Technical Analysis of Stock Movement of Nifty and Bank Nifty

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Abstract

Technical Analysis is a bond report on factors that influence stock supply and demand and also helps to understand how the stock's value is inherent and whether the shares are under-estimated or over-estimated. Technical analytics can help investors predict over time what is "possible" to happen to prices, i.e. how the stock market moves to be learned. Technical tools of analysis enable the price behavior, through systematic technical analysis, to detect not only the price performance of the shares, but also the signals of the shares and their key turning points for the market price. Any investor or trader must certainly take into account technical analysis as an instrument for whether and when to buy the stock. Technical tools such as Charts, Moving Averages (MA), Return on Sales (ROS) and Relative Strength Index (RSI) are helpful to make decision over buying and selling of stocks, and risk and return relationship of security with the market is statistically estimated through correlation. In the present research work technical analysis is applied on selected large capitalized banking stocks listed at Nifty. Secondary data source were collected from websites and journals of Nifty and data of two bank indexes were collected for the technical analysis. Technical analysis results of two year data of the 2 selected stocks i.e. Nifty and Bank Nifty indicated that RSI is a strong indicator of stock price movements and, a good and significant relationship is found in between Nifty and Bank Nifty. The results would be helpful for the investors to capture success in banking market of Indian bank shares.

Keywords: Technical Analysis, Stock Market, Stock Performance, Stock Predications, Bank Nifty, RSI, MA, ROS, Investor, Shares

Introduction

The stock market is an electronic marketplace that lists and exchanges the share of the firms. This advanced platform helps businesses to efficiently and easily collect capital from the public. With the country's reforms, international direct investment and transaction turnover rapidly grew in stock exchanges. Growth of Indian economy can better be noticed through the stock market movements (Dhutti, 2014), as stock market is the face of market acceleration and of business up-scaling. So, in totality Stock market can be viewed as the growth driver of national and global economy. Such economic indicator depends on investors and this is imperative that investors can better estimate the intrinsic value of the shares in which they are investing and getting the

insight of shares that either it is overvalued or undervalued. This is why the stock market indicators which lead into identifying the driving point of the market need to studied on continuous basis by the investors. These driving points can better be analyzed by two different practices of assessing the opportunity of investments in the stock market viz. fundamental and technical analysis. Fundamental information such as the company's financial and non-financial aspects or technical information that disregards the fundamental principles and relies on real prices may be applied. The technical analyst assumes 90% psychological and 10% logical. In addition, it contributes to an understanding of the prices of the securities, their indications and their big market price revolutions. The analytical definition is taken into consideration when selecting the investments of a specific business.

Significance of Technical analysis for securities evaluation has been presented in several researches (Sabari et al. (2013), Sulistiawan et al. (2013), Charles, Krikpatrik and Dahlquist (2016), Masry M. (2017), Deva et. al. (2018), Chen (2019)) and proclaimed as a combination of effective tools to identify the future price movements of securities, growth of profitability and financial strength of corporate. Technical analysis is presents different ways to look at a security's historical price, so that potential future values can be determined. This was achieved by evaluating the existing price for forecasting future outcomes using comparable price histories. This technique was described by the devout technician as the fact that history replicates itself, while others claim that we have to learn from history. Instead of the basic driving motives that affect the economy, price moves in the economic market are taken into account. Different technological analysis methods, such as moving averages, relative strength and sales returns, can be conducted. Methods and practices followed under Technical analysis have certain assumptions such as price discounts, history, price movements in trends etc.

This research work is an attempt to present technical analysis over two year data of the 2 selected large capitalized banking stocks i.e. Nifty and Bank Nifty. RSI used for the technical analysis purpose will help to recognize some proclaimed reactions of the market to the investors to produce growth and profit. In the context with the presented facts following objectives are under evaluation:

1.To study the chart patterns of selected stock of banks.

2.To analyze the relationship between Nifty and Bank Nifty.

3.To study risk and return of selected Bank stocks with relation to Nifty and Bank Nifty.

The present study concentrates on technical analysis and stock specific indicators such as Moving Averages and RSI which are considered to be integral parts of technical analysis. So, the study would be helpful in following areas:

·Promotes investment decision-making processes for experts, investors and various others.

