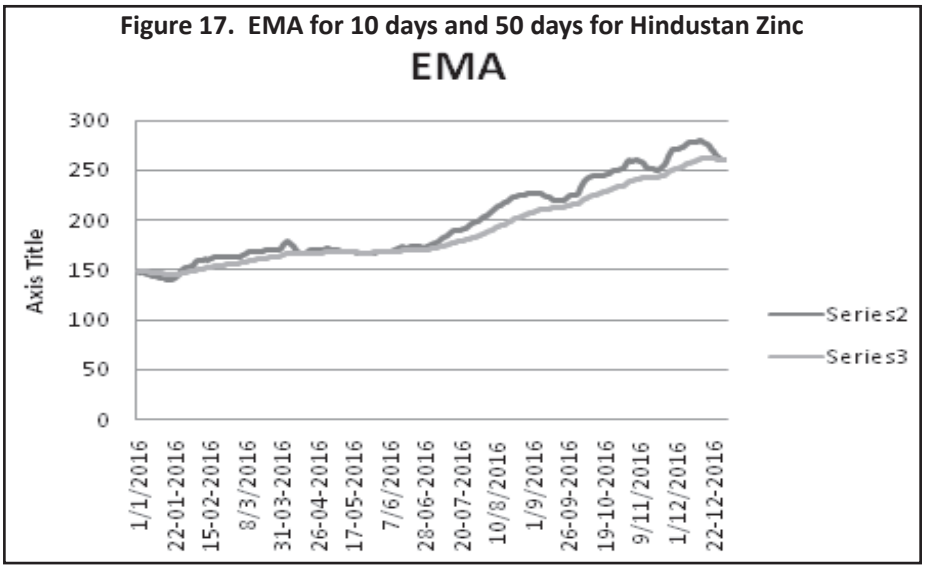


Figure 17. EMA for 10 days and 50 days for Hindustan Zinc



selling signal. From Figure 14, we can see three selling signals on 4/1/16, 12/5/16, and 23/9/16, and two buying signals on 23/2/16 and 12/5/16.

It can be inferred from Figure 15 that the 10 days' rate of change curve is taken for buying and selling decisions. The ROC curve cuts the zero line from above and indicates the selling signal; the ROC curve cuts the zero line from below and indicates the buying signal. The Figure 15 shows 11 buying signals and 12 selling signals. On 5/2/16, the share price was at the peak and it declined to the lowest on 22/12/16.

From Figure 16, it is inferred that 14 days RSI is taken. In 14 days RSI, the overbought and oversold levels were drawn at 70 and 30 levels of RSI, respectively. If the RSI lines cut the 70 levels from top, it indicates the selling signal and if the RSI lines cut the 30 levels from below, it indicates buying signal. HUL shows four selling signals but only one buying signal in the year 2016.

From Figure 17, it is evident that the price curve cuts the moving average curve from below at share price (1000) on 8/3/2016 and it is the buying signal. The price curve cuts the moving average curve from the above at share price 1050 (4/5/2016) and this is the selling signal.

