
UNIT 8 TECHNICAL ANALYSIS

Objectives

The objectives of this Unit are to:

- Explain the meaning of technical analysis and distinguish it from fundamental analysis
- Discuss the origin and development of technical analysis
- Pinpoint the Dow Theory and its basic tenets and explain and illustrate classical formations and the related rules
- Explain and illustrate modern technical analysis
- Highlight market indicators, as different from individual stock indicators.

Structure

- 8.1 Introduction
- 8.2 Meaning of Technical Analysis
- 8.3 Fundamental Analysis vs. Technical Analysis
- 8.4 Origin and Development of Technical Analysis
 - 8.4.1 Dow Theory and its Basic Tenets
 - 8.4.2 Types of Charts
- 8.5 Methods of Technical Analysis
 - 8.5.1 Analysis of Price Patterns and Trends
 - 8.5.2 Analysis of Oscillators or Price Indicators
- 8.6 Market Indicators
- 8.7 Limitations of Technical Analysis
- 8.8 Summary
- 8.9 Self-assessment Questions/Exercises
- 8.10 Further Readings

8.1 INTRODUCTION

Investors can use broadly two approaches, namely, Fundamental Approach or Technical Approach in taking investment decision. Fundamental approach or analysis involves detailed examination of data pertaining to the company, industry and economy. It requires considerable skill of the analysts to examine such massive data to get a value for the firm and then compare the value with the market price to take investment decision. If the, value is more than the market price, the investor buys the Stock. An alternative approach called technical approach or analysis, ignores all data other than data generated in the stock market. Technical analysts believe that there are enough number of investors and analysts in the market, who constantly examine the stocks and derive the price. There is no point in doing or repeating such exercise. It is adequate to watch them because whatever superior analytical techniques such investors have, they have to come to the market ultimately to cash their efforts. Technical analysis is thus reading the minds and activities of the major players in the market by observing their behavior in the market place through price, volume and several other market data. Technical analysis typically involves charting the market data and using a number of oscillators. With the easy accessibility of computers and internet, technical analysis is now become much easier since several web sites offer free charting facilities.



8.2 MEANING OF TECHNICAL ANALYSIS

Technical Analysis is concerned with a critical study of the daily or weekly price and volume data of the Index comprising several shares, like Bombay Stock Exchange Sensitive Index (SENSEX), or of a particular Stock, like Infosys or Hindustan Lever. The objective of the technical analysis is to predict or forecast the short, intermediate and long term price movements. It uses only the data generated from the market. Such market generated data includes price, volume, number of trades, 52-week high or low price, intra-day spread, dealers buy-sell quote spread, number of advances and declines, number of Stocks hitting the new high and low, open interest, etc. Some of the basic assumptions of the technical analysis are:

1. Market value is determined solely by the interaction of supply and demand.
2. Supply and demand are governed by numerous factors, both rational and irrational.
3. Stock prices tend to move in trends, which persists for an appreciable length of time.
4. Changes in trend are caused by shifts in demand and supply.
5. Shifts in demand and supply can be detected through chart analysis and some chart patterns repeat themselves.

To appreciate technical analysis, one has to understand the above assumptions clearly. Technical analysis assumes that there is a sufficient lag between the arrival of information and its ultimate impact on the Stock prices. The analysis fails if the information never incorporated in the prices (inefficient market) or instantaneously reflected in the prices (efficient market). The perfect set up is temporarily inefficient such that initially a few investors or analysts are able to understand the impact of information on prices and entering into the Stock. Subsequently, more and more people are entering into the Stock. Technical analysts believe that charts will give them a clue about entry of more and more investors into the Stock and hence they can also enter into the Stock without doing such analysis. They are primarily moving with the crowd and exit from the market the moment the Stock prices started moving down. As such they are no long-term investors in a particular Stock though they invest in the market for a longer period. They move from one security to another security.

8.3 FUNDAMENTAL ANALYSIS Vs TECHNICAL ANALYSIS

The price of most of the Indices and the Stocks keep on varying in a seemingly erratic fashion, so much so that the difference between the high and the low during a year may exceed by a ratio of two or more, even though the fundamentals do not change much. For instance, in spite of the daily variation of price, the earnings of the company do not vary during the year, the book value, the loans, the profit margin, the taxes and other charges, depreciation, etc. may not change from one annual report to the other. Hence the fundamentals dictate the price horizon of the shares of a company, but are not able to say what would be the price at a particular point of time. Technical analysis incorporates techniques to determine when 'an equity is overbought, or is oversold so that they can sell and buy the stocks at such levels.

According to a firm offering technical analysis services, the technical analyst or technician believes that the price movements, whatever their cause, once in force persist for some period of time and form a particular pattern which can be detected. He further believes that by critical study of these patterns of price and volume of trading, he can predict whether price are moving higher or lower and even by how much. In sum and substance, technician believes that the forces of supply and demand, guided by logical as well as emotional factors, reflect in the price and volume movements and by carefully examining the pattern of these movements, future price of stock can be reliably predicted. And the whole process involves much less time and data analysis, compared with fundamental analysis, it facilitates timely decision.