·A number of researchers used Moving averages and RSI variable to conduct many research projects. But current research would stress that stock values and real business variables are importantly connected together.

·Assists the community concerned in the effective and efficient management of the operation.

The present study is significant in the present age of economic liberalization where investors is not restricted to a particular investment avenue or sector, which resulted in an increase in the number and use of indicators based researches in the finance sector to ensure growth and profitability in micro perspective. Macro perspective for the finding the ways of anticipating the future price of the stocks with the help of technical indicators will affect the market efficiency broadly. Moreover, in every broking enterprise the variety and importance of technical analysis have increased with regard to ICT affordability, a growing amount of technical applications and technical analyzes are available and helping the investors to find most effective anticipating indicator through applying several compound formulas on historical market figures.

Literature Evidence of Technical Analysis Significance

Several studies were conducted on the use in the Indian stock market of technical analytical instruments. The following are a few of them:

Jin, X. (2020) proposes a risk-based analysis system and provides an empiric description of broad usage and acceptance in foreign-exchange markets of technical analysis, although there is no proof to prove their profitability. He also officially illustrates the connection between the investors' skewed preferences and the technical analysis Skewedness and thus provides a thorough description of an investor's desire for positive Skewedness through a simple linear regression analysis, completing and extending the latest risk-preference research on the popularity of technically based analyses.

Chales, Krikpatrik and Dahlquist (2016) presented the application of the technical analysis as the study over the historical market figures, to make decision over investments in stock trading though future market price anticipation. Naved and Srivastava (2015) mentioned that the forecasting the growth and profitability for selected

stocks through technical analysis clearly depends on the indicators chosen for the purpose of forecasting and the historical data especially number of days incorporated for the purpose of calculation of indicator used. More appropriate tool and good amount of historical data lead into more significant outcomes. Dhutti (2014) attempted the application of Technical analysis on stocks of TCS, Wipro, HCL, Infosys, and TCS and confirmed with the application of RSI that beta values and correlation values lead into indentify risk and returns for the selected stocks. It was also pointed that charts can be used for both short and long term forecast. The profitability of the technical investment strategies is examined by Nam, Washer and Chu (2005), and described the asymmetrically complex return mechanism. In the analysis, the S&P 500 is used for the regular market index sequence between 1/3/1929 and 31/12/1998. The analysis concluded that the principal causes of profitability in business strategies are asymmetry in return. The utility of technical trading techniques in stock market investment cannot be ignored by market professionals.

Since its inception, the position of technical analysis has been examined in controversy. In some significant studies of the feasibility of technical analysis, Fama (1996, 1970) established that technical analysis was futile. Simultaneously, research in the 1980s and 1990s revealed the radical ability to forecast certain conventional and basic forms of technical analysis. The Technical Analyst will predict a greater cyclical swing of the market than the Stock Market Analyst. Brown and Jennings (1989) argued that the inference of private knowledge from the use of past prices has validity in a model where prices are incomplete, and traders have rational assumptions about price-signal relations.

Significance of technical analysis in making investment profitable and growth oriented in proclaimed by Brock et al. (1992) in their work which explained that rules of technical trading might surpass the market. Blume, Easley and O'hara (1994) demonstrated that technical analysis is important for traders in an economy where the underlying knowledge structure causes uncertainty. Wong, Manzur and Chew (2002) observed that the Member Stock Exchange Firms make significant profits by applying technical indicators.

The profitability of technical trading strategies on stock markets in Asia and Latin America study comprises 10 equity markets including Argentina, Brazil, Chile, Mexico, India, Korea, Malaysia, Taiwan and Thailand. For thirteen years beginning in 1982, the analysis uses daily inflation adjusted returns. The research analyzes and compares 10 different varying moving average models of buy-and-hold strategies. The survey claims that only three emerging markets - Taiwan Mexico and Thailand - benefit from technological trading rules. Technical trading strategies in other markets show no substantial profitability, particularly after consideration of transaction costs. Practitioners are well documented for relying on technical research. Frankel and Froot (1990) observed that technical analysis in market forecasting tends to take the place of market practitioners.

