

Technical Analysis on Selected Stocks of Energy Sector

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Abstract

Technical Analysis is a study of the stock market relating to factors affecting the supply and demand of stocks and also helps in understanding the intrinsic value of shares and to know whether the shares are undervalued or overvalued. The stock market indicators would help the investor to identify major market turning points. This is a significant technical analysis of selected companies which helps to understand the price behaviour of the shares, the signals given by them and the major turning points of the market price. Any investor or trader must certainly consider technical analysis as a tool whether to buy the stock at a particular point of time though it is fundamentally strong. The objective of the present project is to make a study on the technical analysis on selected stocks of energy sector and interpret on whether to buy or sell them by using techniques. This in turn would help investors to identify the current trend and risks involved with the scrip on par with market. The study is purely based on secondary sources which includes the historical data available from the website. For the purpose of analysis, techniques like Beta, Relative Strength Index and Simple Moving average is used for the analysis to know if the stock is technically strong.

Keywords

Stocks market, Technical analysis, Risk, Investment.

I. Introduction

Technical Analysis is a study of the stock market considering factors related to the supply and demand of stocks. Technical analysis is a method of evaluating securities by analyzing the statistics generated by market activity, such as past prices and volume. Technical analysts do not attempt to measure a securities intrinsic value, but instead use charts and other tools to identify patterns that can suggest future activity. In fact the decision made on the basis of technical analysis is done only after inferring a trend and judging the future movement of the stock on the basis of the trend. Technical Analysis assumes that the market is efficient and the price has already taken into consideration the other factors related to the company and the industry. It is because of this assumption that many think technical analysis is a tool, which is effective for short-term investing.

The study on technical analysis of selected companies based on Stratified sampling technique is significant as it helps in understanding the intrinsic value of shares and to know whether the shares are undervalued or overvalued or correctly priced. It becomes essential to know the performance of the company so that the investment will be duly giving returns and ensure safety of the investment. Further it helps in understanding the price behaviour of the shares, the signals given by them and the major turning points of the market price. The Technical analysis concentrates on plotting the price movements of stock, drawing inferences from the price movements in the market. It is an approach by prediction of future prices through the forces like supply and demand. It is very much useful for a speculator who aims at profit margins.

II. Review of Literature

Cooter (1962) found that the stock prices move at random when

studied at one week interval. The data for his study was week-end prices of forty five stocks from New York stock exchange .He tested randomness of share by means of a mean square successive difference test. He concluded that there was not one random walk model. He concluded that the share price trends could be predicted when studied at fourteen-week interval. But in total the stock prices followed a random walk at weekly intervals.

[6]Eugene F.Fama (1965) has answered the questions to what extend can the past history of a common stock price can be used to make meaningful predictions concerning the future prices of the stock? The theory of random walk on stock prices is studied with two hypotheses. They are i) Successive price changes are independent and ii) The price changes conform to some probability distribution.The data for this study consists of daily prices for each of the thirty stocks of the Dow -Jones industrial average.This study concludes that there is strong and voluminous evidence in favour of random walk theory.

Ramaswami.K (1996) assessed the relationship among book values, earnings, dividend and market price of share, impact of bonus issues, impact of security scam on equity return .to that end, the author used daily share price of 30 companies included in the construction of BSE sensitive index, daily data of BSEI and NYSE composite index, annual data on BV per share market price per share, EPS and DPS and data on bonus issue made ,during the period of study ,the researcher used correlation ,regression and frequency distribution for interpreting data.

[19]Sharma and Robert E. Kennedy (1977) tested the applicability of random walk hypothesis to the stock market in developing country namely India and compare this to that of stock markets in developed countries namely USA, and England. For this purpose the price behavior of Bombay stock exchange is statistically examined both for randomness and independence .The test the random walk hypothesis. The test covers 132 monthly observations for each stock market index of common stock listed in Bombay exchange for eleven years from 1968-1973.The study indicates that price dependence while statistically significant, is comparably small in the developing countries. Based on the test, it is evident that the Bombay stock exchange stock obeys a random walk and is equivalent to developed countries stock exchange.

[7]Fernando Fernandez -Rodriguez, Simon Sosvilla -Rivero, Julian Andrada -Felix (1999) assessed whether some simple forms of technical analysis can predict stock price movement in the Madrid stock exchange, covering thirty-one-year period from Jan 1966 -Oct 1997.the results provide strong support for profitability of those technical trading rules. By making use of bootstrap techniques the author shows the returns obtained from these trading rules are not consistent with several null models frequently used in finance.

