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HYPOTHESES

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TECHNICAL ANALYSIS: A TOOL TO MEASURE MARKET VOLATILITY

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ABSTRACT

Technical analysis is the study of historic price movement of securities, trading volumes and market action, primarily through the use of charts for the purpose of forecasting future price trends. Through technical indicators, investors can analyze the short-term price movement of the stocks, the most important market turning points and project the price movement. This paper is attempt to know and understand the concept of Technical Analysis and how its use as a tool to measure the market volatility. There are several facts are behind the volatility of the market and stock. As an investor he can understand and measure the volatility of the market in several ways, among that technical analysis is the first and foremost tool on this. The market volatility it affect both primary and secondary market. Both this markets predominantly deal in the equity shares. Debt instruments like bonds and debentures are also traded in the stock market. Well regulated and active stock market promotes capital formation. The health of the economy is reflected by the growth of the stock market.

KEYWORDS

Debt Instruments, Market volatility, Price Movement, Technical Analysis, Technical Indicators.

INTRODUCTION

Investment analysts often examine historical price and volume data and other market related indicators to identify past trends and patterns in price movements. The objective is to forecast the future prices and measure market volatility. More emphasis is laid on charts, graphs and indicators, rather than on fundamentals related to earnings of the firm.

Many people enter into the stock market using strategies that stack the odds against their success. Market indicators and other market information act as a guide for better investment. Investors and speculators face heavy losses due to lack of adequate awareness of market indicators. The investor or the speculator should have better knowledge and update market news, market indicators and technical system so that he could invest them in best avenues and get back the investment safely and get regular income out of it.

The study on technical analysis of stock market helps the investor to take decision to buy and sell the share at right time to get profit and it helps to prevent the loss. The technical analysis is simple and gives an investor a bird's eye on the future of the security price by measuring the past moves of prices. Further it helps in understanding the price behaviour of the stock, the signals given by them and the major turning points of the market price. Technical analysis is a simple and useful method to find out the fluctuations of price around the intrinsic value of a share and measure the volatility level of shares in market.

TECHNICAL ANALYSIS

Technical analysis is based on the proposition that the securities price and the volume in the past suggest their future price behavior. A trend in prices is believed to continue unless there is some definite information leading to change. Technical analysis is based on the concept that past information on prices and volume can give an idea of what lies ahead. It emphasizes that securities prices and changes there in can be forecasted by studying the market data.

TECHNICAL ANALYSIS TOOLS

By examining the historical patterns of the two most important measures, namely, the market price trend and volume of trading, an investor tries to estimate the future market price of a share. In the narrowest sense, technical analysis is based on the assumption that market price fluctuations reflect the logical and emotional forces prevailing in the secondary market.

VOLATILITY

The Volatility technical indicator is helpful in seeing potential market reversals. This Volatility indicator based on the true range of price is based on the premise:

- Strong trends upward are marked by decreases in volatility.
- Strong trends downward show a general increase in volatility.
- Reversals in trend usually occur when volatility increases.

The chart below of the 5,000 ounce Silver futures contract illustrates the first point, that strong trends usually have low volatility:

MARKET INDICATORS

All the technical analysis tools and techniques were analysed a share data. There is another group of technical tools designed to help an investor gauge changes in all shares within a specific market. These indicators are usually referred to as market indicators because they gauge an entire market, not just an individual share. Market indicators typically analyse the stock market, although they can be used for other markets

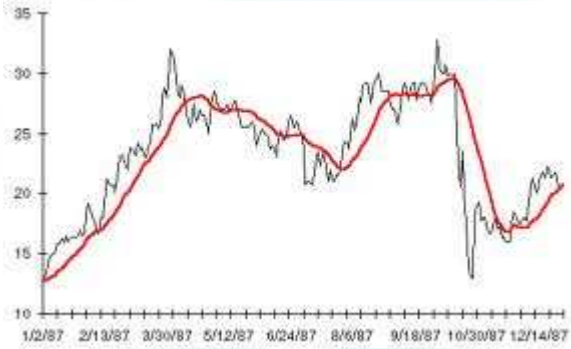
The performance and evaluation of capital market across the world has witnessed the development of numerous market indicators. In many instances these market indicators are computed on the stock market on a whole rather than on a specific share. Certain market indicators are amenable to individual share evaluation as well as market evaluation. Listed below are a few indicators:

1. Moving Averages
2. Line Studies
3. Bollinger Bands
4. Absolute Breadth Index
5. Arms Index
6. Relative Strength Index
7. Accumulation Swing Index
8. Commodity Channel Index
9. Chaikin Oscillator
10. Detrended Price Oscillator
11. Stochastic Oscillator
12. McClellan Oscillator
13. Dynamic Momentum Oscillator
14. Performance Indicator
15. R-squared Indicator
16. Momentum Oscillator
17. Parabolic Stop and Reverse
18. Volume Oscillator
19. Triple Exponential Average

MOVING AVERAGES

Moving averages are used to help identify the trend of prices. By creating of prices that moves with the addition of new data, the price action on the security being analysed is smoothed. In other words, by calculating the average value of a share or indicator, day to day fluctuations are reduced in importance and what remains is a stronger indication of the trend of prices over the period being analysed.