Lui and Mole (1998) reported the findings of an investigation into the usage of fundamental and technical studies by Hong Kong foreign-exchange distributors in February 1995. More than 85% of respondents were using both approaches, and technical analysis was more common in the short term. The technical research guiding principle is to define and endorse the latest trend. If a pattern occurs, whether it starts with random or fundamental variables, technical methods can produce signals in the same way. In particular because many investors depend on the technical indicators, this reinforces this original pattern. Thus, the forecast of the technological predictor may be self-fulfilling even though the original pattern occurred unexpectedly. This self-fulfilling nature contributes to speculative explosion generation.

Research Gap:

A variety of key considerations affect the stock market as proven in various researchers, but the areas missing in the research papers mentioned above are:

·Most of the researchers concentrated on moving average instruments and RSI instruments. On statistical tools, very few worked.

·Most analysis activities have been carried out at the top stock exchange players. On bank nifty and nifty, very few researchers served.

·According to the papers examined, the research was performed primarily at the international level on stock market causes.

Problem Statement:

Advising the investor for better returns and growth in the stocks on the basis of technical analysis performed over key indicators drawn from the historical figures was the key problem for the companies. In order to assist the investors for profitable stocks, the report offers an insight into the various aspects of using the different technical instruments such as Relative Strength Index and Moving Average and use of coefficient of variation and beta tools to determine the relationship between risks and returns applicability in accordance with the security and market.

While many people are investing in the market, their

market returns are not consistent and safe. For their trading in the market they use various methods of research. One of the critical analyzes used by market actors in each stock market worldwide is technical analysis. But most academic papers have concluded that the market's technical research does not forecast the trend. In India the notion of a technical study that is useless and that investors are able to use it for the potential movement of prices is both academic and part of the investment culture. Moreover, the majority of previous studies focused on the US, Europe and some highly established Asian Markets. In addition, the studies have never focused on the application in the Indian stock market of technical trading rules. The present study thus concentrated on the assessment of Indian stock market technical analysis over two year data of the 2 selected large capitalized banking stocks i.e. Nifty and Bank Nifty in general and inventory-specific indicators such as moving averages and relative inventory index which were considered an integral element of the technical analysis.

Research Methodology and Materials

The research is analytical in nature and based on the secondary data collected from NSE India of stocks of bank nifty and nifty. The study aims at analyzing the price movements of selected bank nifty and nifty stock. As the study describes the existing facts and figures given in the financial statement and the price movements of the selected nifty, the research design followed is descriptive and analytical in nature. Descriptive research is used to refer the characteristics of population. In this case the problem of the study is obviously defined. For Technical Analysis, Secondary Data of nifty bank stocks for 2 year is collected i.e. April, 2019 to March, 2021. The closing prices of share prices were taken and the future price movement was analyzed using various technical tools such as Moving averages and RSI. Data were collected from trading of equity market in NSE, various books, journals, magazines and websites. Nifty and bank nifty of National Stock Exchange are actively traded in large capitalized Indian stocks were taken on Stratified sampling basis for the study. Also, In order to test the hypothesis, the study has used descriptive and correlation test and Moving averages and RSI. The application of technical indicators like RSI is beneficiary to estimate the changes and the pace in the price movements (RSI, 2013) and moving average lead to identify the spot trend of the stock through average price estimation for security over a period of time (Boobalan, 2014).

The RSI is an extremely useful oscillating pulsation indicator to determine buying and selling of stocks. RSI ranges from zero to 100. The stock is traditionally over-bought when RSI is higher than 70 and over when RSI is higher than 30. RSI = 100–[100/ (1+RS)]

Where, RS = average of upward price change over selected number of days / average of downward price change over the same number of days.

Moving Averages is one easy way for the traders to apply averages moving. The average price of a defense over a specified period of time is moving average. They flatten a data series and promote the detection of patterns which are particularly helpful in volatile markets. The two most common kinds of moving averages are simple moving average (SMA) and exponential moving average (EMA). A simple moving average is calculated by calculating the average (mean) security price for a certain number of years. For example, by the addition of the closing prices for the last five days and divided by 5, the average 5-Day move is determined. Exponential Moving Average (EMA) is caused by the weight of recent price changes.

EMA (current) = ((price (current) – EMA (prev) * Multiplier) + EMA (prev)

The formula for the smoothing constant is: K = 2/ (1+N)

Where, N = number of periods for EMA.

Other statistical tools such as coefficient of variation, mean, standard deviation, and beta are used to determine the volatility of asset in contrast with the volatility of said asset.