Timing of Trade is the Important Thing

Investment analysts following fundamental analysis advise to invest in a fundamentally strong company i.e., one, which has high reserves, large profits, low debt, and pays high



dividends. But if you buy such a share at the wrong time and then the price moves down, you lose your wealth in spite of the strong fundamentals. Technical analysis can be used to avoid this pitfall because it tells the appropriate time to buy a share and the appropriate time to sell the same. Many investors thus use technical analysis as supplement to fundamental analysis.

There are few basic differences between technical and fundamental analysis, which are listed below:

Technical Analysis	Fundamental Analysis
Focus on timing and likely price changes; Not bothered about the intrinsic	Focus on valuation of intrinsic value and through such value, identifying
Focuses on internal factors - factors that are available in the market (price,	Focus on external factors - factors that are outside the market (annual reports,
Focus is generally on near (short) term changes in the prices though intermediate	Focus is on long-term expected price. Typically follows buy-hold-sell strategy
Focus is more on price direction than price target or forecast	Focus is on price target; not generally bothered for short-term price changes
Easier and faster voluminous data.	Requires considerable time for analyzing
Simultaneously applied to many stocks	Difficult to apply for a large number of stocks unless a big analysts team is set up

Technical analysis is often criticized as a blind and irrational method of investment whereas fundamental analysis is more scientific and systematic. In a way, it is true that there is no strong theoretical basis for technical analysis. It doesn't mean that it is irrational. It uses a simple philosophy that the market is a place where a large number of investors of different kind buy and sell securities and it believes that it is possible to find some pattern in their trading and can be exploited for buying and selling stocks. Thus, it is difficult for any one to read a textbook on technical analysis and then start doing it. It requires considerable exposure to market and understanding of how a typical crowd behaves when an important information about the company is released. They also read the type of price reaction when the insiders enter into the stock. Technical analysts on the contrary never complain against fundamental analysts. They simply believe that is time consuming and too costly affair.

Activity-1

- a) What is technical analysis?
.....
.....
- b) List out two points of difference between fundamental analysis and technical analysis.
.....
.....
.....
- c) Why should technical analysis confirm findings based on fundamental analysis?
.....
.....
.....



8.4 ORIGIN AND DEVELOPMENT OF TECHNICAL ANALYSIS

Technical Analysis evolved in 1900-1902 when Charles H. Dow presented the celebrated 'Dow Theory' in a series of editorials in the Wall Street Journal in USA. The Classical Technical Analysis evolved gradually in the early part of the 20th century, and deals with a detailed study of price bar charts of the indices as well as the individual stocks.

8.4.1 Dow Theory and its Basic Tenets

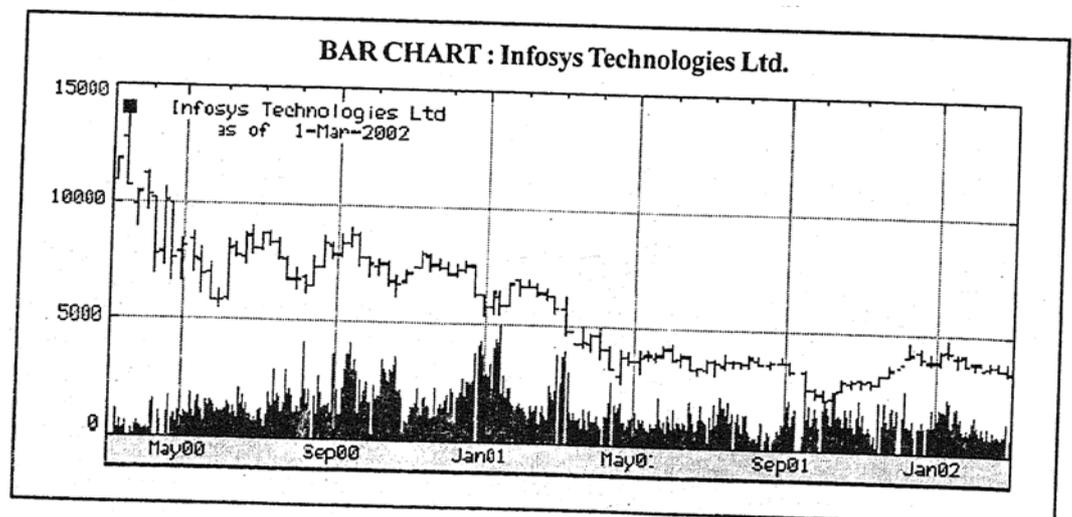
To start with, the Dow's Theory put forward six basic tenets as follows:

1. **THE AVERAGES DISCOUNT EVERYTHING:** Daily prices reflect the aggregate judgement and emotions of all stock market participants. This process discounts (takes into account) everything known and predictable that can affect the demand-supply relationship of the stocks.
2. **THE MARKET HAS THREE MOVEMENTS:** Primary movements, secondary reactions, and minor movements. The primary movement is the long range cycle that carries the entire market up or down. The secondary reactions act as a restraining force on the primary movement and tends to correct deviations from it. Secondary reactions usually last from several weeks to several months in length. The minor movements are the day-to-day fluctuations in the market. Minor movements have little analytic value because of their short duration and variations in amplitude.
3. **PRICE BAR CHARTS INDICATE MOVEMENTS.**
4. **PRICE/VOLUME RELATIONSHIPS PROVIDE BACKGROUND.**
5. **PRICE ACTION DETERMINES THE TREND.**
6. **THE AVERAGES MUST CONFIRM:** The movement of two different market indices must confirm each other to confirm the trend.

