Technical analysis of HDFC Bank Stock Prices: An analytical study

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Abstract: Technical analysis is done based on recorded value development plotted on a two-dimensional outline. One reason it has turned out to be well known is that anyone can take a gander at the graph and perceive how costs have moved. Specialized investigation accepts that the market knows all the key essential data about an organization which is figured into the present cost. The focal point of specialized investigation at that point, is the cost and volume and this data is best reflected in a graph. Specialized examiners apply devices to their graphs to give themselves an 'edge'. With an edge and appropriate cash administration and position estimating techniques, financial specialists trust they will be productive over a substantial number of ventures. On the off chance that you will utilize specialized investigation as a component of your speculation approach, at that point you ought to get comfortable with the upsides and downsides of utilizing Technical analysis and additionally the principle kinds of value graphs that are regularly utilized. There are four regular value graph groups. These are clarified in somewhat more detail underneath and models of the graphs are given.

Keywords: Technical analysis, ROC, RSI, Markets.

I. INTRODUCTION

Technical analysis is done on the basis of historical price movement plotted on a two-dimensional chart. One reason it has become popular is that anybody can look at the chart and see how prices have moved.

Technical Analysis Tools: There are many technical analysis tools which include support and resistance, patterns and a very large number of indicators. It is important for you as an investor to gain an overview understanding of the technical analysis tools that are available and then explore in more detail one or two tools that resonate with you.

This page is designed to provide you with a snapshot of some of the technical analysis tools. We encourage you to explore the links provided for more information.

Trends:
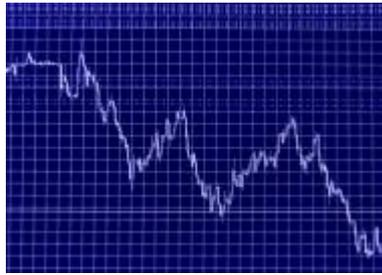
Very simply a trend is the general direction in which a security or market is headed. An uptrend can be described as a series of higher highs and higher lows and a downtrend as a series of lower highs and lower lows.

One of the basic rules of investing is to trade with the trend so the ability to identify trends and also trend changes and use these for profitable advantage is important.

Identifying trends isn't always easy as prices don't generally move in a straight line.

Support and resistance:

Support and resistance are common terms that are used in technical analysis. They are a tool that can be used on their own or they can complement other tools and indicators. Support and resistance play a key part in the formation of chart patterns and old support can become new resistance (or vica versa).

What are support and resistance?

Support	The price level at which buyers have historically shown a willingness to purchase.
Resistance	The price level at which sellers have historically shown a willingness to sell.

Patterns:

Chart patterns are formed by a combination of support and resistance and trendlines. Chart pattern analysis can be used in all timeframes. For example a triangle may form in a matter of days or a head and shoulders top may take months to form.

Patterns provide a framework to analyse the forces of supply and demand. They give a clear and concise picture and allow an investor to determine who is more dominant (buyers or sellers) so that they can position themselves appropriately.

Indicator:

A technical indicator is a result of a mathematical calculation based on price data and/or volume.

In technical analysis, indicators are usually shown in graphical form above or below or even on a stock's price chart and can be compared with the price chart of the stock itself.

Technical indicators can provide a different perspective on the strength and direction of the underlying price action and as such can be useful to the technical analyst. They can serve as an alert to the investor of the need to study price action a little more closely. For example, if momentum is declining this may be a signal to watch for a break of support.

Indicators can also be used to confirm other technical tools, for example a break of a chart price pattern might be confirmed by positive divergence of an oscillator.

Types of indicators:

There are hundreds of indicators available to the technical analyst. A brief overview of a few of the more widely used indicators is provided below.

Moving averages:

A moving average is the most common and basic form of indicator and is one that calculates the average price of a security over a specified number of periods. Moving averages can help smooth the price action data to enable the investor to filter out the 'noise'. Moving averages can help investors identify trends more easily. Different time periods can be used for different investing timeframes. Different forms of moving averages can also be applied and there are three main types simple, exponential and weighted.