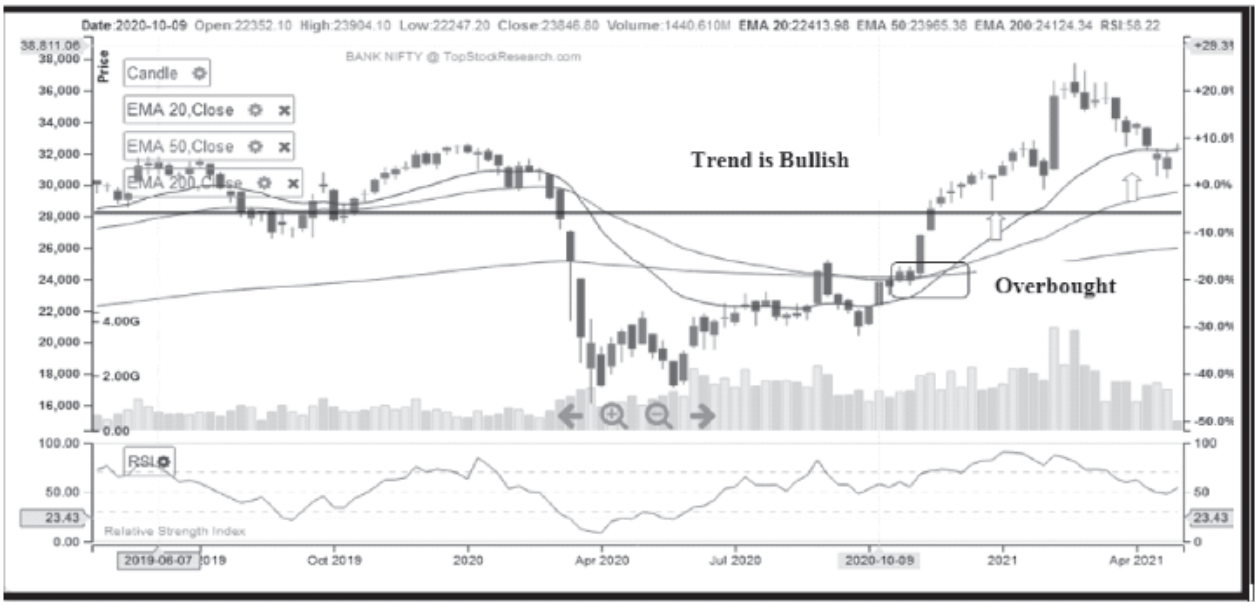
Time Period of the Study: This research was conducted over a period of two years from April 2019 to 3 March 2021 data of the 2 selected stocks i.e. Nifty and Bank Nifty.

Sources of Data Collection: The secondary information for the analysis purpose was collected from the different books, websites, news, articles, magazines, internet and stock brokerage centers. Banks Nifty and nifty was chosen to include an inventory return index and the national stock exchange (NSE) website will collect average monthly figures.

Analysis and Interpretation:

Because of simplicity use of moving averages with candlestick chart is one among the commonly used technical indicators. It is helpful to identify the current price direction with lag through smoothing the price data to form a trend indicator to be followed. Candlestick chart of two years from April 2019 to 3 March 2021 data of the Nifty and Bank Nifty with regard to fluctuations in the price and their connotation to the investors are presented below.

Chart 1: Candlestick Chart of Bank Nifty of Two Years on Weekly Basis with Key Exponential Moving Averages



Source: https://www.topstockresearch.com/rt/TechStrength/BANKNIFTY/MA/Daily

The purpose of the above candlestick charts with key moving average is to present graphical view to identify the trend of price incorporating trading signals. Variation in the open, high, low and close prices is observed for Bank Nifty in context with the different weeks which were accounted for the period from April 2019 to 3 March 2021. From Chart 1 it is noticed that for short term, moderate term and long terms Bank Nifty trend is Bullish. RSI also indicated the buy trend so on this basis investor can make a decision over buying or selling of stocks.

Exponential Moving Average (EMA) 200 presents slow moving average, and EMA 50 presents moderate moving average and EMA 20 presents fast moving average. Through the lines of moving average presented in the above Chart 1 for each moving average interpretation for buy and sell can be drawn. If the faster moving averages for the above chart it is EMA 20 (Blue Line) crosses the slower moving averages for above chart it is EMA 200 (Green Line) a buy signal is generated and opposite to it if faster moving averages cross below to the slower one than the sell signal is identified.