[16]C. L. Osler (2001) provides a microstructural explanation for the success of two familiar predictions from technical analysis: (1) trends tend to be reversed at predictable support and resistance levels, and (2) trends gain momentum once predictable support and resistance levels are crossed. The explanation is based on a close examination of stop-loss and take-profit orders at a large foreign exchange dealing bank. Take-profit orders tend to reflect price trends, and stop-loss

orders tend to intensify trends. The requested execution rates of these orders are strongly clustered at round numbers, which are often used as support and resistance levels. Significantly, there are marked differences between the clustering patterns of stop-loss and take-profit orders, and between the patterns of stop-loss buy and stop-loss sell orders. These differences explain the success of the two predictions.

[8]Gupta, (2003) examined the perceptions about the main sources of his worries concerning the stock market. A sample comprise of middle-class household's spread over 21 states/ union territories. The study reveals that the foremost cause of worry for household investors is fraudulent company management and in the second place is too much volatility and in the third place is too much price manipulation.

[18]Ravindra and Wang (2006) examine the relationship of trading volume to stock indices in Asian markets. Stock market indices from six developing markets in Asia are analyzed over the 34 month period ending in October 2005. In the South Korean market, the causality extends from the stock indices to trading volume while the causality is the opposite in the Taiwanese market.

III. Objectives of the Study

- To make a study on Technical Analysis on selected stocks and interpret on whether to buy or sell them
- To find out the risk involved with the scrip on par with market using Beta.
- To analyze price movements using Relative Strength Index
- To understand trends and patterns in share price movements using Simple Moving Average.

IV. Methodology

The study aims at analyzing the price movements of selected companies scrips. As the study describes the existing facts and figures given in the financial statement and the price movements of the selected companies, the research design followed is descriptive and analytical in nature. For Technical Analysis, the daily share price movements of the selected companies in NSE were absorbed for the 3 years i.e. 01-April-2007 to 31-March-2010. The closing prices of share prices were taken and the future price movement was analyzed using various tools. For the purpose of beta calculation, closing prices of the companies in NSE and the closing value of NIFTY were taken. Data were collected from trading of equity market in NSE, various books, journals, magazines and websites. All the listed companies in the National Stock Exchange constitute the population for the study. 10 companies which are actively traded in NSE were taken on Stratified sampling basis for the study. The selected companies are

- Oil and Natural Gas Corporation.(ONGC)
- TATA Power
- National and Thermal Corporation (NTPC)
- Gas Authority of India Ltd(GAIL)
- CAIRN
- Bharat Petroleum corporation Ltd(BPCL)
- Power Grid Corporation of India Ltd
- Reliance Power
- Reliance Industries Ltd
- suzlon

The tools used in this analysis are

A. Beta

The Beta factor describes the movement in a stock's or a portfolio's returns in relation to that of the market return. The main purpose of using Slope or Beta is to predict the change in the market. Beta is a measure of the market or non-diversible risk associated with any given security in the market. The formula for predicting Beta is as follows:

$$\text{Market Value of Beta} = P1-P0 / PO*100$$

Where,

P1 Today's Close.

P0 Previous Close.

$$\text{Beta} = \text{Cov}(x,y) / \text{var}(x)$$

Where,

X Market Value of Nifty

Y Market Value of the Scrip

The analysis is done based on the following rule:

- If the beta is 1 The share's movement will be along with the market.
- If the beta is >1 The share's movement will be more volatile than the market.
- If the beta is <1 The share's movement will be less volatile than the market.

B. Relative Strength Index (RSI)

$$\text{RSI} = 100 - \frac{100}{1 + \text{RS}}$$

$$\text{Average Gain} = \frac{(\text{Total Gains}/n)}{n}$$

$$\text{Average Loss} = \frac{(\text{Total Losses}/n)}{n}$$

$$\text{First RS} = \frac{(\text{Average Gain}/\text{Average Loss})}{n}$$

$$\text{Smoothed RS} = \frac{[(\text{previous Average Gain}) \times 13 + \text{Current Gain}]/14}{[(\text{previous Average Loss}) \times 13 + \text{Current Loss}]/14}$$

n = number of RSI periods

For a 14-period RSI, the Average Gain equals the sum total all gains divided by 14. Even if there are only 5 gains (losses), the total of those 5 gains (losses) is divided by the total number of RSI periods in the calculation (14 in this case). The Average Loss is computed in a similar manner. When the Average Gain is greater than the Average Loss, the RSI rises because RS will be greater than 1. Conversely, when the average loss is greater than the average gain, the RSI declines because RS will be less than 1. The last part of the formula ensures that the indicator oscillates between 0 and 100. Note: If the Average Loss ever becomes zero, RSI becomes 100 by definition.

C. Moving Averages

Most chart patterns show a lot of variation in price movement. This can make it difficult for traders to get an idea of a security's overall trend. One simple method traders use to combat this is to apply moving averages. A moving average is the average price of a security over a set amount of time. By plotting a security's average price, the price movement is smoothed out. Once the day-to-day fluctuations are removed, traders are better able to identify the true trend and increase the probability that it will work in their favor.