Moving average convergence divergence (MACD):

More commonly known as the MACD, the Moving average convergence divergence indicator is one of the simplest and most effective momentum indicators available. Very simply, the MACD takes two trend following moving averages and converts them into a momentum oscillator by subtracting the longer moving average from the shorter moving average. As a result, the MACD combines both trend and momentum analysis. The MACD fluctuates above and below the zero line as moving averages converge, cross and diverge and signals can be generated by signal line crossovers, centreline crossovers and divergence. It is usually shown underneath price and is not a useful indicator for identifying overbought or oversold conditions.

Stochastic:

The Stochastic indicator is a popular technical tool used to help monitor market momentum. As a general rule, momentum changes direction before price and therefore bullish or bearish divergences in the Stochastic can be used for identifying potential reversals. It is also useful for identifying when an instrument is overbought (meaning that prices have advanced too far too soon and theoretically are due for a downside correction) or oversold (meaning that prices have declined too far too fast and are theoretically due for an upside correction.

The Stochastic consists of two lines, a %K or fast line which compares the latest closing price to the recent trading range and a %D or slow line which is called the signal line and is calculated by smoothing the %K. Both lines are plotted on the scale between 1 and 100. Potential trigger lines are added to the Stochastic chart at the 20 and 80 levels to indicate potentially overbought or oversold conditions.

The chart shows the Stochastic lines underneath price action and the blue lines highlight the divergence – prices making higher highs but the indicator making lower highs, resulting in a change of trend.

Relative strength index (RSI):

The Relative Strength Index or RSI is also a momentum oscillator that measures the speed and change of price movements. It also identifies overbought and oversold conditions with its developer, J Welles Wilder considering these levels to be 70 and 30 respectively. RSI compares upward movement in closing prices to downward movements over a selected period usually 7, 9, 14 or 21 depending on the timeframe of the investor. Here is an example of a chart showing overbought and oversold conditions.

Rate of change:

The Rate of Change (ROC) oscillator measures the percentage price change over a given time period and the bigger the difference between the current price and the price of the of the specified time period the higher the value of the oscillator. When the indicator is above zero, the percentage price changes are positive or bullish and when it is below zero the percentage price change is negative or bearish.

II. OBJECTIVES

- To know the Technical analysis tools.

- To find out RSI & ROC of HDFC Bank Stock

III. ANALYSIS

In the analysis I selected HDFC Bank stock to analyse RSI and ROC.

Table – 1 Calculation of 5 day RSI:

Date	Close Price	Change	Gain	Loss	Rs Value	RSI
2-Aug-18	2,130.20					
3-Aug-18	2,121.65	-8.55	0	8.55		
6-Aug-18	2,114.30	-7.35	0	7.35		
7-Aug-18	2,130.90	16.60	16.6	0		
8-Aug-18	2,136.35	5.45	5.45	0		
9-Aug-18	2,118.50	-17.85	0	17.85	0.653333	39.51613
10-Aug-18	2,114.45	-4.05	0	4.05	0.753846	42.98246
13-Aug-18	2,091.65	-22.80	0	22.8	0.493289	33.03371

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International Journal of Advance Research in Computer Science and Management Studies
Volume 7, Issue 1, January 2019 pg. 16-22

14-Aug-18	2,089.10	-2.55	0	2.55	0.115344	10.34156
16-Aug-18	2,075.70	-13.40	0	13.4	0	0
17-Aug-18	2,077.35	1.65	1.65	0	0.038551	3.712036
20-Aug-18	2,096.20	18.85	18.85	0	0.529032	34.59916
21-Aug-18	2,096.05	-0.15	0	0.15	1.512915	60.20558
23-Aug-18	2,079.90	-16.15	0	16.15	1.257669	55.70652
24-Aug-18	2,069.85	-10.05	0	10.05	0.71537	41.70354
27-Aug-18	2,080.45	10.60	10.6	0	0.402277	28.68742
28-Aug-18	2,094.85	14.40	14.4	0	0.948767	48.68549
29-Aug-18	2,078.50	-16.35	0	16.35	0.587544	37.00962
30-Aug-18	2,066.10	-12.40	0	12.4	0.64433	39.18495
31-Aug-18	2,061.20	-4.90	0	4.9	0.742942	42.62575