From the above chart of Bank Nifty of Two Years on Weekly Basis with Key Exponential Moving Averages, it is noticed that all the moving averages are trending upwards. It is also noticed that price is located above all the moving averages and Fast moving average EMA 20 is above than the EMA 200 (low Moving Average) and EMA 50 (Moderate Moving Average) which presents the Upward of can say Bullish trend for the Bank Nifty.

Chart 2: Candlestick Chart of Nifty of Two Years on Weekly Basis with Key Exponential Moving Averages

Source: https://www.topstockresearch.com/rt/TechStrength/NIFTY/MA/Daily

Variation in the open, high, low and close prices is observed for S&P CNX Nifty in context with the different weeks which were accounted for the period from April 2019 to 3 March 2021. From Chart 2 it is noticed that for short term (EMA 20), moderate term (EMA 50) and long term (EMA 200) S&P CNX Nifty trend is Bullish. RSI also indicated the buy trend so on this basis investor can make a decision over buying or selling of stocks.

Nifty price movements for Two Years on Weekly Basis with Key Exponential Moving Averages are presented in Chart 2, helped to identify that all the moving averages are trending upwards. It is noticed that price is located above all the moving averages and Fast moving average EMA 20 is above than the EMA 200 (Slow Moving Average) and EMA 50 (Moderate Moving Average) which presents the Upward of can say Bullish trend for the Nifty.

RSI Indicator Analysis for Price Movements of Nifty and Bank Nifty: RSI is used to assess the pace and the variation in the price movements, its values oscillates in between 0-100. In this work RSI is calculated on 14 days values. In a case when RSI moves above to 70, then over bought is identified and indicates the right time to sell the stock to make profit. If RSI moves below 30, then over sold is identified and indicates that stock is undervalues and investor can buy the stock. All these values can be adjusted on the basis of signals formed by RSI. RSI over 50 indicated bullish trend and RSI below 50 indicates bearish trend. From the RSI graph presented in Chart 1 above indicates that from July 2020 to April 2021 RSI is found above 70 or near 70 which confirm the bullish trend and lead into making the interpretation for the right time to sell the stocks. Near about same trend is observed for the S&P CNX Nifty for the July 2020 to April 2021 period, but RSI is approaching near 50 for Nifty in April 2021 which indicates the bearish but not a good indication to make a sell of the stock. For RSI indicator analysis for price movements of Nifty and Bank Nifty for 14 Day RSI values for the period April 2019 to April 2021 is presented below in Table 1 and Table 2. Frequency of data presented in the tables below in weekly. Downward trend for RSI is confirmed when RSI crosses below 50 and upward trend is confirmed when RSI crosses above 50.

