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A Study on Technical Analysis and its usefulness in Indian Stock Market

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A Study on Technical Analysis and its usefulness in Indian Stock Market

Abstract:

An investor in the stock market would be interested in analysing the stock price movements. Prices in the stock market fluctuate due to continuous buying and selling in the market. There are basically two approaches used in analysing the share price movements. They are fundamental approach and technical approach. Both these approaches have the same objective of buying at lower price and selling at a higher price to gain good return on investment. It can be said that the end goal of these two methods are one and the same. However, there exists vast difference between the fundamental concepts of these two methods.

In fundamental analysis the analyst would be concerned with the fundamental factors. He would be interested in determining the true worth or intrinsic value of a share based on its current and future earning capacity. They would buy the share when its market price is below its intrinsic value. The term "Technical Analysis" is a general heading for myriad of trading techniques. Technical analysis attempts to forecast future prices by the study of past prices and a few other related summary statistics about security trading. A technical analyst is always concerned with the direction of price movements.

The aim of this study is to evaluate **technical analysis from Indian perspective** and to find out its usefulness in Indian stock market.

Key Words: Technical Analysis, Indian Stock Market, Share Price, Security Trading

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Introduction

Technical analysis is considered by many to be the original form of investment analysis, dating back to the 1800s. It came in to widespread use even before the period of extensive and fully disclosed financial information, which, in turn enabled the practice of fundamental analysis to develop. In the United States, the use of trading rules to detect patterns in stock prices is probably as old as the stock market itself.

The oldest technique of technical analysis is attributed to Charles Dow and is traced to the late 1800s. Many of the techniques used today have been utilized for over 60 years. These techniques for discovering hidden relation in stock returns can range from extremely simple ones to quite elaborate and complicated ones.

The attitude of academicians towards technical analysis till recently is well described by Malkiel (1981). "Obviously, I am biased against the chartist. This is not only a personal predilection, but a professional one as well. Technical analysis is anathema to the academic world. We love to pick on it. Our bullying tactics are prompted by two considerations (1) the method is patently false; and (2) It is easy to pick on. And while it may seem a bit unfair to pick on such a sorry target, just remember; it is your money we are trying to save."

However, technical analysis has always been enjoying a renaiassance on Wall Street. All major brokerage firms publish technical commentary on the market and individual securities, and many of the newsletters published by various "experts" are based on technical analysis. In recent

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years the efficient market hypothesis has come under serious siege. Various papers suggested that stock returns are not fully explained by common risk measures. A line of research directly related to this work provides evidence of predictability of equity returns from past returns. In general, the results of these studies are in sharp contrast with earlier studies that supported the random walk hypothesis and concluded that the predicable aviation in equity returns was economically and statistically very small. Two competing explanations for the presence of predictable variation in stock returns have been suggested as: (1) Market inefficiency in which prices take swings from their fundamental values, and (2) Markets are efficient and the predictable variation can be explained by time varying equilibrium returns. There is no evidence so for that unambiguously distinguishes two competing hypothesis.

Although many earlier studies concluded that technical analysis is useless, the recent studies on predictability of equity returns from past returns suggest that this conclusion might have been premature.

Technical analysis is the process of identifying trend reversal at an early stage and to ride the trend until the weight of evidence suggests that the trend has reversed the directions. The first task of a technical analyst is to ascertain the change in the direction of trend. Trend or direction of price movement is studied with the help of historic price and volume of data. Majority of the technical analysts monitor the price movement on either a daily, weekly or monthly basis.