Source: NSE Website for Stock Prices
Analysis: Authors compilation

Chart – 1 RSI Chart
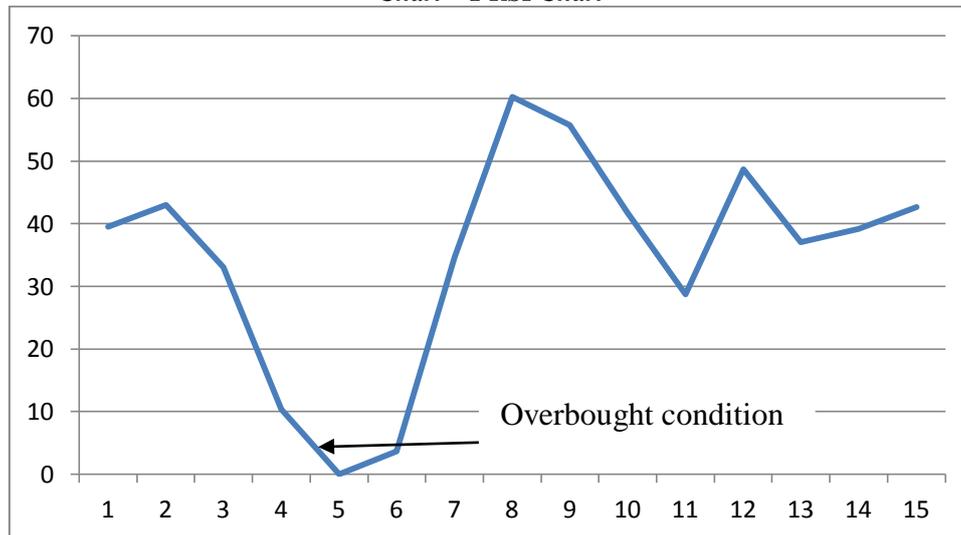
Source: Authors compilation

Interpretation: based on the RSI, I interpret the HDFC Stock are overbought condition is appeared in 16th Aug 18.

Calculation of 7 day ROC: Table - 2

Date	Close Price	ROC - 1	ROC - 2
2-Aug-18	2,130.20		
3-Aug-18	2,121.65		
6-Aug-18	2,114.30		
7-Aug-18	2,130.90		
8-Aug-18	2,136.35		
9-Aug-18	2,118.50		
10-Aug-18	2,114.45		
13-Aug-18	2,091.65	98.19031	-1.80969
14-Aug-18	2,089.10	98.46582	-1.53418
16-Aug-18	2,075.70	98.17434	-1.82566
17-Aug-18	2,077.35	97.48698	-2.51302
20-Aug-18	2,096.20	98.12063	-1.87937
21-Aug-18	2,096.05	98.94029	-1.05971
23-Aug-18	2,079.90	98.36601	-1.63399
24-Aug-18	2,069.85	98.95776	-1.04224
27-Aug-18	2,080.45	99.58595	-0.41405
28-Aug-18	2,094.85	100.9226	0.92258
29-Aug-18	2,078.50	100.0554	0.055359

| 30-Aug-18 | 2,066.10 | 98.56407 | -1.43593 |
| 31-Aug-18 | 2,061.20 | 98.33735 | -1.66265 |