Figure 18. MACD for Hindustan Zinc

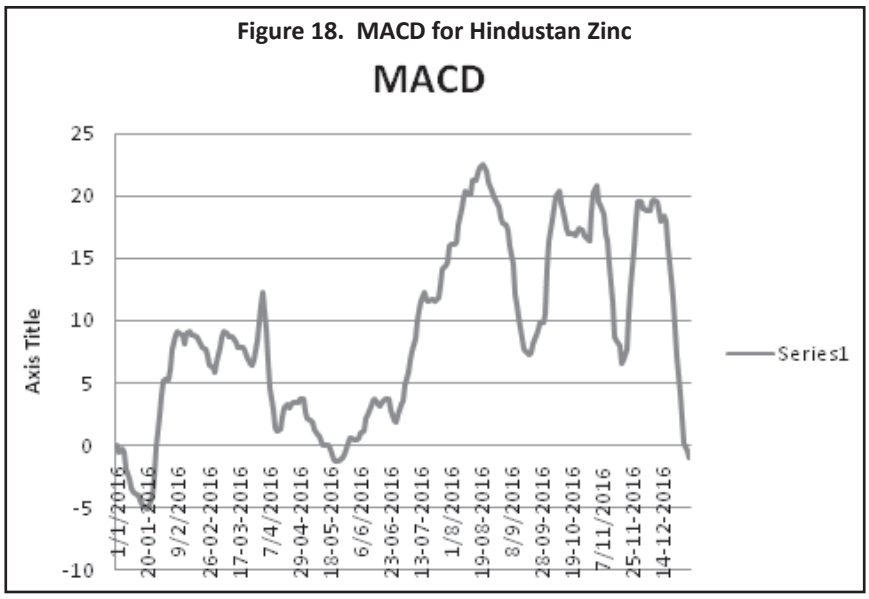


Figure 19. ROC for Hindustan Zinc

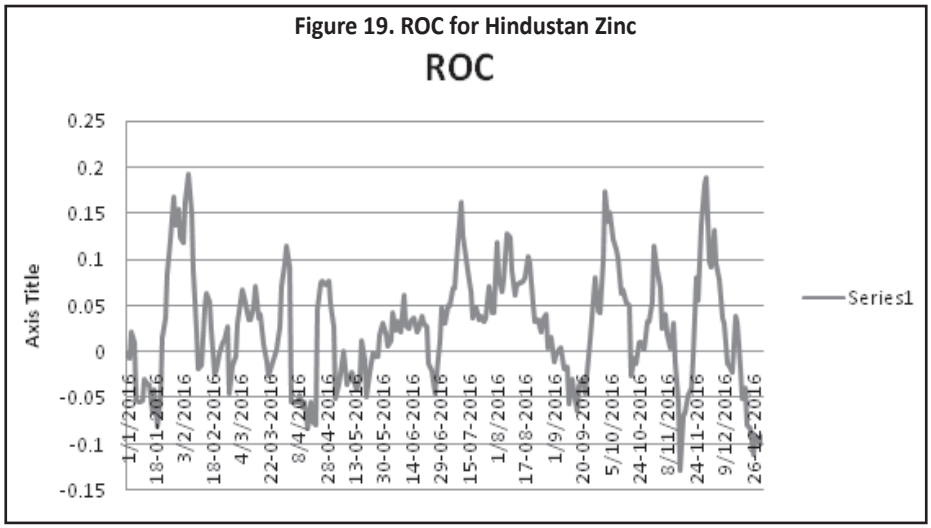
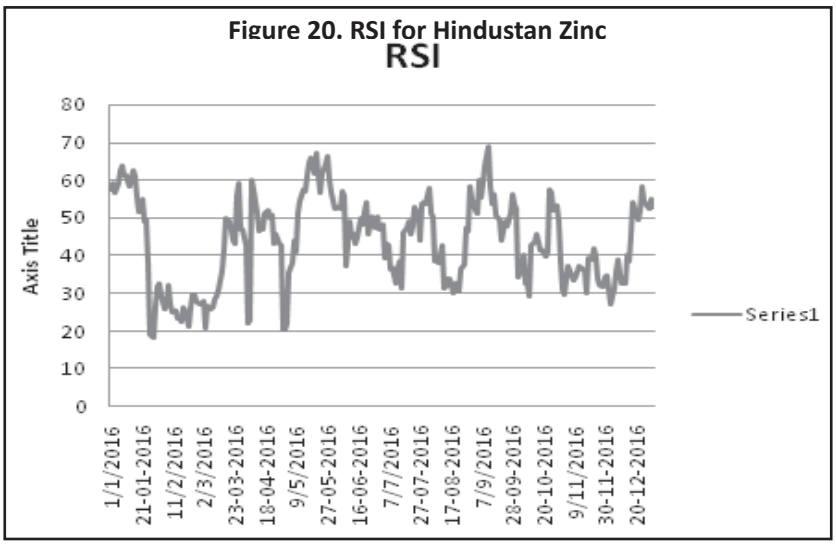


