A study on "Technical analysis" of Indian Stock Market

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Abstract

Stock market is a broader aspect of Indian financial market, in order to be successful in the stock market an investor must grasp the skillful analyzing methodology. There are typically two methods used in analyzing the price movement of stocks and indices. They are fundamental analysis and technical analysis. Both these approaches have the same objectives of buying at lower price and selling at higher price to get good returns on investment.

Fundamental analysis is concerned with the fundamental factors in determining the current and future earning capacity. Technical analysis can be defined as the process of identifying trend reversal at an early stage and to ride the trend momentum until the weight of evidence suggests that the trend has reversed directions. The study is based on the historical price movements of Indian stocks and indices. Analysis is done with the help of technical tools like Moving average, MACD, Bollinger band, RSI, ADX, Stochastic.

***Keywords**: Indian Financial Market, Fundamental and Technical Analysis, Moving average, MACD, Bollinger band, RSI, ADX, and Stochastic.*

Introduction

The Indian stock market, which mainly consists of the Bombay stock exchange and the national stock exchange, is one of the fastest growing emerging markets in the world. One of the mainly thinks people want to know about the stock market is, "what to buy and when to buy?" There are many different approaches for analyst the market. Two basic methods are classified as fundamental analysis and technical analysis

(I) Fundamental Analysis

The massive amount of numbers in a company’s financial statement can be wildering and intimidating to many investors. Financial statement analysis is the biggest part of fundamental analysis. Also known as quantitative analysis, it involves looking at historical performance data to estimate the future performance of stocks. Followers of quantitative analysis want as much data as they can find on revenue, expenses, assets, liabilities and all the other financial aspects of a company. Fundamental analysts look at this information to gain insight on a company’s future performance, this doesn’t mean that they ignore the company’s stock price; they avoid focusing on it exclusively.

Financial markets, by their very nature, reveal itself in the form of rhythmic, patterned, price movement that bear not only a natural relationship to one another but also are essentially predictable once they are understood. Thus the discipline of technical analysis-hearing the message of the market via price movement –becomes an accurate tool for making profitable trading decisions.

Furthermore, since markets essentially attempt to anticipate movements in economic and social fundamentals, the accurate use of technical analysis actually implies an ability to predict those fundamentals. This is why technical analysis is such an important tool for making investment decisions.

(II) Technical Analysis

Technical analysis is a method of predicting price movements and future market trends by studying charts of historical data. The initial data for a technical analysis are prices: the highest and the lowest prices, the price of opening and closing within a certain period of time, and the volume of transactions. Technical analysis presupposes that all the information about the market and its further fluctuations is contained in the price chain. Any factor, that has some influence on the price, be it economic, political or psychological, has already been considered by the market and included in the price, technical analysis is concerned with what has actually happened in the market, rather than what should happen and takes into account the price of instruments and the volume of trading, and creates charts from that data to use as the primary tool.

In a shopping mall, a fundamental analyst would go to each store, study the product that was being sold, and then decide whether to buy it or not. By contrast, a technical analyst would sit on a bench in the mall and watch people go into the stores.

Review of Literature

1. Lawrence Blume, David Easley and Maureen O’hara (March 1994) in this research paper title “Market statistics and Technical Analysis: The Role of Volume” researcher explore that role of volume and its application for technical analysis. Researcher also shows that how volume, information and price are associated with each other and shows that how volume and price are edifying and also shows that trader who uses information contained in market statistics do better than traders who do not.

2. Andrew W. Lo, Harry Mamaysky and Jiang Wang (August, 2000) had made “Foundation of technical analysis: Computational Algorithms, Statistical Inference, and Empirical Implementation” researcher investigate that methodical and automatic approach to technical pattern recognition using nonparametric kernel regression applied on U.S. stock from 1962 to 1996 to estimate the success of technical analysis.

3. Charles M. C. Lee and Bhaskaran Swaminithan (October, 2000) he examined in his paper titled "Price Momentum and Trading Volume" that past trading volume provides a vital link between momentum and value strategies.