Source: NSE Website for Stock Prices
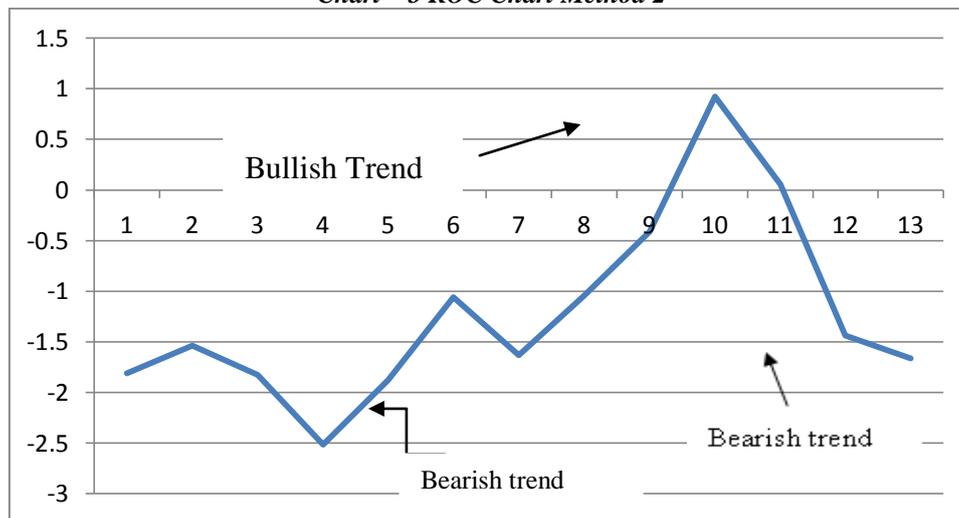*Analysis: Authors compilation*

Chart – 2 ROC Chart Method 1
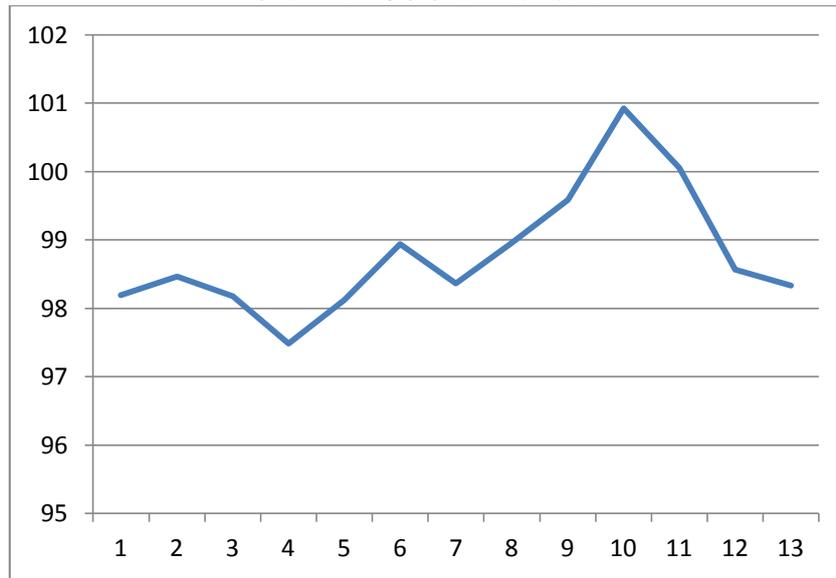
Source: Authors compilation

Interpretation: based on the ROC, I interpret the HDFC Stock,when the indicator is above hundred, the percentage price changes are positive or bullish and when it is below hundred the percentage price change is negative or bearish.

Chart – 3 ROC Chart Method 2

Source: Authors compilation

Interpretation: When the indicator is above zero, the percentage price changes are positive or bullish and when it is below zero the percentage price change is negative or bearish.based on the ROC, I interpret the HDFC Stock shows more number of days in the study period instead of 28 and 29th Aug 18.

IV. FINDINGS

- RSI HDFC Stock are overbought condition is appeared in 16th Aug 18.

- When the indicator is above zero, the percentage price changes are positive or bullish and when it is below zero the percentage price change is negative or bearish. based on the ROC, I interpret the HDFC Stock shows more number of days in the study period instead of 28 and 29th Aug 18.

V. CONCLUSION

Apart from the all technical tools I selected for the study RSI and ROC, these oscillators will help to take decisions on overbought condition and oversold condition, bullish and bearish trend respectively. RSI, HDFC Stock are overbought condition is appeared in 16th Aug 18.When the indicator is above zero, the percentage price changes are positive or bullish and when it is below zero the percentage price change is negative or bearish. Based on the ROC, I interpret the HDFC Stock shows more number of days in the study period instead of 28th and 29th Aug 18.

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