8.4.2 Types of Charts

Charting represents a key activity for the technical analyst. The two oldest and most widely used charting procedures are point-and-figure (P&F) charting and bar charting. The major features of P&F charting are that (1) it has no time dimension, (2) it disregards small changes in the stock price and (3) it requires a stock to reverse direction a predetermined number of points before a change in direction is recorded on the chart. P&F charts were used earlier because it is easier to graph manually because it considers only prices on days when there is a major change and in that process, it uses roughly about 20% of total number of prices. With good computer facility and special packages for graphing, there are only very few users of P&F charts.

On the other hand, bar chart contains measures on both axis - price on the vertical axis and time on the horizontal axis. On the bar charts, rather than just plotting a point on the graph, the analyst plots a vertical line to represent the range of prices of the stock during the period. The length of the bar represents high and low price of the day whereas the open and close prices are shown as a small ticker on both sides of the bar.

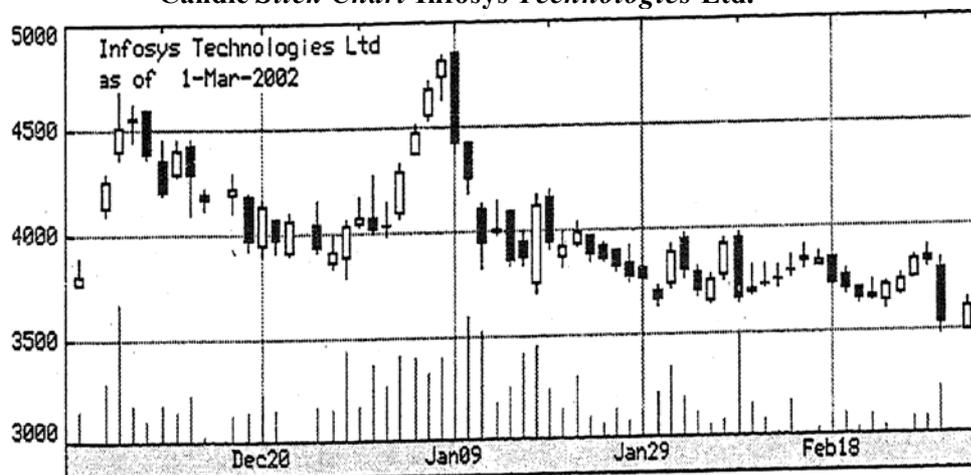




Generally, bar charts also show at the bottom volume information for the period of which price information is depicted.

The third and most popular type of chart in recent days is candle stick charts. It uses bar chart as a basis but put a small box using open and closer ticker of the bar charts. In order to distinguish whether close is higher or lower, than opening price, the body of the candle stick is colored. Normally, a black color indicates a bearish candle stick, meaning the closing price of the day is less than opening price of the day. On the other hand, a white candle indicates, bullish candle meaning closing price is higher than opening price. For the Infosys stock, the candle stick chart is show below:

Candle Stick Chart Infosys Technologies Ltd.



There is yet another simple charting method, where only one of the four prices (open, high, low and close) is used. It is a line chart where you can witness some continuity in the price line.

8.5 METHODS OF TECHNICAL ANALYSIS

Technical analysts broadly use two methods to analyze the stocks to find whether it is worth to buy the stock or sell the stock or hold the stock. In the first analysis, the analyst uses the price chart as it is to find trends and patterns. In the second approach, the analysts converts the market information into certain statistical figures and draw conclusion. We will first discuss the pattern before moving into statistical analysis.

8.5.1 Analysis of Price Patterns and Trends

As mentioned in the previous sections, the analysts use the charts made up of historical price, volume and other market generated data to understand the minds of major players in the market and the demand and supply positions of the stock. It is also assumed that the prices react to the news but the reaction is not instantaneous but takes some time to fully reflect the value of the information on the prices. Though the time and speed of the adjustment process differ depending on the type of the information and its availability to the investors, they could be broadly classified into certain patterns and this knowledge could be used subsequently to predict the future behaviour of the prices. The analysis of patterns is the first principle in the technical analysis and the success of this method of analysis of stock prices depends on the ability of the user in recognizing the patterns.

There are three basic patterns in the stock price movements. They are: uptrend, downtrend and sideways patterns.