V. Analysis and Findings

A. ONGC

The BETA value is 0.640265 less than 1, the scrip is less volatile than the market. It is less risky to invest in this scrip. In RSI analysis, the company's price closes in oversold region so it shows the positive note that the price of the share may increase. In moving Average analysis the price line is above the moving

average so it shows the buy signal.

B. Tata Power

The BETA value is 1.181704 more than 1, the stock is more volatile than the market. If market rises or falls by 1%, the stock would outperform or underperform respectively by 11%. In RSI analysis, the company's price is in oversold region and it shows an uptrend in movement of shares. In moving average analysis, the moving average goes up and joins the price line it indicates the buy signal.

C. NTPC

The BETA value is 0.199074 less than 1, less volatile than the market. It is less risky to invest in the scrip. In RSI analysis, the prices fall in the oversold region, so price will rise in future. In moving average analysis, price line is above the moving average so it indicates the buy signal.

D. GAIL

The BETA value is 1.07207 approximately equal to 1, so any change the market will affect the scrip. In RSI analysis, the company's price closes in the oversold region, so it shows the positive note that the prices may increase. In moving Average analysis, price line is above the moving average so it indicates the buy signal.

E. CAIRN

The BETA is 1.01232 approximately equal to 1, so any change in the market will affect the scrip. In RSI analysis, it shows uptrend in movement of shares. In moving average analysis, it shows the buy signal. When the moving average line go up and meet the price line then it shows the buy signal

F. BPCL

The BETA is 0.16536 less than 1; it shows that the scrip is less volatile than the market. The scrip is less risky to invest in. In RSI analysis, the price line is in uptrend and shows the positive signal that the price of the share may increase. In moving average analysis, it shows the buy signal.

G. Power Grid

The BETA is 0.10499 less than 1, so less volatile than the market. It is less risky scrip. In RSI analysis, it shows that it will increase in share prices in near future. In moving average analysis, it shows the buy signal because the price line is above the moving average line.

H. Reliance Power

The BETA is 0.55787 less than 1, so less volatile than the market. It is less risky scrip. In RSI analysis, it shows that it will increase in share prices in near future. In moving average analysis, it shows the buying signal.

I. Reliance Industries Ltd

The BETA is 0.71339 less than 1, less volatile than the market. It is less risky scrip. In RSI analysis, the company's close price is in uptrend and in future the company's price further increase. In moving average analysis, it shows the buy signal.

J. SUZLON

The BETA is 1.23468 more than 1, more volatile than the market. The scrip is moderately risky. In RSI analysis, the company's close price is in uptrend movement. In moving

average analysis, it shows the sell signal in short term and buy signal in long term.

VI. Limitations

- The study on technical analysis was conducted by taking only selected energy companies scrip's.
- The study is confined only for 3 years and hence the study cannot be used for a period before and after.
- The study is for a limited period; hence the behaviour pattern may serve limited purpose.

VII. Suggestions and Discussions

One can buy ONGC, TATA Power, NTPC, GAIL CAIRN, BPCL, Power Grid Corporation of India, Reliance Power and Reliance Industries because these companies Net Profits are increasing at a higher rate and ONGC plans to construct a refinery in Nigeria. If international price of oil increases then ONGC share price also increases. Companies like TATA Power and GAIL plans to sign MOU with foreign players and Coal India for expansion. Share prices will increase when power is supplied to private companies. Government is expecting to raise Rs.8100 crores through NTPC stake sales. If international oil price increases then the price of the share also increases in domestic market. BPCL has become the integrated producer of Biodiesel. If the crude price decreases the BPCL price increases. So it is advisable for the investors to hold and buy the shares of these companies. But at the same time for short-term investors, it is advisable to sell Suzlon shares as they have a net loss of Rs.453 crores, which is mainly due to the purchase of shares in German Company RE Power.

Investors must also take into account various factors like government of India budget, company performance, political and social events, climatic conditions etc. before any decision is made. The scrip should also be fundamentally good. Therefore, it's advisable for a trader or investor to make technical analysis of stocks for better return of investments.

VIII. Conclusion

Today, the health of stock exchange is solely dependent on the pattern of investment by the investor. As the financial market goes through brisk changes, investors should look for right opportunities keeping in tune with the dynamics of market environment. Financial market reflects a country's economic growth as they supply necessary financial inputs for the development of the country. Technical analysis gives investor a better understanding of the stocks and also gives them right direction to go on further to buy or sell the stocks. Therefore, the small investors and traders should not blindly make an investment rather they should analyze using the various tools to check if the scrip is technically strong.

