KNOWLEDGE CENTRE

Technical Analysis - Relative Strength Index (RSI)

What is technical analysis?

Technical analysis is a method of forecasting the future movement of share prices by studying past market activity like prices and volumes, using charts and other financial tools. Technical analysis follows the philosophy that past market activity indicates future market activity. There are several benefits of using technical analysis. The most important is that it focuses on price movement, so the necessary data is easily available. Trends and patterns are easily identifiable. The Relative Strength Index (RSI), the Moving Average Convergence Divergence (MACD) and the Stochastic Oscillator are popular tools of technical analysis.

What is the Relative Strength Index (RSI)?

The RSI is an oscillator indicator. Welles Wilder created the RSI in 1978, to measure relative changes that occur between the closing prices of stock over a period of time. This information can be used to determine overbought and oversold conditions, which help traders determine when to enter and exit the market. It is usually displayed below the chart indicating the price movement of a stock. The RSI will always move between 0 and 100. As suggested by Wilder, a value above 70 is in the overbought zone, while a value below 30 is in the oversold zone.

Calculating the RSI is a two-step process. First, the average gains and losses are identified for a specific time period, say, fourteen days. The absolute gains are added up and divided by fourteen. Similarly, the absolute losses are added up and divided by fourteen. The ratio of average gains to average losses is known as the relative strength. To further calculate the RSI, the following formula is used:

$$\mathrm{RSI} = 100 - \frac{100}{1+RS}$$

The RSI is presented on an individual chart, or below the price graph. The indicator has an upper line at 70, a lower line at 30 and a middle dashed line at 50. Wilder recommended a tracking period of fourteen days.

Interpretation of RSI

Wilder posited that when the price of stock rallies rapidly, it will be considered overbought at some point. Similarly, if the price falls continuously, the stock is oversold.

In both cases, Wilder theorized that a reversal is imminent. Therefore, the RSI indicates an upcoming reversal of trend, whether it is downwards or upwards. Traders should also watch the volume indicator to understand if interest in the scrip is waning, and whether other traders are starting to book profits, or accumulate more shares.

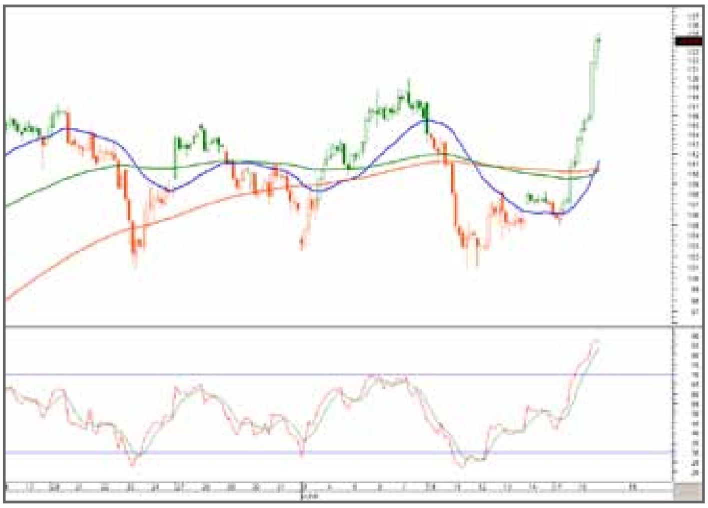
The RSI gives three types of trading signals – divergence, charting signals and the level of the RSI, in order of importance.

1. Bullish divergences, which give buy signals, occur when the price falls to a new low, but the RSI makes a shallower bottom in comparison to the previous. It is advisable as soon as the RSI turns upwards from its second trough. A bearish divergence is a sell signal. It occurs when the price of a share rallies to a new peak, but makes a lower top than the previous rally.

2. When the RSI breaks its downtrend line, a trader should place an order to buy above the price trend line. When it overcomes a steady uptrend line, a trader should place an order to sell short below the price trend line.

3. When the RSI crosses the oversold line of 30, one can interpret it as a buy signal. When the oscillator crosses the overbought line of 70, it is a good time to sell.

The chart above displays the RSI and price movement of an oversold scrip with an RSI below 30.



The chart above displays the RSI and price movement of an overbought scrip with an RSI above 70.

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