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Technical Analysis of Index and Stocks: Post 1991 Period

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ABSTRACT
Technical analysis is the study of price movements in financial market. The technical analyst looks at price changes that occur on a day-to-day or week-to-week basis or over any other constant time period displayed in graphic form, called charts. This paper attempts to study the price pattern of BSE SENSEX and select stock of Indian companies using technical analysis in the post reform period. The primary objective of this paper is to analyze the price movements, trend reversal and market behavior in post reform period, it also studies the advantages disadvantages of technical analysis as a method to understand and predict the trend of prices of securities along with the index. The time period taken for study is April 1991 to January 2020 with a main focus on post 2003 boom in stock market.

Keywords: prices, charts, bullish, bearish, overbought, oversold, analysis, trend.

INTRODUCTION

There are two primary methods used to analyze financial market and make investment decisions: fundamental analysis and technical analysis. Fundamental analysis involves analyzing a company's financial statements, balance sheet, order book etc. to determine the fair value of the business, while technical analysis assumes that a security's price already reflects all publicly-available information and instead focuses on the chart analysis of price movements. Technical Analysis is the method of forecasting future price movements based on the examination of previous price movements. Like weather forecasting, technical analysis does not result in absolute predictions about the future. Instead, technical analysis can help investors predict what is "likely" to happen to prices of stocks and commodities over a period of time. Technical analysis uses a wide variety of charts for predicting future prices of financial instruments. It is applicable to stocks, indices, commodities, futures or any tradable instrument where the price is influenced by the forces of supply and demand in the market. The time frame can be based on intraday, daily, weekly or monthly price data and last a few hours or many years depending in the requirement. Some technical analysts also include volume or open interest figures with their study of price action.

Technical analysis may appear complicated on the surface; ultimately it is an analysis of supply and demand in the market to determine the price trend. In other words, technical analysis tries to understand the market sentiment behind price trends rather than analyzing a security's fundamental attributes. Here we are analyzing BSE SENSEX and one company each from the following sectors; IT, Banking, Steel, Energy, Engineering. The analysis is based on the post reform period charts and data.

ASSUMPTIONS OF TECHNICAL ANALYSIS

1.The market discounts everything

Many investors and traders criticize technical analysis mainly because it only considers price movements and completely ignores fundamental factors. The counterargument is based on the Efficient Market Hypothesis, which states that a stock's price already reflects everything that has or could affect a company – including fundamental factors. Technical analysts believe that everything from a company's fundamentals to broad market factors to market psychology is already reflected in the price and chart of the stock or commodity. This negates the need to consider the fundamental factors separately before making an investment decision. The only thing remaining is the analysis of price movements' and chart, which technical analysts view as the result of supply and demand for a particular stock or commodity in the market.

2. Price moves in trend.

It is believed in technical analysis that prices of the stocks or commodity move in short term-, medium term, and long term trends which is reflected in different time frames in chart. A stock or commodity price tends to continue in a previous trend than moving unreasonable or erratically. Most technical analysis trading strategies are based on this trend analysis assumption.

3. History tends to repeat itself.

Technical analysts believe that history tends to repeat itself. The repetition of price movements and trend is often due to the market psychology, which is likely to be very predictable based on emotions like fear, excitement or news. Technical analysts' uses charting patterns to analyze these emotions and anticipate market movements to understand upcoming trends of stocks and commodity.

4. Self-fulfilling prophecy.

Large number of people seeing the same chart and price pattern will take actions which force the prediction to occur. It is positive if you are on the right side of the trade, it presents a major weakness and panic situation when everyone attempts to exit at the same time which can create an opportunity to make money as well.

5. Momentum reverses.

When a trade becomes overcrowded with everyone assuming the same buying or selling position, unexpected event or news can drive prices. If the exit becomes crowded, what first looked promising position quickly becomes an economic nightmare

OBJECTIVE OF STUDY

- To study the applicability of technical analysis in Indian stock market in post 1991 period.
- To study the trend of index and scripts in post reform period
- To find out possible trend of select stocks of Indian companies and SENSEX
- To educate the investors and make them capable of taking decisions with respect to market trends and investments.
- To understand and identify the overbought and oversold price levels as derived from using all the historical data available.

TIME FRAME OF STUDY

1. From April 1991(depending on availability of data) to January 2020
2. Charting time slots – Monthly & weekly charts (candlesticks)

RESEARCH STUDY OBJECTS

The study aims to analyze the trend and price movement of SENSEX as index of Bombay Stock Exchange from 1991 to 2020. Apart from SENSEX the study also aims to analyze the trend and price movements of following select company's stocks;

1) LARSEN & TOUBRO LTD. **500510 (Engineering sector)**

2) INFOSYS LTD. **500209 (IT sector)**

3) TATA STEEL LTD. **500470 (Steel & Metal sector)**

4) STATE BANK OF INDIA **500112 (Banking sector)**

5) OIL AND NATURAL GAS CORPORATION LTD. **500312 (Energy sector)**

The stocks are selected from BSE SENSEX 30 list on the basis of best price to book value ratio (P/BV) and per share earnings ratio (P/E). The period of study for all the 5 company's stock is also from 1991(subject to availability of data)-2020

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TOOLS & INDICATORS USED FOR TECHNICAL ANALYSIS

1. **Candlesticks**: A candlestick is a chart method that displays the highest, lowest, opening and closing prices of a stock or commodity for a given period of time. Candlesticks reflect the impact of market trend on security prices and are used by technical traders to determine entry and exit from trades. Candlestick charting is based on a technique developed in Japan in the 1700s for recording and tracking the prices of rice. Candlesticks are a suitable technique for trading any financial asset such as stocks, foreign exchange, commodities and futures.