Table 1: 14-Day RSI Data for Bank Nifty

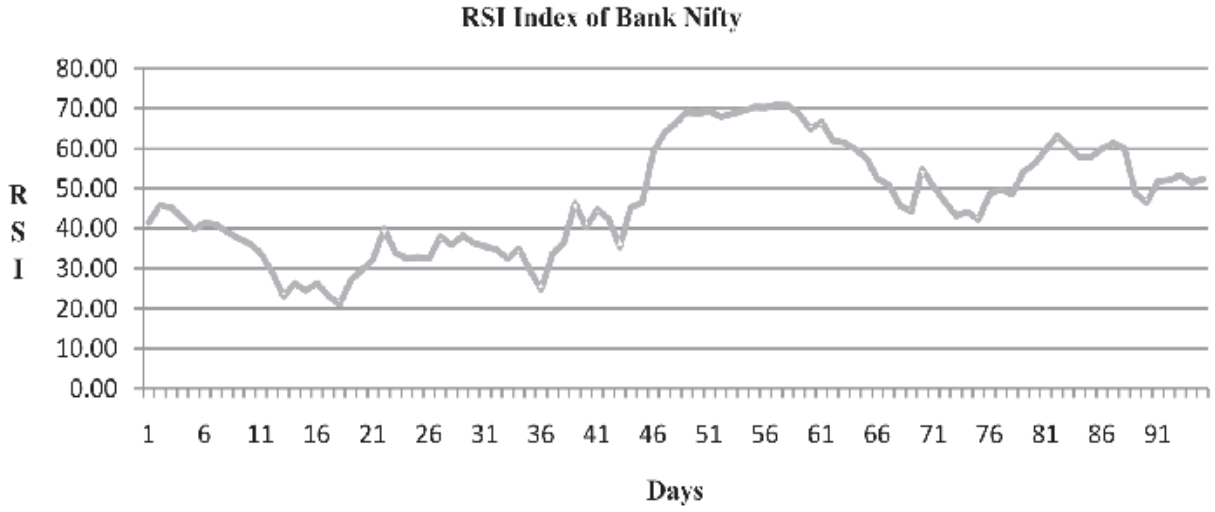
Date	Close	Change	Gain	Loss	Avg Gain	Avg Loss	RS	14-Day RSI
26-Apr-21	33,714.50							
19-Apr-21	31,722.30	-1992.20	0.00	1992.20				
12-Apr-21	31,977.45	255.15	255.15	0.00				
5-Apr-21	32,448.05	470.60	470.60	0.00				
29-Mar-21	33,858.00	1409.95	1409.95	0.00				
22-Mar-21	33,318.20	-539.80	0.00	539.80				
15-Mar-21	34,161.60	843.40	843.40	0.00				
8-Mar-21	35,496.65	1335.05	1335.05	0.00				
1-Mar-21	35,228.15	-268.50	0.00	268.50				
22-Feb-21	34,803.60	-424.55	0.00	424.55				
15-Feb-21	35,841.60	1038.00	1038.00	0.00				
8-Feb-21	36,108.90	267.30	267.30	0.00				
1-Feb-21	35,654.50	-454.40	0.00	454.40				
25-Jan-21	30,565.50	-5089.00	0.00	5089.00				
18-Jan-21	31,167.25	601.75	601.75	0.00	444.37	626.32	0.71	41.50
11-Jan-21	32,246.80	1079.55	1079.55	0.00	489.74	581.58	0.84	45.71
4-Jan-21	32,084.20	-162.60	0.00	162.60	454.76	551.65	0.82	45.19
28-Dec-20	31,264.05	-820.15	0.00	820.15	422.28	570.83	0.74	42.52
21-Dec-20	30,402.20	-861.85	0.00	861.85	392.11	591.62	0.66	39.86
14-Dec-20	30,714.65	312.45	312.45	0.00	386.42	549.36	0.70	41.29
7-Dec-20	30,604.85	-109.80	0.00	109.80	358.82	517.96	0.69	40.92
30-Nov-20	30,052.40	-552.45	0.00	552.45	333.19	520.43	0.64	39.03
23-Nov-20	29,609.05	-443.35	0.00	443.35	309.39	514.92	0.60	37.53
16-Nov-20	29,236.00	-373.05	0.00	373.05	287.29	504.79	0.57	36.27
9-Nov-20	28,465.70	-770.30	0.00	770.30	266.77	523.75	0.51	33.75
2-Nov-20	26,798.95	-1666.75	0.00	1666.75	247.72	605.40	0.41	29.04
26-Oct-20	23,900.90	-2898.05	0.00	2898.05	230.02	769.16	0.30	23.02
19-Oct-20	24,478.30	577.40	577.40	0.00	254.84	714.22	0.36	26.30
12-Oct-20	23,533.25	-945.05	0.00	945.05	236.63	730.70	0.32	24.46
5-Oct-20	23,846.80	313.55	313.55	0.00	242.13	678.51	0.36	26.30
28-Sep-20	22,246.00	-1600.80	0.00	1600.80	224.83	744.39	0.30	23.20
21-Sep-20	20,982.35	-1263.65	0.00	1263.65	208.77	781.48	0.27	21.08
14-Sep-20	22,031.05	1048.70	1048.70	0.00	268.77	725.66	0.37	27.03
7-Sep-20	22,479.95	448.90	448.90	0.00	281.63	673.83	0.42	29.48
31-Aug-20	23,011.50	531.55	531.55	0.00	299.49	625.70	0.48	32.37
24-Aug-20	24,523.80	1512.30	1512.30	0.00	386.12	581.00	0.66	39.92
17-Aug-20	22,299.60	-2224.20	0.00	2224.20	358.54	698.37	0.51	33.92
10-Aug-20	21,679.40	-620.20	0.00	620.20	332.93	692.79	0.48	32.46