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Appendix

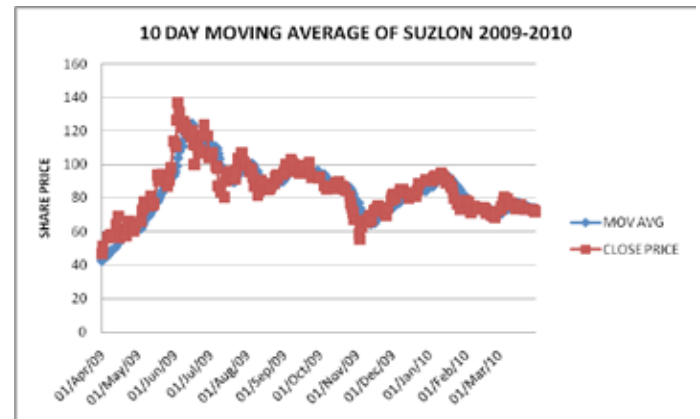


Fig. 1 : Chart Showing 10-Day Moving Average of Suzlon Energy 2009-2010

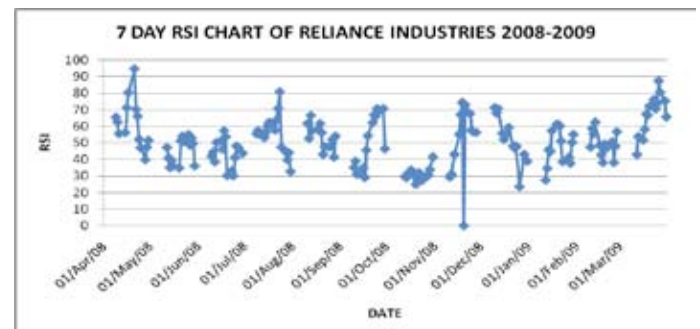


Fig. 2 : Chart Showing the 7-Day Relative Strength Index of Reliance Industries 2008-2009

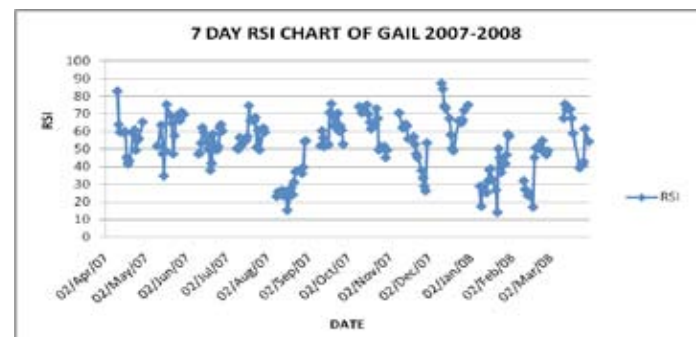


Fig. 3 : Chart Showing the 7-Day Relative Strength Index of Gas Authority of India Ltd 2007-2008

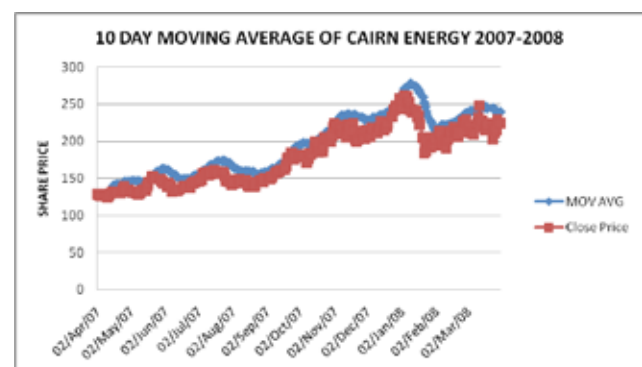


Fig. 4 : Chart Showing 10-Day Moving Average of Cairn Energy 2007-2008

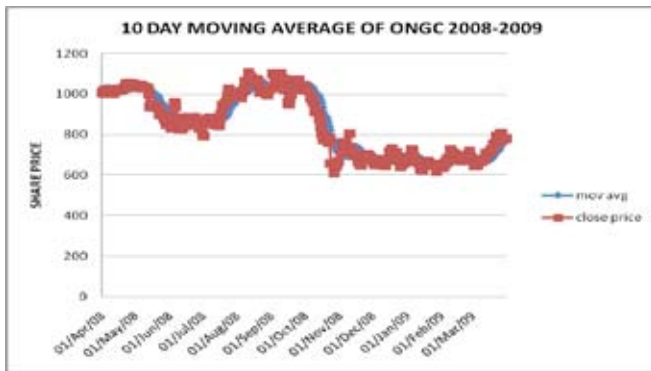


Fig. 5 : Chart Showing 10-Day Moving Average of Oil and Natural Gas Corporation Ltd 2008-2009



Mrs.R.Chitra B.com, MBA. M.Phil. (Ph.D) has over 6 years of Academic experience. Prior joining to academics she has 4 years of Industry Experience. Her area of specialization includes both Marketing and Finance. To her credit she has published papers in National Journals and articles in the News letter. She has attended National Conferences, Seminar and Workshops,

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