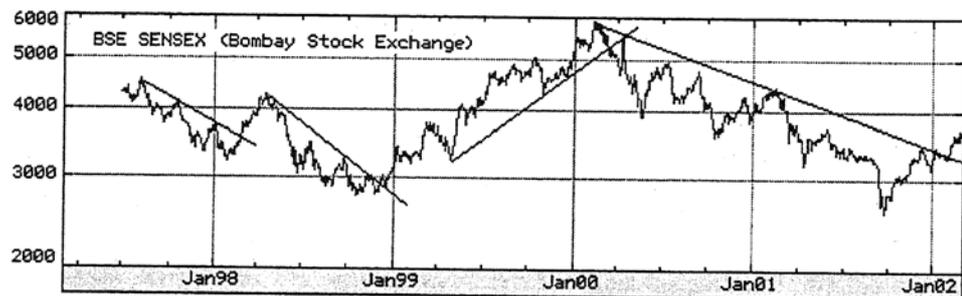
The uptrend pattern is recognized the moment the stock prices form a new high (ascending top) and some times it is also preferred to wait for the formation of ascending bottom. The uptrend pattern once emerged will continue till the time a downtrend pattern is seen in the prices. The downtrend pattern is recognized once the price fails to create a new high and some times it may be preferred to wait for the formation of descending bottoms. The purchase decision can be effected once the uptrend pattern is seen and stocks could be hold till the time the downward pattern is noticed. The investor can also go short in the downward pattern. The duration of these two trends for many stocks in the Indian market is fairly long and consistent investment decision on the basis of pattern recognition offers a substantial gain to the investors. The weekly chart of Sensex shows four major uptrend pattern during the last six year (since 1991) and three downward patterns. Of the four uptrend patterns, the appreciation in the values o f the index on two occasions was more than 100% whereas on the other two occasions, the index showed a net gain of nearly 80%.



The technical analysts also usually draw lines by connecting the bottoms and tops of uptrend and downtrend respectively. These lines are used to get early warning signal for the reversal of the trend. For instance, an upward trendline is drawn by connecting two descending bottoms and the line is extended further. It is presumed that the price of the stock which is moving upward will see periodic corrections and during the correction phase, the price will come closer to the trendline and get support from the trendline. If this support fails to take place, it is the first signal for the reversal of the uptrend. In the subsequent days, the price may not reach a new high giving a clear bearish pattern but the confirmation may be delayed. Similarly, bearish trendlines are drawn by connecting two descending tops and extending the line further downward. Against the normal expectation of resistance, if the price line penetrated the trendline, it is an indication for the reversal of the downtrend.

There are several variations in trendline pattern. Typically, analysts use more than one trendline to draw such new patterns like Head and shoulders, triangles, double tops or bottoms,

Trendlines : BSE SENSEX



Head and shoulders : The formation is encountered when a bar chart forms a hump followed by a peak, and then another hump. A line joining the lowest points of the humps and the peaks produces a resistance line which foresees a bearish market. A reversed head and shoulders formation is the opposite of this, and depicts an on coming bullish tendency.

Triangles : These are formed when the peak point of descending tops fall on a line, as well as the ascending bottoms fall on a different line, and both the lines join up at a point in the future. If the prices break out of this triangle Upwards, it indicates bullishness, and if the prices break out on the downside, it indicates bearishness. The odds are that the new move will proceed in the same direction as the one prior to the triangle's formation.

Flags and Pennants : These are forms when, in the midst of a big bull run, the price chart indicates a halt and the boundaries of this consolidation form a flag (parallel lines) or pennant (lines sloping down and up to meet at a point in future). These are formed almost exactly half-way between the bottom and the top, signaling bullish conditions.

A few other important patterns like 'rounding tops and bottoms', 'triangle' and 'double and triple tops and bottoms' are also useful in investment decision making.

Rounding tops and bottoms : Shows a gradual reversal of the trend from downtrend to uptrend or uptrend to downtrend. The pattern which looks like a *Bowl or Saucer* moves forward with higher momentum after the formation of pattern. Though a safe pattern in view of availability of sufficient time to recognise and initiate action, they are less frequent in actively traded stocks. Actively traded stocks change trend without moving sideways. However, this pattern can be seen in weekly charts and charts of small value stocks.

Double and triple tops and bottoms : Pattern is a horizontal pattern that forewarns reversal in the trend. A 'double or triple tops' pattern is formed when the uptrend in a stock is resisted at a particular level. In a normal market, this pattern shows that a group of traders who had earlier accumulated stocks at lower levels is waiting to liquidate their position once the price reaches the specific level. If the supply at that level is of small quantity and the underlying demand is sufficient, then the stock will easily break the resistance and create a new peak above the previous one. The absence of this break in the resistance level gives way to the formation of double or triple tops pattern and stock price moves downward on the formation of this pattern. The double or triple bottoms pattern indicates strong demand at a particular level and the stock bottoms out at this level.