Simply put, moving averages measures the average movement of the market for an X amount of time, where X is whatever you want it to be. For example if you applied a 20 SMA to a daily chart, it would show you the average movement for the past 20 days.



LINE STUDIES

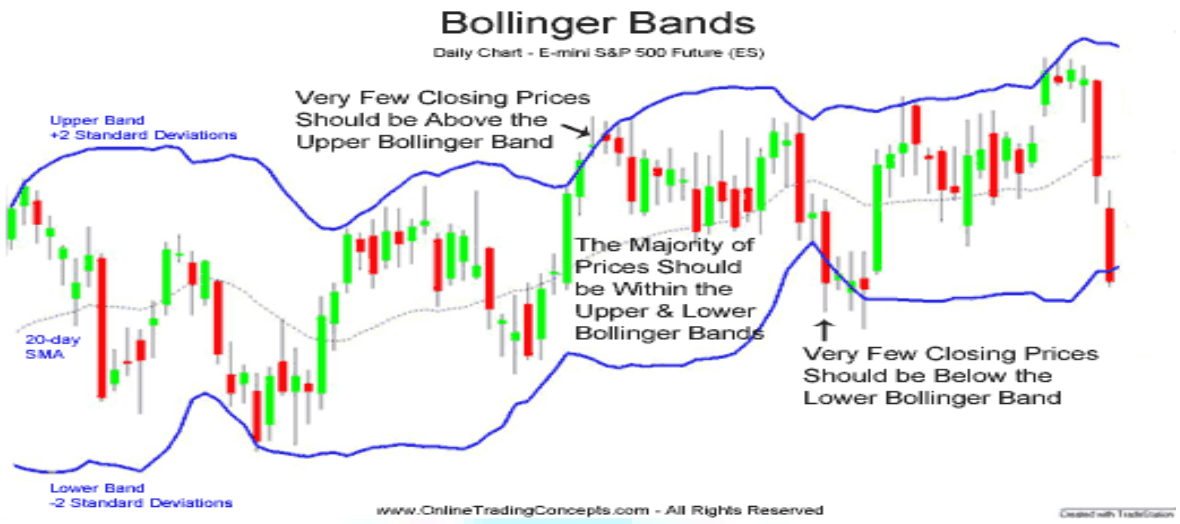
Line studies are technical analysis tools that consist of lines drawn on top of share's price and / or indicator. These help in identifying the support, resistance and trend line indicated by the historical data price movements.

BOLLINGER BANDS

Bollinger Bands is a versatile tool combining moving averages and standard deviations and is one of the most popular technical analysis tools available for traders. There are three components to the Bollinger Band indicator:

1. **Moving Average**: By default, a 20-period simple moving average is used.
2. **Upper Band**: The upper band is usually 2 standard deviations (calculated from 20-periods of closing data) above the moving average.
3. **Lower Band**: The lower band is usually 2 standard deviations below the moving average.

Bollinger Bands (in blue) are shown below in the chart of the E-mini S&P 500 Futures contract:



ABSOLUTE BREADTH INDEX

The Absolute Breadth Index (ABI) is a market momentum indicator, it shows how much activity, volatility and change in taking place in the stock market.

ARMS INDEX

The Arms Index is a market indicator that shows the relationship between the numbers of shares that increase or decrease in price and the volume associated with shares that increase or decrease in price.

It is calculated by dividing the advance/decline ratio by the upside/downside ratio.

RELATIVE STRENGTH INDEX

The Relative Strength Index (RSI) is a price following oscillator that ranges between 0 and 100. It measures the internal strength of a share by monitoring changes in its closing prices. The RSI usually tops above 70 and bottoms below 30.

RSI = 100 – [100/(1+RS)]

ACCUMULATION SWING INDEX

The Accumulation Swing Index seeks to isolate the 'real' price of share by comparing relationships between the current prices and the previous period's prices. The swing index is a value from 0 to 100 for an uptrend and 0 to -100 for down trend. The swing index is calculated by using the period's market open, high, low and close prices, as well as the previous period's open, high, low and close prices.