3-Aug-20	21,754.00	74.60	74.60	0.00	314.47	643.31	0.49	32.83
27-Jul-20	21,640.05	-113.95	0.00	113.95	292.01	605.49	0.48	32.54
20-Jul-20	22,662.05	1022.00	1022.00	0.00	344.15	562.25	0.61	37.97
13-Jul-20	21,966.80	-695.25	0.00	695.25	319.57	571.75	0.56	35.85
6-Jul-20	22,398.45	431.65	431.65	0.00	327.58	530.91	0.62	38.16
29-Jun-20	21,852.40	-546.05	0.00	546.05	304.18	531.99	0.57	36.38
22-Jun-20	21,592.05	-260.35	0.00	260.35	282.45	512.59	0.55	35.53
15-Jun-20	21,338.10	-253.95	0.00	253.95	262.28	494.11	0.53	34.67
8-Jun-20	20,654.55	-683.55	0.00	683.55	243.54	507.64	0.48	32.42
1-Jun-20	21,034.50	379.95	379.95	0.00	253.29	471.38	0.54	34.95
25-May-20	19,297.25	-1737.25	0.00	1737.25	235.19	561.80	0.42	29.51
18-May-20	17,278.90	-2018.35	0.00	2018.35	218.39	665.84	0.33	24.70
11-May-20	18,833.95	1555.05	1555.05	0.00	313.87	618.28	0.51	33.67
4-May-20	19,352.90	518.95	518.95	0.00	328.52	574.12	0.57	36.40
27-Apr-20	21,534.50	2181.60	2181.60	0.00	460.88	533.11	0.86	46.37
20-Apr-20	19,586.65	-1947.85	0.00	1947.85	427.96	634.16	0.67	40.29
13-Apr-20	20,681.45	1094.80	1094.80	0.00	475.59	588.87	0.81	44.68
6-Apr-20	19,913.60	-767.85	0.00	767.85	441.62	601.65	0.73	42.33
30-Mar-20	17,249.30	-2664.30	0.00	2664.30	410.08	748.98	0.55	35.38
23-Mar-20	19,969.00	2719.70	2719.70	0.00	575.05	695.48	0.83	45.26
16-Mar-20	20,317.60	348.60	348.60	0.00	558.88	645.81	0.87	46.39
9-Mar-20	25,166.45	4848.85	4848.85	0.00	865.30	599.68	1.44	59.07
2-Mar-20	27,801.45	2635.00	2635.00	0.00	991.71	556.84	1.78	64.04
24-Feb-20	29,147.15	1345.70	1345.70	0.00	1016.99	517.07	1.97	66.29
17-Feb-20	30,942.85	1795.70	1795.70	0.00	1072.62	480.13	2.23	69.08
10-Feb-20	30,834.80	-108.05	0.00	108.05	996.00	453.56	2.20	68.71
3-Feb-20	31,201.95	367.15	367.15	0.00	951.08	421.16	2.26	69.31
27-Jan-20	30,833.60	-368.35	0.00	368.35	883.15	417.39	2.12	67.91
20-Jan-20	31,241.75	408.15	408.15	0.00	849.22	387.57	2.19	68.66
13-Jan-20	31,590.65	348.90	348.90	0.00	813.48	359.89	2.26	69.33
6-Jan-20	32,097.40	506.75	506.75	0.00	791.57	334.18	2.37	70.31
30-Dec-19	32,069.25	-28.15	0.00	28.15	735.03	312.32	2.35	70.18
23-Dec-19	32,412.35	343.10	343.10	0.00	707.04	290.02	2.44	70.91
16-Dec-19	32,384.95	-27.40	0.00	27.40	656.53	271.26	2.42	70.76
9-Dec-19	32,014.25	-370.70	0.00	370.70	609.64	278.36	2.19	68.65
2-Dec-19	31,341.55	-672.70	0.00	672.70	566.09	306.53	1.85	64.87
25-Nov-19	31,946.10	604.55	604.55	0.00	568.84	284.63	2.00	66.65
18-Nov-19	31,111.60	-834.50	0.00	834.50	528.21	323.91	1.63	61.99
11-Nov-19	31,008.40	-103.20	0.00	103.20	490.48	308.14	1.59	61.42
4-Nov-19	30,749.40	-259.00	0.00	259.00	455.45	304.63	1.50	59.92
28-Oct-19	30,330.55	-418.85	0.00	418.85	422.91	312.79	1.35	57.48