Figure 20. RSI for Hindustan Zinc



The Figure 18 indicates the MACD for 10 days and 50 days EMA. It can be inferred from the Figure18 that when the MACD line crosses zero line from below, it is the buying signal and when the MACD line crosses the year line from above, it indicates the selling signal. The Figure 18 indicates four selling signals on 1/1/16, 15/2/16, 28/2/16, and 25/8/16, and it also indicates four buying signals on 1/2/16, 15/3/16, 27/7/16, and 22/12/16.

Figure 19 shows 10 days' rate of change curve for buying and selling decisions. It is inferred from the Figure 19 that if the ROC curve cuts the zero line from above, it indicates selling signal, and if the ROC curve cuts the zero line from below, it indicates buying signal. The Figure 19 shows 12 buying signals and 14 selling signals. On 5/2/16, the share price was at peak at it declined to the lowest on 14/11/16.

From Figure 20, it is inferred that the RSI for 14 days is taken. For 14 days RSI, the overbought and oversold levels are drawn at 70 and 30 levels of RSI, respectively. If the RSI lines cut the 70 levels from top, it indicates the selling signal and if the RSI lines cut the 30 levels from below, it indicates buying signal. There were no selling signals and six buying signals were found in the year 2016.

(5) Acceptance and Rejection of Hypotheses

Table 5. Hypotheses Testing : H01 and Ha1

Hypothesis	Result
H01: Fundamental analysis is not useful in stock market investment decisions.	Rejected
Ha1: Fundamental analysis is useful in stock market investment decisions.	Accepted

Table 6. Ratio Implication Matrix

	Bad Ratio	Implications	Good Ratio	Benefits
Profitability Ratio	HUL (Lowest)	Low margin due to operating expenses and interest cost. High leverage concern. Asset depletion.	Coal India (Highest)	High Margin
Turnover Ratio	HUL (lowest)	Poor generation of sales	TCS (Highest)	High turnover is beneficial because it means you are generating sales efficiently to sell inventory*
Debt Equity Ratio	TCS (lowest)	Less profitable and less risky	HUL(Highest)	More profitable and risky
PE Ratio	HUL (Lowest)	Less growth prospects	Coal India (Highest)	More growth prospects

Note : * Compared to industry averages, if the average is 1.5 and yours is 2, your ratio is slightly above industry norms. If the average is 3 - 4, you have a relatively low turnover. You also can compare your current period ratio to recent periods to see if you are trending in the right direction. This helps you decide what, if any, actions need to be taken to improve inventory performance. The inventory turnover ratio is not a perfect metric. Carrying too little inventory may result in lost sales, as products that customers need may be inaccessible with time. A high turnover ratio may look good on paper, but does not tell you whether inventories are too low and the firm lost sales as a result. Furthermore, the beginning and ending inventory levels for the period may be misleading. The end of the year, for example, may represent unusually low inventory levels. Using only two figures to calculate the average inventory levels for the entire year may result in wrong assumptions about the firm. Utilizing data from all four quarterly reports somewhat mitigates the problem, but is not always a perfect solution.

Table 7. Hypotheses Testing : H02 & Ha2

Hypothesis	Result
H02: Technical analysis is not useful in stock market short term investment perspectives.	Rejected
Ha2: Technical analysis is useful in stock market short term investment perspectives.	Accepted

It can be seen from Table 6 that Coal India is comparatively the best long term investment avenue. Therefore, it is evident that whenever other things remain conducive, fundamental analysis would help in arriving at better long term investment decisions. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted as fundamental analysis helps the investor to take relatively better decisions. From the MACD and ROC analysis, it is evident that the buying and selling signals (technical analysis outcomes in the Figures) would help in stock market short term investment perspectives.