Basic Principles of Technical Analysis

The basic principles on which technical analysis is based on may be summarized follows:

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a) The most important principle and assumption of technical analysis is that the market discounts everything. It signifies that the price at which the security is quoted represents the hopes, fear, inside information and all other fundamental factors.

b) The market moves in trends and the trends when established, has a tendency to continue further for some time and then reverse at some other point of time.

c) History keeps repeating itself over and again.

d) The market value of a security is related to demand and supply factors operating in the market.

e) Trends in stock prices have been seen to change when there is a shift in the demand and supply factors.

f) There are both rational and irrational factors which surround the supply and demand factors of a security.

g) The shifts in demand and supply can be detected through charts prepared specially to show market action.

h) Patterns which are projected by charts record price movement and these recorded patterns are used by analysts to make forecasts about the movement of prices in future.

i) Action and reaction resulting from buying and selling pressures lead to corrections and rallies to the major up trends and downtrends respectively.

Technical analysis can be very well applied to various markets. The same approach can be adopted in trading in the commodity market, currency market and others of similar type .However one has to understand that there is nothing in the whole world which can be perfectly

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predicted. That says the relevance of the word “WEIGHT” that is used by a technical analyst. The “WEIGHT” here refers to the conclusion derived by the analyst using various technical analysis tools.

Dow Theory

Charles Dow who was the editor in of a Wall Street Journal formulated this theory. This theory was presented in a series of editorials in the Wall Street Journal during 1900-1902.According to him stock market does not move on a random basis but is influenced by three distinct cyclical trends which are simultaneous in nature. These movements are primary movements, secondary movements and minor movements.

The primary movement has a long cycle which carries the entire market up or down. Secondary reactions are opposite reactions to the primary movement and it is quoted as the restraining force on the primary movement. This is expected to be present in the market only for a short while. Minor movements are nothing but the day today fluctuations in the market. These three movements have been compared to the tides, the waves and the ripples in the ocean.

Fig. 4.2

Primary trend and secondary reactions

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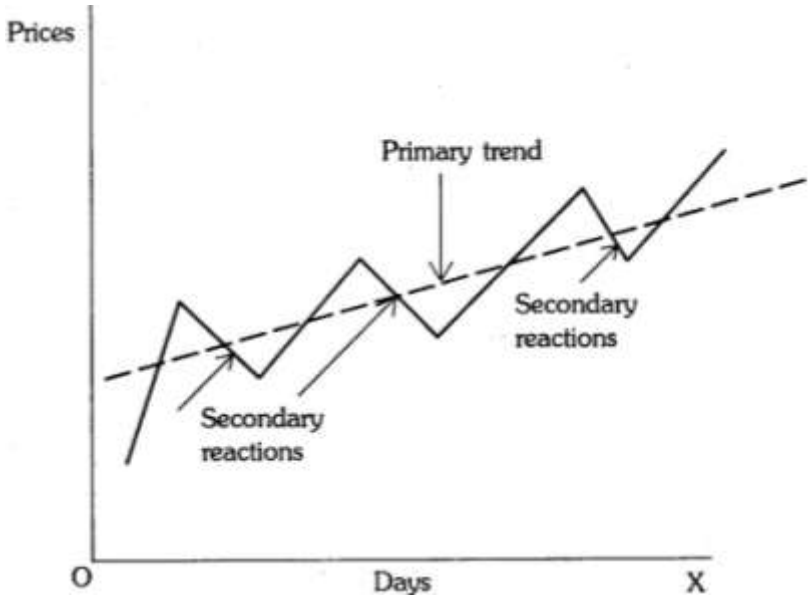

Source: Kevin. S, Portfolio Management, Prentice-Hall of India Pvt Ltd, New Delhi, 2000, P 23

Tools of Technical Analysis

Major tool of technical analysis can be broadly classified as:

- Market Indicators
- Chart Formations
- Line Studies

Market Indicators

Market indicators are used to gauge the changes in all securities with in a specific market. They typically analyse the stock market, although they can be used for other markets like futures.

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Such indicators add depth to technical analysis because they analyse more information than price and volume. Market indicators broadly fall under three main categories:

- Monetary
- Sentiment
- Momentum

Monetary indicators concentrate on economic data such as interest rates. They help in determining the economic environment in which business operate. Examples of monetary indicators are interest rates, the money supply in the economy.