2. **Technical** Indicators**:** It represents a statistical approach to technical analysis as compared to a subjective approach. By observing money flow, price trends, volatility, and momentum, they provide a secondary measure to actual price movements which is crucial for traders confirm the trade and entry/exit points.

FOLLOWING TECHNICAL INDICATORS ARE USED IN THE STUDY

1. **Moving Averages:** The volatility in the price movements make chart reading a difficult task. Moving averages help to simplify out unpredictable price movements by negating daily basis fluctuations and make price trends easier to identify. As the traders take the average of previous price movements, moving averages are better for accurately reading previous price movements rather than predicting future price movements. Most widely used moving average is EMA. **Exponential moving average:** The Exponential Moving Average (EMA) gives more significance to the current prices than the previous prices, . This makes the Exponential Moving Average respond faster **to the price movement and fluctuations** than a Simple Moving Average. EMA has a disadvantage of being **prone to whipsaws** (i.e. false signals).

2. **Relative Strength Index:** The relative strength index (RSI) indicates momentum; it compares the magnitude of recent gains and losses over a specified time period to measure speed and change of price movements of a security. It is basically used to try to identify overbought or oversold conditions in the trading of stock or commodity. The RSI provides a real examination of the strength of a stock's recent price behavior, thus making it a momentum indicator. It indicates the strength or weakness of stock prices. It is used in various capacities, including confirming trends, providing trade signals and entry/exits.

CHART ANALYSIS

- **BSE SENSEX (Index)**

The **S&P BSE SENSEX** (S&P Bombay Stock Exchange Sensitive Index), also-called the **BSE 30** or simply the **SENSEX**, is a index of 30 well-established and financially sound companies listed on Bombay Stock Exchange. The 30 component companies which are some of the largest and most actively traded stocks are representative of various industrial sectors of the Indian economy.

Chart of BSE SENSEX

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From 1991 till 2003 sensex was trading in a very range bound manner of 5000 points. In 2003 the chart reflects a strong buying signal after the convergence of EMA which resulted into a rally till 20500 and then a reversal due to global economic crises in 2008. Currently Sensex have a strong support at 40200 followed by 38900 and a resistance at 43000.

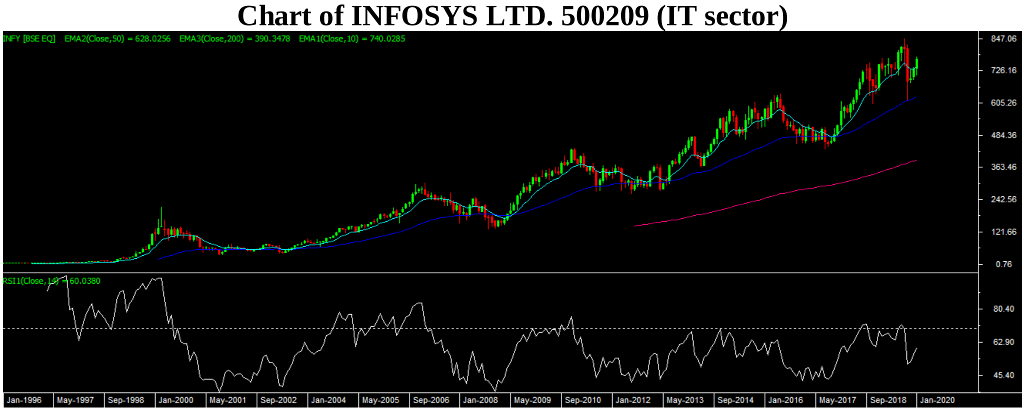
- Corrections of 10%-15% expected in coming months.
- LARSEN & TOUBRO LTD. **500510 (Engineering sector):**
- **Larsen & Toubro Limited**, commonly known as **L&T**, is an Indian multi-national conglomerate headquartered in Mumbai, Maharashtra. It was founded by two Danish engineers taking refuge in India. The company has business interests in engineering, construction, manufacturing goods, information technology, and financial services, and has offices worldwide.

Chart of LARSEN & TOUBRO LTD. 500510

L&T stock has consistently traded in consolidated zone till 2003. In 2003 a convergence in EMA indicated a bullish trend at Rs.150 which rallied till 1400 range. The price trend reversed with overbought indication in RSI due to crises.

- L&T have a strong resistance at 1430, 1610, 1800 range and a strong support at 1350 1260, range and further downwards at 1120 level.
- A midterm bullish trend is assured with regular corrections.
- INFOSYS LTD. **500209 (IT sector)**
- **Infosys Limited** (formerly **Infosys Technologies Limited**) is an Indian multinational corporation that provides business consulting, information technology and outsourcing services. It has its headquarters in Bengaluru, India.