8.5.2 Analysis of Oscillators or Price Indicators

The modern technical analysis deals with indicators, such as moving averages, exponential moving averages, weighted moving averages, moving averages cross over, various types of bands around the moving averages like the bands in terms of standard deviations, Bollinger bands, etc, and the rate of change, etc. Several oscillators are also used, like stochastic, relative strength index (RSI), strength relative to a market index, moving average conversance divergence (MACD) technique. The basic difference between price trends and oscillators is, price trends are often difficult to interpret and what action has to be followed is not defined clearly. On the other hand, oscillators clearly define the investment decision rule. For instance, if you use Moving average, the simple decision rule is buy the stock, the moment the stock price crosses the moving averages. We will discuss some of the important oscillators.

a) Moving Average

An average is the sum of prices of a share over some weekly periods divided by the number of weeks. This point is marked on the latest date for which a price bar has been plotted. This process is repeated for the previous dates. The points thus obtained are connected together to give the Moving Average line.

An example of the calculation of a 5-week Moving Average is given in Table 8.1

Table 8.1: Calculation of Five Week Moving Average

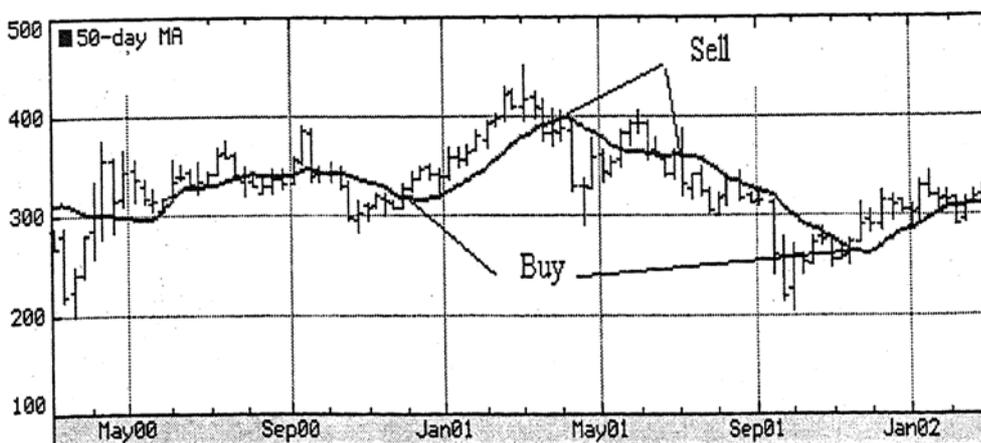
Week	Closing Price	Total of prices for five weeks	5-week average = Total / 5
1	22		
2	25		
3	26		
4	24		
5	28.5	125.5	25.1
6	29	132.5	26.5
7	28	135.5	27.1
8	26.5	136	27.2
9	27.5	139.5	27.9
10	25	136	27.2
11	23.5	130.5	26.1

There is another type of moving average called exponential moving average. In an Exponential Moving Average, more weight is given on the most recent data and less weight is given to the older data. Moving Averages smoothen out the apparent erratic movement of share prices and highlight the underlying trend. Moving averages are fairly simple to interpret. The decision rule is:

Buy: When the price line crosses the pre-determined moving averages from bottom, buy the stock and hold it as long as the price line is above the moving average line

Sell: When the price line crosses the pre-determined moving averages from the top, sell the stock. If short selling is allowed, take short position and hold it as long as price line is below moving averages.

Moving Average Analysis : Reliance Industries





Applying the above decision rule, you will buy Reliance sometime in December 2000 around Rs. 320 and sell at Rs. 400 sometime in March 2001. The profit during the four months period is Rs. 80 or 25% for an investment of Rs. 320. In the above analysis, 50-day moving averages is used. The time period of moving averages depends on the purpose of using the moving averages. For long-term analysis, normally 200 or 100-day moving average is used. For intermediate term, 100 or 50 day moving average is used. For short-term, analysts use 10-day to 50-day moving averages. Moving averages are used for intra-day trading (popularly called **day trading**) and in such cases, one has to use minute-to-minute charts and moving average period will be 5 minutes or 10 minutes moving averages.

Though moving averages helps investors to take such decision, one has to experiment with different moving averages to find which is suitable for the stock and do lot of mock trading before started using them in the real world. This warning is given because some of you might get tempted to invest in the stocks based on such simple tools.

Activity-2

i) What do the following formations signify?

a) Triple Top

.....
.....
.....

b) Head and Shoulder

.....
.....
.....

c) Flag and Pennants

.....
.....
.....

ii) What do the following stand for?

a) RSI

b) ROC.....

c) MACD.....

b) Moving Average Convergence Divergence (MACD) Indicator

MACD is also based on moving averages and used normally for intermediate trend analysis. The MACD is the difference between a 26-day and 12-day exponential moving average. A 9-day exponential moving average, called the "signal" (or "trigger") line is plotted on top of the MACD to show buy/sell opportunities. The MACD proves most effective in wide-swinging trading markets. There are three popular ways to use the MACD: crossovers, overbought/oversold, and divergences.