Sentiment indicators focus on investor expectations even before those expectations discernible in prices. For example "Contrarian" investors use sentiment indicators to determine what the majority of investors expect prices to do and they do the opposite. Their rationale in this behaviour is that if there are too many people who believe price will rise then there won't be enough investors left to push prices much higher. The following are the most widely followed surveys which are used to gauge investor sentiments:

- Consumer Confidence Survey
- The American Association of Individual Investors Sentiment Survey
- International Strategy & Investment Investor Survey
- Investor's Intelligence
- Merrill Lynch Sell side Indicator

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The third category of market indicators ie momentum shows what the current momentum of the market is and explains what prices are actually doing. Following are some of most commonly used indicators by technical analysts.

Line studies

Line studies are technical analysis tools that consist of lines drawn on top of a security's price and /or indicator. These include support lines, those indicating resistance and the trend line concepts. One of the basic tenets put forth by Charles Dow in the Dow Theory is that security prices do trend. Trends are often measured and identified by "trend lines". A trend line is a sloping line that is drawn between two or more prominent points on a chart. It is nothing but the direction of movement. There are basically three directions in which the prices can move and these three dimensions give rise to the three types of trends.

The trend is said to be a rising trend, when the prices are moving upwards. Rising trends are defined by trend line that is drawn between two or more troughs (low points) to identify price support. When prices keeps moving downwards it is said to be a falling trend. Falling trends are defined by trend lines that are drawn between two or more peaks (high points) to identify price resistance. If the prices are moving in a narrow range, the trend can be said as a flat one.

Chart Patterns

The foundation of technical analysis can be quoted as the charts. In technical analysis a chart is truly worth a thousand words. Chart patterns can be broadly divided in to three:

- Support and Resistance

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- Reversal Patterns
- Continuation Patterns
- Gaps

Is Technical Analysis Useful?

Some academicians and professional investors doubt the practical value of technical analysis. Such skeptism arise from the lack of convincing evidence that the application of technical trading can be consistently profitable. Many blame that technical analysis fail in giving precise trading rules. They argue that even when the trading is in profitable mode, it is very difficult to ascertain whether these trading profits compensate for the risks undertaken by the trader.

In spite of all these criticisms against technical analysis, the fact is that technical analysis has cheered the development of behavioural finance over the past decade. This enthusiasm stems from the belief of the technicians that stock prices are driven by rational and irrational behavior. However, in many cases this irrational behavior is not linked to the specific price patterns identified by the technical experts. As a result there exists a significant gap between the theory and practice.

While quantitative methods have their place in technical analysis, trader experience and judgment is the key to success. In many cases greed and fear rules the market and in such conditions all these rules for trend line construction and pattern formation can be broken, at least temporarily. However, due to their predictive potential and the acceptance of graphical analysis by the investors, the significance of the tools used for technical analysis, has not diminished over these years.

An Empirical evidence from Indian Stock Market

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Momentum and Contrarian is two traditional analysis tools that have captured tremendous interest of academicians as well as in vestment professional. These strategies are motivated by behavioral theory of under reaction and overreaction to news passed on to the financial market. The attractiveness of these two strategies is because of their simple trading rules. Momentum strategy is based on price continuation and contrarian is based on price reversals.

Investors following momentum strategy buy past winners and sell past losers whereas those following contrarian strategy sell past winners and buy the past losers. Generally speaking, in developed countries, many studies have confirmed the existence of momentum strategy and found contrarian strategy to be more efficient during long-term period. However, no consistent evidence about momentum strategy and contrarian strategy has been found in emerging markets.

A test of return predictability has important implications in security pricing in an inefficient capital market. According to the efficient market theory, investors cannot earn extra returns without bearing extra risk and using historical stock prices does not help investors to earn extra returns, as stock prices move at random.