4. Michael C. Jensen and George A. Benington (September, 2001) in this research paper titled "Random Walks and Technical Theories: Some Additional Evidence" researcher studies that random walk and efficient market theories of security price behavior imply that stock market trading rules based exclusively on the past price cycle cannot make profits bigger than those generated.

5. Mark Grinblatt and Tobias J. Moskowitz (January, 2003) in this paper titled "Predicting stock price movement from past return: the role of consistency and tax loss selling" researcher studies that the regularity of positive past returns and tax loss selling considerably affects the relation between past returns and the cross- section of estimated returns.

Research Problem

The research is primarily focused on national stock exchange for the purpose of determining the stocks for investment based on technical analysis, nifty is chosen over the BSE Sensex due to the following reasons:

1) NSE is the largest stock exchange of the country.
2) Data of the various companies is easily available on the net.
3) NSE is considered as more transparent then BSE Sensex.

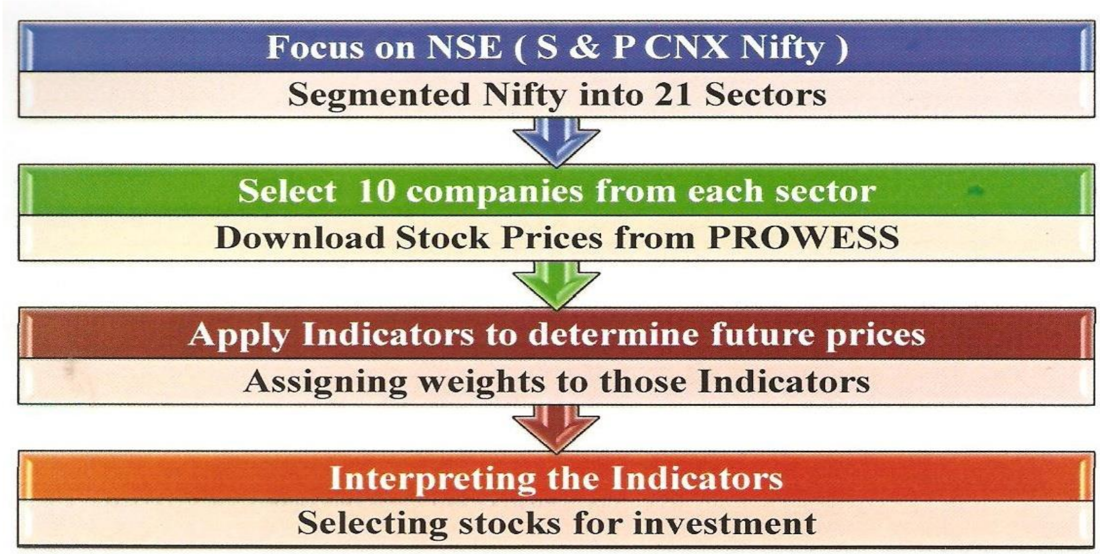
After this, the nifty exchange is divided into a total of 21 sectors. The following are the names of the different sectors.

Table -1 Name of Different Sectors

Automobiles	FMCG	Paper & chemicals
Banking & Finance	Health care & food	Power
Cement	Hotel	Retailing
Construction	IT	Sugar
Consumer durables	Media	Telecom
Diversified	Metals	Textiles
Engineering & machinery	Oil & gas	Transport

Research Methodology

A) Tools for Data Collection



B) Data Analysis

Process of calculating score: Assigning Weights

Firstly, weights are assigned to each strategy as follows:

Strategy	Buy	Sell	Wait watch	Hold	Avoid
Score	+2	-2	0	+1	-1

After this weights are assigned to different indicators for calculating the total score. Since all indicators have their own relevance and are successful under different situations, we have assigned equal weights to all of them.

Table 2: Technical indicators and weighted score

Indicator	weight	Score	Weighted score
Simple moving average	0.167	X	=0.167*x
MACD	0.167	X	=0.167*x
Bollinger band	0.167	X	=0.167*x
RSI	0.167	X	=0.167*x
ADX	0.167	X	=0.167*x
Stochastic	0.167	X	=0.167*x
Total score	1		=(D2:D7)

After this, score if all the companies was calculate and then keeping in view the conservative aspect of human psychology, approximately top 10% companies selected for "BUY", next 25% were kept for "HOLD", next 30% were recommended for "WAIT & WATCH", next 25% were recommenced for "AVOID" and the remaining 10%were recommended for "SELL".