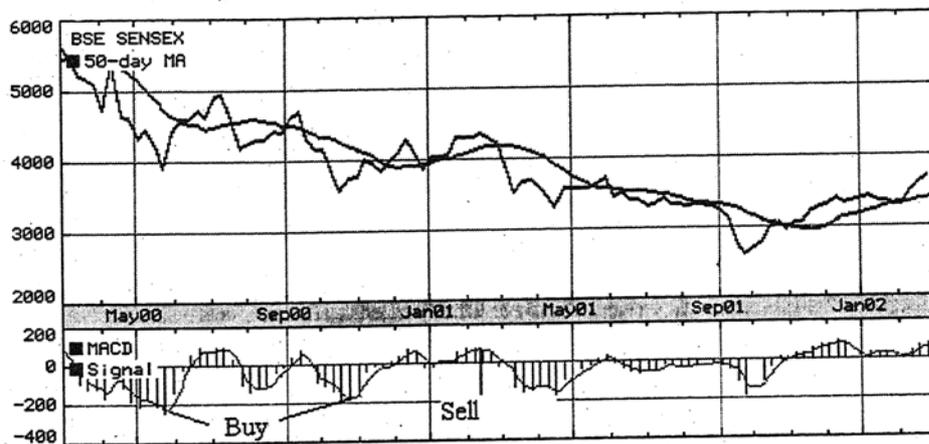
Crossovers: The basic MACD trading rule is to sell when the MACD falls below its signal line. Similarly, a buy signal occurs when the MACD rises above its signal line. It is also popular to buy/sell when the MACD goes above/below zero.

Overbought/Oversold Conditions: The MACD is also useful as an overbought/oversold indicator. When the shorter moving average pulls away dramatically from the longer moving average (i.e., the MACD rises), it is likely that the security price is overextending and will soon return to more realistic levels. MACD overbought and oversold conditions exist vary from security to security.

Divergences: An indication that an end to the current trend may be near occurs when the MACD diverges from the security. A bearish divergence occurs when the MACD is making new lows while prices fail to reach new lows. A bullish divergence occurs when the MACD is making new highs while prices fail to reach new highs. Both of these divergences are most significant when they occur at relatively overbought/oversold levels.



MACD Analysis : BSE Sensex



MACD is equally efficient indicator for those who don't want to buy and sell stocks frequently. For instance, a person who follows MACD may have to buy and sell stocks around four to five times in a normal year.

c) Relative Strength Index

This index emphasizes market moves before they occur. When the price of a stock advances, the closing price is higher than the closing price of the previous day. When the price of the stock declines, the closing price is lower than the closing price of the previous day. However, the rise or fall of a market is not smooth. During the rising phase, the price falls several times, while during the falling phase, the price rises several times. Relative Strength Index tells us whether the net difference between the closing prices is increasing or decreasing.

During the rising phase of the market, the prices move up fast, and the differences between the recent close and the previous close are large. When the market reaches the top, these differences reduce. When the market declines, the difference again become large. RSI is computed either on 14-days or 14-week basis.

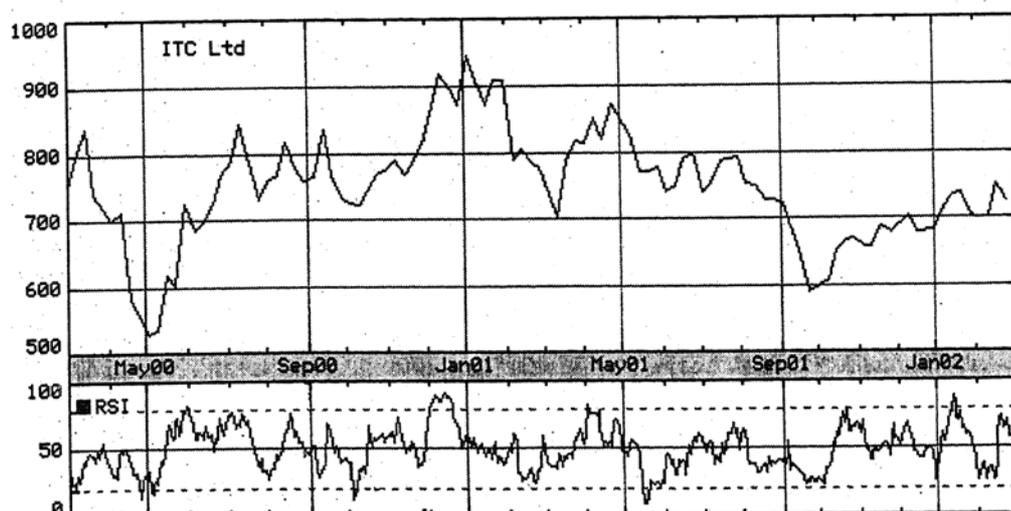
The formula for 14 - week Relative Strength Index (RSI) is given Below:

$$RSI = 100 - [100 / (1 + RS)]$$

Where $RS = \frac{\text{Average of 14 weeks' up closing prices}}{\text{Average of 14 weeks' down closing prices}}$

This is a powerful indicator and pinpoints buying and selling opportunities ahead of the market. It ranges in value from 0 to 100. Values above 70 are considered to denote overbought conditions, and values below 30 are considered to denote oversold conditions.