Discussion and Implications

- An investor has to use both fundamental and technical analysis before investing.
- Those who have long term investment objectives should employ both fundamental and technical analysis to decide on investments.
- Share market fluctuations are stochastic in nature because of lots of exogenous factors. These factors are quantitative and qualitative in nature. Investors should have awareness about such factors of business and economy.
- Macroeconomic understandings will help an investor to take more wise decisions.
- Studying company fundamentals always help an investor rather than the influence of acquaintances, neighbors, relatives, or friends.

A core principle of technical analysis is that a market's price reflects all relevant information impacting it. A technical analyst, therefore, looks at the history of a security or commodity's trading pattern rather than external drivers such as economic, fundamental, and news events. It is believed that price action tends to repeat itself due to the collective, patterned behavior of investors. Hence, technical analysis focuses on identifiable price trends and conditions. Kim, Lui, and Chong (2013) pointed out that the past findings on technical analysis mostly reported the profitability of specific trading rules for a given set of historical data. These past studies had not taken the human trader into consideration as no real-world trader would mechanically adopt signals from any technical analysis method. Therefore, to unveil the truth of technical analysis, we should get back to understand the performance between experienced and novice traders. If the market really walks randomly, there will be no difference between these two kinds of traders. However, it is found by experiment that traders who are more knowledgeable about technical analysis significantly outperform those who are less knowledgeable. Therefore, technical analysis helps any investor to take relatively better decisions.

Fundamental analysis helps to know the financial health of a company and maintains that markets may incorrectly price a security in the short run but that the "correct" price will eventually be reached. Profits can be made by purchasing the wrongly priced security and then waiting for the market to recognize its "mistake" and re-price the security. Therefore, fundamental analysis helps investors to take long-term investment decisions.

The present study is an attempt to show the usefulness of fundamental and technical analysis in stock market investments both for short term and long term. Furthermore, to test the degree of applicability, there is a need to undertake research studies in the same area to further test the hypothesis on different scales.

Conclusion

Technical analysis alone is not adequate to gain profits from the stock market. While fundamental analysis needs large size of data and intricate calculations to access the intrinsic worth of the securities, technical inspection

needs minimum data, like the past data on price and volume of transactions. Fundamental analysis helps in deciding on the long term investments, and technical analysis will help in short term investment decisions. Thus, technical analysis is relatively simple and less time consuming. However, technical analysis can only recommend the ideal time for investment/disinvestment decision. Technical analysis cannot identify undervalued/hyped securities, which can be done only by fundamental analysis. Hence, the ideal approach would be to use fundamental analysis for recognizing the undervalued/overvalued securities and to use technical analysis to choose the best time for purchasing/selling of securities. In this way, technical analysis can be made to accumulate efforts of fundamental analysis. The current study, under most of the technical tools applied, disclosed the buy and sell indications during the study period.

Limitations of the Study and Scope for Further Research

The time frame for stock prices in this project is limited to two months (1-1-2017 to 10-3-2017). Hence, very long term trends were not identifiable. The discussion of the tools of fundamental and technical analysis was restricted to few companies as the study duration was only two months and it would be difficult to do an in-depth analysis of a large number of companies. Stock price data variation may result in non identical results (not in similar pattern). Fundamental and technical analysis may not always give full picture as there are a number of other qualitative and quantitative external factors like tax, government policies, and international business environment which influence share market performances. This study provides useful insights to understand the applicability and usefulness of fundamental and technical analysis for share market investors. Future studies can explore the degree of applicability of fundamental and technical analysis.

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Annexure 1. Abbreviations Explained

EPS - Earning per share

PBIT- Profit before income tax

ITR - Inventory turnover ratio

ATR- Average turnover ratio

LTDER - Long term debt equity ratio

STDER- Short term debt equity ratio

PE Ratio- Price earnings ratio

EMA - Exponential moving average

MACD - Moving average convergence and divergence

ROC - Return on capital

RSI - Relative strength index

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