Broadly the results obtained could be categorized as:-

Strategy	Buy	Hold	Wait & watch	avoid	Sell
Score(s)	S>0.65	0.30<s<0.65	-0.15<s<0.30	-.5<s<-0.15	S<-0.5

Result and Analysis of few Indian Stocks

To begin with, 10 companies were chosen from each sector. Then using the technical analysis software Metastock, Amibroker & Stock Predictor various indicators were applied to the historical price data. The results obtained are as follows:-

Table 3: Symbols used based on the analysis of indicators

Symbols used	
Buy	B
Sell	S
Hold	H
Avoid	A
Wait & watch	W

Data Interpretation

Company Name	Moving average	MACD	Bollinger band	RSI	ADX	Stochastic	Cumulative score	Strategy
INFOSYS	W	W	H	H	B	H	0.835	B
TCS	A	A	H	H	B	H	0.501	H
VIDEOCON	W	W	H	H	B	H	0.835	B
TITAN	A	A	H	H	B	H	0.501	H
GRASIM	H	A	A	A	A	A	-0.668	S
AMBUJA CEMENT	H	H	S	S	H	A	-0.334	A
BAJAJ HIND	H	A	A	A	A	A	-0.668	S
BALRAMPUR CHINI	H	H	S	S	H	A	-0.334	A
BAJAJ AUTO	H	H	S	S	H	A	-0.334	A
M&M	A	A	H	H	S	H	-0.167	A
HDFC BANK	B	A	A	S	H	H	0	W
KOTAK BANK	H	H	A	A	H	A	0	W
PURVANKARA	A	W	H	H	H	A	0.167	W
PUNJLLOYD	A	A	B	H	H	A	0.167	W

Findings

- IT sector is looking very attractive at present.
- Consumer durable sector is in buy and hold category.
- Most of the shares of Cement sector are touching their life time highs and it is high time to redeem any investment made in these sectors.
- Sugar sector is cyclical in nature and most of the companies belonging to thirds sector touch their 52 week high during October-November.

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- Automobile sector stocks are on the bearish side
- Banking and construction sectors are in wait & watch category.

Suggestions

- Stocks of the IT sector can be bought and hold.
- Stocks of consumer durables sector can be kept on hold and particularly the shares of Videocon and Titan.
- For any fresh investment on Cement sectors should be completely avoided.
- Any investments made in Sugar sector should be redeemed and fresh investments must be avoided. However some of stocks of this sector like Ballarpur china and Shakti are an exception and can be bought owing to their good performance and market expectations to rise further.
- Automobile sector shares should be avoided at present.
- If reserve bank cuts the interest rate then stock of Banking and Construction sectors can be bought as in that case the shares of these sectors will start rising. Otherwise these sectors should be avoided.

Conclusion

Financial markets move in trends callused by the changing attitudes and expectations of investors with regards to the business cycle. Since investors continue to repeat the same type of behaviour from cycles to cycle. And understanding of the historical relationships between certain price averages and market indicators can be used to identify turning points. No single indicator can ever be expected to signal all trend reversals, so it is essential to use a number of them together to build up a consensus.

This approaches if by no means infallible, but a careful, patient, and objective us of the principles of technical analysis can put the odds of success very much in favour of the investor or trader who incorporates these principles into an overall strategy.

As we can see that the stock exchange is now seen increasingly for what it really is, namely an essential financial infrastructure for any economy. It is this view of the exchange as infrastructure that motivated the Indian government to encourage the establishment of the National Stock Exchange of India at Mumbai, which in a few short years completely revolutionized the Indian capital market. The transparency of the price discovery process which results in technology driven stock exchanges, encourages the participation in economic activity and enhances the efficient utilization of resources. In addition, the stock market is increasingly perceived as an electronic marketplace for buyers and sellers of securities to transact their business, under the full view of observers.

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