RSI Analysis : ITC Ltd.





If the RSI has crossed the 30 lines from below to above and is rising, a buying opportunity is indicated. If it has crossed the 70 lines from above to below indicates a selling opportunity. Note these signals in the above chart and examine whether such decision rule gives you profit.

There are several other indicators available in the market. Some of the popular indicators are listed below:

1. Accumulation/Distribution
2. Momentum
3. On Balance Volume
4. Price Patterns
5. Price ROC
6. Stochastic Oscillator
7. Volume
8. Volume Oscillator

8.6 MARKET INDICATORS

Technical indicators help not only to predict individual stock price behaviour but also the trend of the market. Some important Price, Volume and other indicators of market are highlighted below:

Price Advances vs. Declines : By comparing number of shares which advanced and those declined during a certain period of time, one may know what the market is really doing. The difference between the advances and declines is called 'breadth of the market'. The technician is generally more interested in change in breadth than in absolute level. Further, breadth may be compared with a stock-market index. Normally, breadth and the stock market index will move in unison. However, when they diverge, a key signal occurs. During a bull market if breadth declines to new lows while the stock market index makes new highs a peak in the average is suggested. The peak will be followed by major downturn in stock prices generally.

High-low Differential or index can be used as a supplementary measure to 'breadth of the market' to predict market. In theory, a rising market will generally be accompanied by an expanding number of stocks attaining new highs and a dwindling number of new lows. The reverse will hold true for a bearish market.

The volume of short selling which refers to selling shares that are not owned, can be useful indicator of the market as well as for individual stocks. Short selling, or as it is called short interest also, can be related to average daily volume. The short interest for a period say a month, divided by average daily gives a ratio. This ratio indicates for many days of trading it would take to use up total short interest. Historically, on the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX), the ratio has varied between one-third of a day and four days. In general when the ratio is less than 1.0, the market is considered weak or weakening. It is common to say that the market is overbought. A decline should follow sooner or later. The zone between 1.0 and 1.5 is considered a neutral indicator. Values above 1.5 indicate bullish territory with 2.0 and above highly favorable. This market is said to be 'oversold'. A rise should follow sooner or later as 'oversold' state will lead to buying pressure (to cover short position) in the market.

Odd-lot trading which can be measured by constructing an odd-lot index by relating odd-lot purchase to odd-lot sales (Purchase + Sales), can indicate the direction of the market, as technicians feel that the odd lotters are inclined to do the wrong thing at critical turns in the market. Rising index indicates rising market and falling index indicates falling market which, in effect, mean selling proportionately less at or near the market peak and selling proportionately more before a rise in the market.

Mutual-funds Cash as a Percentage of Net Assets on a daily or weekly or monthly basis has been a popular market indicator. The theory is that a low cash ratio, say about 5%



would indicate a reasonably fully invested position leaving negligible buying power indicating that the market is due for climb down. High cash ratio indicates possibilities of market climb up.

In the U.S. two **confidence indicators** have been quite popular with market analyst. One is Barron's ratio of higher-to lower grade bond yield. The second is *Standard and Poor's* low priced and high grade common stocks. A rise in Barron's ratio indicates narrowing of the spread between high and low grade bonds which is considered indicative of the rising markets. A fall in the ratio would indicate declining markets.

The S&P confidence indicator relates low-priced (speculative) stocks to the high-grade (quality) stocks. A rise in the ratio (low priced/high grade) indicates rising market, while a fall in the ratio is indicative of declining market.

General Motors Theory is that as General Motors goes so goes the market.

Indeed, the number of indicators technicians use to predict changes in the direction of the overall market is almost limitless. In the foregone discussion, we have tried to capture the essence of some such indicators.

8.7 LIMITATIONS OF TECHNICAL ANALYSIS

The Dow's theory serves only as a starter so far as Indian conditions are concerned. Let us review each of the basic tenets of Dow theory, one by one.

THE AVERAGES DISCOUNT EVERYTHING: This is valid even in India. The most popular depictions of averages are simple moving average (average of close, high or low price of a given period) and exponential moving averages (which extend the average over the entire record, assigning more weight to the most recent data). Moving averages of 30 days or 5 weeks depict short-term trend and moving averages of 200 days or 14 to 40 weeks depict long term trend. The crossovers of two averages indicate that the trend is changing direction. For instance, if the 5-weeks moving average crosses the 14-week moving average from below to above, it indicates beginning of bullish phase, and may define buying opportunities. The reverse is true if crossing is from above to below.

THE MARKET HAS THREE MOVEMENTS: Primary, Secondary and Minor. Elliot Wave Theory is the most popular depiction of this principle. It states that the market moves up in five waves i.e., five up or down, eg., three moves up and two down, while it moves down in three to five waves. These waves are primary, secondary and tertiary superposed on each other, and it takes experience to separate the three movements. For instance, an upward movement of a primary wave comprises five secondary waves, and so on. This applies well to stocks in USA where the market movement is free from all constraints, and the public takes part freely in investment as well as options trading. However, in India the market suffers frequent upheavals because of the frequent changes in the government policy, as well as speculative activity indulged in by brokers, and it is not unusual to see the market gain by 25% post-budget, and the individual stocks may jump up or down by 50% within a few weeks due to speculation. Hence in India it is not clear to what extent this theory applies, though some analysts persist in trying to fit the market movements to this theory.