The special characteristics of emerging capital markets like thin trading volume, low liquidity, less informational efficiency, rational investors, and also having low correlation with other emerging markets and developed market, one can expect more return predictability or inefficiency in these markets.

As a first step researcher had tested the market efficiency of Indian stock market and found that Indian stock markets were weak-form inefficient during the study period. The study

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period was from 2007-2012.It means there is scope for investors in India to predict future prices based on historical prices.

Next step was to test the efficiency of two technical analysis tools in predicting future returns. The aim of this study was to demonstrate the contrarian and momentum investment strategies, their profitability in Indian stock market and reasons explaining their existence.

For testing the effectiveness of the two investment strategies namely momentum and contrarian, entire study period was divided in to various formation periods of one month each for forming the momentum portfolio and contrarian portfolio. Daily returns of the shares included in the construction of Nifty index and whose data which was available for the whole 6 years were taken for the study .So the sample size was 29 companies shares.

An example of the result of t-tests conducted for various holding periods and formation periods are given in following table. (Table: 1)

Table: 1

T-test for 2-Week Holding Period

Pairs	**t**	**df**	**P value**
Momentum & Contrarian	1.287	174	0.200
Momentum & Index	1.307	174	0.193
Contrarian & Index	-0.088	174	0.930

Source: Computed from data source

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Here the p-value is greater than the significance value 0.05; so the results of two-week holding periods draw towards accepting the null hypotheses (H_0):

1. Momentum Strategy does not give superior returns to the investor in the Indian Capital Market
2. Contrarian Strategy does not give superior returns to the investor in the Indian Capital Market
3. No significant difference is noticed between Contrarian and Momentum Strategies in making superior returns from Indian Capital Market.

The results also reject the possibility of making superior returns by adopting the momentum and contrarian investment strategies for a two-week holding period in the Indian stock market during the study period.

The study results revealed that there does not appear any merits to the momentum and contrarian strategies as technical analysis tools in Indian Stock Market. These results were different from many other developed markets. Empirical studies had revealed the possibility of making superior returns using these two strategies in those markets.

Inspite of the result it can be observed that stock prices contain some predictability. Results of this study also support the Weak-form inefficiency of Indian stock-market. So Investors are left with opportunity to make excess return by studying the historical prices, However, this has to be done in a way that it compensates for the transactions costs of trading.

Conclusion

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Indian capital markets have also experienced sweeping changes since the beginning of the last decade. India had a progress which was much faster than many other emerging countries. Its market infrastructure has grown to international standards with in this short span of time. Major transformations of the Indian capital took place after 1992, after the introduction of financial sector reforms and currently sensex is hovering around 17000 mark. Today, India has become a world class financial centre. Market has become more transparent in respect of dissemination of information, price and quantum of the order. Today laptops, palmtops and hand mobiles challenge the relevance of the brick and mortar system.

The trading cycle has been shortened to T+2. This shortening of the cycle has been done in a phased manner from T+5 to T+3 to T+2, all in the last two to three years. Another material improvement, which proved to be of immense relief to the investors in India, was the dematerialisation of the shares. Now more than 98 percent of the shares in the market are dematerialised.

The inefficiency of Indian stock market in the weak form also implies financial and institutional imperfections. It also pinpoint towards the fact that countries liberalisation, deregulation and privitisation policies have generated some level of instability in the market. Weak-form market inefficiency in India is most likely to be caused by inappropriate policy choices. Regulators have to take in a long run vision while formulating and implementing policies and programmes for Indian capital market.

The importance of technical analysis is world renowned and admitted by even the strongest advocate of fundamental analysis. The reason is simple: technical analysis tries to do away with the complexity by basing everything on price action, which includes all the economic

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analysis. Trader experience and judgment is the key to success in using technical analysis tools. Irrational behavior, in majority of the cases greed and fear rules the market and in such conditions the efficiency of technical analysis tools in predicting market movements is broken, at least temporarily. However the relevance of all these tools lies only in an inefficient market.

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