Accumulation Swing Index = 50 X ((c2-c1 + 0.5 X (c2 - o2) + 0.25 X (c1 – o1))/r) X (k/limit)

Where

C1 = Previous close
C2 = Current close
R1 = absolute value of (h2 – c1)
L1 = Previous low
L2 = current low
R2 = absolute value of (l2 – c1)
H1 = previous high
H2 = current high
R3 = absolute value of (h2 – l2)
01 = previous open
02 = current open
R4 = absolute value of (c1 – o1)

COMMODITY CHANNEL INDEX

It measures the variations of share's price from its statistical average. High index values show that prices are unusually high compared to average prices whereas low index values indicate that price are unusually low.

Commodity Channel Index = (Current Average Price – Current Moving Average of price)/(0.15 X Moving average of Mean Deviations)

CHAIKIN OSCILLATOR

The Chaikin Oscillator is a moving average oscillator based on the accumulation/ distribution indicator. This indicator considers the relevance of traded volume in an investment decision. Volume analysis helps in identifying internal strengths and weaknesses that exist under the cover of price action. In many instances, volume divergences versus price movement itself can successfully predict a major market reversal.

Chaikin Oscillator = 3 – Period of EMA of A/D line – 10 – Period EMA of A/D line

Where

EMA = Exponential Moving Average
A/ D line = Cumulative Accumulation / Distribution line

DETRENDED PRICE OSCILLATOR

The Detrended Price Oscillator (DPO) attempts to eliminate the trend in prices. Detrended prices allow the technical analyst to easily identify trend cycles and over bought/oversold levels. Long term cycles are made up of a series of short-term cycles.

DPO = Closing Price – (Moving Average ([n/2] + 1 days ago)

STOCHASTIC OSCILLATOR

The stochastic process has an infinite progression of jointly distributed random variables. The stochastic oscillator compares where a share's price closed, relative to its trading range over the last n-time periods.

R-SQUARED INDICATOR

The R-Squared Indicator illustrates the relationship between prices using the linear regression trend line. The closer the two are to each other, the stronger the trend. The formula for R-square is as follows:

PARABOLIC STOP AND REVERSE (SAR)

The Parabolic SAR is a very useful and accurate indicator during a trending period. But during trading time periods this indicator does not serve any purpose. SAR stands for stop and reverse, and the term parabolic comes from the shape of the curve that is created on the technical chart.

If Long SAR = SAR (t-I) + (HI(t-I) – SAR (t-I)) X AF

If Short SAR = SAR (t-I) – (LO(T-1) – SAR (t-1)) X AF

VOLUME OSCILLATOR

Volume simply indicates enthusiasm, or lack thereof, for a share and does not deal with the price of the share. To confirm a market turn around or trend reversal, the technical analyst most importantly must determine whether or not the measurements of price and volume momentum agree with each other. If they do not, it is a sure indicator of weakness in the trend and may point to trend reversal.

Volume Oscillator = (14 – period volume MA) – (28 – Period volume MA)

TRIPLE EXPONENTIAL AVERAGE

The triple exponential average indicator is an oscillator used to identify oversold and overbought markets, and it can also be used as a momentum indicator. Like many oscillators, the TRIX oscillates around a zero line. A positive value indicates an overbought market while a negative value indicates an oversold market. When TRIX is used as a momentum indicator, a positive value suggests momentum is increasing while a negative value suggests momentum indicator, a positive value suggests momentum is increasing while a negative value suggest momentum is decreasing. Many analysts believe that the TRIX crossing above the zero line is a buy signal, and its closing below the zero line is a sell signal. Also, divergences between price and the TRIX can indicate significant turning points in the market.

CONCLUSIONS

Technical analysis is based on published capital market data as opposed to fundamental data, such as earnings, sales, growth rates or government regulations. Market data include the price of share or the level of a market index, volume and other technical indicators such as the put/call ratio. But ultimately the tools and techniques which are available in technical analysis will helpful and understand the market situation and market volatility. Final thought from technical analysis;

- Develop a strategy unique to your personality and comfort levels
- Tweak your strategy until it works the best that it can
- Test it using virtual (paper) trading
- Do not stay from the system!
- Remember that 1% every day leads to about 290% a year! A little goes a long way!
- Learn First, Trade Second

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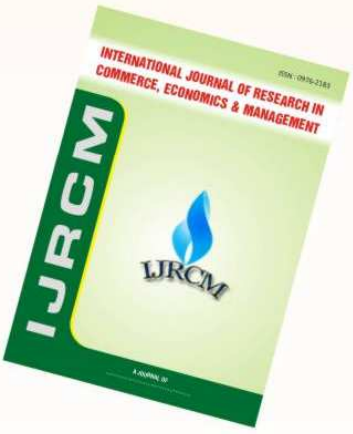
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