PRICE BAR CHARTS INDICATE MOVEMENT: This is true, but moving averages remote the daily or weekly fluctuations and bring out the trend more reliably.

PRICE/VOLUME RELATIONSHIPS PROVIDE BACKGROUND:

Unfortunately volume data are not reported in India, and the volume data of specified group shares, where in forward trading is allowed by the exchanges, is published after delay of several weeks. Since forward trading is no indicator of the actual market activity, these relationships are of little value in India.

PRICE ACTION DETERMINES THE TREND: This is true in India as well.

THE AVERAGES MUST CONFIRM: This is based on the premise that if one group of activity, say manufacturing, does not trend in the direction of another group, say transportation, it indicates an oncoming change of trend of the market. In USA data about



different activities is regularly published, for instance, utilities average and transportation average. The Mumbai Stock Exchange and National Stock Exchange have started offering indices of different industries and hence it is possible now to make such comparison. However, in practice, there is no widespread acceptance to such analysis and typically the focus is on individual stocks.

Insider manipulations are rampant in the Indian Stock Market. Such manipulations are encountered in USA also, but they are few in numbers and the culprits are caught and punished. In the Indian Stock Market, it is not unusual to find that the price of a share doubled in few days, and fall back to its original value a few days later. All these malpractice leave their mark on the prices of stocks. Thus one can suspect whether the charts represent the true balance of the demand and the supply forces. Hence, it is possible that some of the technical analysis techniques suitable in other market may not be suitable in India and indicators evolved for American conditions may lead to erroneous conclusions. It is always desirable to do extensive research and experience before taking up technical analysis based investment decision. Alternatively, one can subscribe some of the technical analysis services offered by experts in the field.

Activity - 3

- a) List out three market indicators.

.....
.....
.....

- b) List out two reasons for which all the techniques of technical analysis as developed and applicable in USA are not applicable in India.

.....
.....
.....

8.8 SUMMARY

In this Unit, we have discussed the technical analysis approach to predicting share price behaviour. This approach differs from fundamental approach in as much as it is based on the analysis of movements of price and volume of stocks, while fundamental analysis is focused on economy, industry and company variables affecting share price. The two approaches are, however, complementary to each other rather than substitutes. In this Unit, we have also explained the origin and development of technical analysis. The Dow Theory, which takes its name from Dow-The originator of technical analysis, dated 1902-04, and its basic tenets have been discussed and classical charting techniques viz. Point and figure chart and bar chart and classical formations viz, triple top, , head and shoulder, triangle, flag and pennant and support and resistance, etc., have been explained and illustrated. The techniques of modern technical analysis viz., price bar charts, moving average, exponential moving average, oscillators, Rate of Change (ROC), Relative Strength Index (RSI) and Moving Average Convergence Divergence (MACD) techniques have been explained and illustrated. Market indicators, as different from individual stock indicators, have also been highlighted. The Unit concludes with a brief description of the limitations of technical analysis, as evolved and developed in USA in our conditions.

8.9 SELF-ASSESSMENT QUESTIONS/EXERCISES

- 1) Define 'Technical Analysis' and 'Fundamental Analysis'. Between the two which one do you consider superior and why?
- 2) Write a brief note on the origin and development of technical analysis.
- 3) Compare and contrast fundamental and technical analysis.



- 4) Compare and contrast 'Point-and-Figure-Charting' and the 'Bar-Charting'. Which one do you consider superior and why?
- 5) 'Technical analysis is useful for predicting individual share price as well as the direction of the market as a whole'. Elaborate and illustrate.
- 6) 'Technical analysis, as evolved and developed in USA. requires various modifications for useful application in India'. Comment, bring out the rationale for and nature of modifications, if any, required.
- 7) Write short notes on the following:
 - (a) Technical Analysis
 - (b) Dow Theory
 - (c) Charting
 - (d) Market indicators
- 8) Distinguish between the following:
 - (a) Moving Average and Exponential Moving Average
 - (b) Oscillator and Momentum
 - (c) Relative Strength Index and Moving Average Convergence Divergence Signal.

8.10 FURTHER READINGS

Clifford, P., 1992, *Technical Analysis*, vision Books, New Delhi.

Charles Le Beau and Gavid W Lucas, *Technical Traders Guide to Computer Analysis of the Futures Market*, Business-Irwin, Illinois, USA.

Fischer, D.E and RJ Jordan, 1995, *Security Analysis and Portfolio Management*, 6th ed. PHI, New Delhi.

Martin, J., 1985, *Technical Analysis*, McGraw Hill.

Murphy J., 1986, *Technical Analysis of the Futures Market*, Prentice Hall, New Delhi.