Chart of INFOSYS LTD. 500209 (IT sector)



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- Infosys has shown a consistent upward trend from 1997 onwards. The return is more than 500% from 2004 to 2011 i.e. from 250 to 1250. RSI have significantly marked a downward trend after global crises and hence minimizing loses. It also indicated a buying signal in last few months of 2008 which was due to over selling. Currently Infosys stock prices are in bullish trend with a upper range of 775 and 845 and with support level of 750 followed by 650. .
- Midterm bullish if close above 800 & long-term bullish if closes above 850.
- TATA STEEL LTD. **500470 (steel & metal sector)**
- **Tata Steel Limited** (formerly **Tata Iron and Steel Company Limited (TISCO)**) is an Indian multinational steel-making company headquartered in Mumbai, Maharashtra, India, and a subsidiary of the Tata Group.

Chart of TATA STEEL LTD. 500470 (steel & metal sector)

A strong bullish trend in 1991which was followed by a correction and then a downward channel movement from 210 to 110. The convergence of exponential moving average in 2003 resulted into a rally from 110 to 950 in 2008, followed with a bearish trend in post crises period. Currently the support is at 160, 255, 370 and resistance at 600, 745 and 870.

➢ Short-term to midterm bullish trend if the stock closes above 515 range.

- STATE BANK OF INDIA **500112 (Banking sector)**

State Bank of India (**SBI**) is an Indian multinational, public sector banking and financial services company. It is a government-owned corporation with its headquarters in Mumbai, Maharashtra. As of 2016-17, it had assets of ₹30.72 trillion (US$480 billion) and more than 14,000 branches, including 191 foreign offices spread across 36 countries, making it the largest banking and financial services company in India by assets. The company is ranked 232nd on the *Fortune Global 500* list of the world's biggest corporations as of 2016.

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Chart of STATE BANK OF INDIA 500112 (Banking sector)

Form the above chart it can be conclude that in 2003 SBIN chart indicated a buying signal with the convergence of EMA at Rs.50 and then rallied up to Rs.230. but the trend reversed due to the economic crises in 2008 where it also reflected an overbought signal in RSI and again repeating the same scenario in 2010.

- After the bonus issue SBIN have a trading range with uptrend 338, 372 and 290, 310 indicating support.
- Short-term bullish trend expected in coming months.

- OIL AND NATURAL GAS CORPORATION LTD. **500312 (Energy sector)**

ONGC is one of the few stocks in Indian stock market which impressively tackled the global economic crises. It is a state-owned enterprise of the Government of India, under the administrative control of the Ministry of Petroleum and Natural Gas. It is a state-owned enterprise of the Government of India, under the administrative control of the Ministry of Petroleum and Natural Gas.

Chart of OIL AND NATURAL GAS CORPORATION LTD. 500312 (Energy sector)

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Considering the post bonus prices ONGC have a strong support at 88, 54 and 42 level and a strong resistance at 142, 178, 210 and 240 levels. The trading range in upcoming months will be around 160 to 200.

- A short term holding at lower prices is recommended
- Strong midterm bullish trend is expected if closes above 235.

LIMITATIONS OF TECHNICAL ANALYSIS:

Many traders use technical analysis for trading stocks.. However, technical analysis has several flaws which are as follows;

1. Fundamentally, all technical indicators - no matter how complex or simplified - are based on price, which always reflects what has already happened in the market. Hence, technical analysis is reactive of previous prices - not truly predictive of what will happen.
2. Modern day markets are much more chaotic and volatile as compared to previous decades. This is because of hedging, arbitrage, algo-trading and computerized ultra- short term trading & swing trading activity. The result is more whipsaws and inappropriate patterns for technical analysis techniques.
3. Most of the technical analyst and traders still depend on few indicators first created in the 1970's. This results in their overuse and less effective.
4. The majority of technical traders attempt to do trend-following. It may help them make big money but over time, they have a low accuracy rate and a high draw down. Most traders cannot handle this psychologically. They end up changing techniques and lose money.

CONCLUSION

The primary assumption of technical analysis is that all information is already reflected in the price of a security or commodity, i.e. that analysis of that price is all that matters. By looking at price patterns and statistics, technical analysts try to understand the market's overall sentiment and determine where trend is headed. Technical analysis one help one to predict the perfect investment decision of the stock market. It must be remembered that technical analysis is more an art form than a science. As an art form, it is subject to interpretation according to the analyst. However, it is also flexible in its approach in terms of patterns and indicators and each investor or trader should use only that which suits his or her style. Developing analysis style takes time, effort and dedication, but the rewards can be significant. From the charts it is evident that the Indian capital market has performed impressively in last two decades and the main reason for this performance is the economic reforms of 1991. Money market and capital market reforms as a part of new economic policy of 1991 played a crucial role in the growth of Indian economy. It is concluded that during the post economic reforms period and in the last two decades Indian securities market developed in terms of both quantitative and qualitative perspectives.

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