21-Oct-19	29,395.95	-934.60	0.00	934.60	392.71	357.21	1.10	52.37
14-Oct-19	29,120.25	-275.70	0.00	275.70	364.66	351.39	1.04	50.93
7-Oct-19	28,042.50	-1077.75	0.00	1077.75	338.61	403.27	0.84	45.64
30-Sep-19	27,731.85	-310.65	0.00	310.65	314.42	396.65	0.79	44.22
23-Sep-19	29,876.65	2144.80	2144.80	0.00	445.16	368.32	1.21	54.72
16-Sep-19	28,981.55	-895.10	0.00	895.10	413.37	405.95	1.02	50.45
9-Sep-19	28,098.75	-882.80	0.00	882.80	383.84	440.01	0.87	46.59
2-Sep-19	27,247.90	-850.85	0.00	850.85	356.42	469.35	0.76	43.16
26-Aug-19	27,427.85	179.95	179.95	0.00	343.82	435.83	0.79	44.10
19-Aug-19	26,958.65	-469.20	0.00	469.20	319.26	438.21	0.73	42.15
12-Aug-19	28,217.00	1258.35	1258.35	0.00	386.34	406.91	0.95	48.70
5-Aug-19	28,431.90	214.90	214.90	0.00	374.09	377.85	0.99	49.75
29-Jul-19	28,204.95	-226.95	0.00	226.95	347.37	367.07	0.95	48.62
22-Jul-19	29,325.30	1120.35	1120.35	0.00	402.58	340.85	1.18	54.15
15-Jul-19	29,770.35	445.05	445.05	0.00	405.62	316.50	1.28	56.17
8-Jul-19	30,601.45	831.10	831.10	0.00	436.01	293.90	1.48	59.74
1-Jul-19	31,475.80	874.35	874.35	0.00	467.32	272.90	1.71	63.13
24-Jun-19	31,105.20	-370.60	0.00	370.60	433.94	279.88	1.55	60.79
17-Jun-19	30,628.35	-476.85	0.00	476.85	402.94	293.95	1.37	57.82
10-Jun-19	30,614.35	-14.00	0.00	14.00	374.16	273.95	1.37	57.73
3-Jun-19	31,066.55	452.20	452.20	0.00	379.74	254.39	1.49	59.88
27-May-19	31,375.40	308.85	308.85	0.00	374.67	236.22	1.59	61.33
20-May-19	31,212.55	-162.85	0.00	162.85	347.91	230.98	1.51	60.10
13-May-19	29,450.15	-1762.40	0.00	1762.40	323.06	340.36	0.95	48.70
6-May-19	29,040.50	-409.65	0.00	409.65	299.98	345.31	0.87	46.49
29-Apr-19	29,954.15	913.65	913.65	0.00	343.82	320.65	1.07	51.74
22-Apr-19	30,013.50	59.35	59.35	0.00	323.50	297.74	1.09	52.07
15-Apr-19	30,223.40	209.90	209.90	0.00	315.38	276.48	1.14	53.29
8-Apr-19	29,938.55	-284.85	0.00	284.85	292.86	277.07	1.06	51.38
1-Apr-19	30,084.65	146.10	146.10	0.00	282.37	257.28	1.10	52.32

Source:https://in.finance.yahoo.com/quote/%5ENSEBANK/history?period1=1553990400&period2=1619740800&interval=1wk&filter=history&frequency=1wk&includeAdjustedClose=true

Graph 1: Graph for 14-Day RSI Data for Bank Nifty



Source: Table 1

From the Table 1 and Graph 1 presented above figuring the 14-Day RSI Data for Bank Nifty it is noticed that a fluctuating trend line is observed for the study period. For the period April 2019 to July 2019 RSI were above 50 and upward trend is observed, after that same trend is observed for the period of September 2019 to march 2020. In this period from December 2019 to January 2020 RSI move above 70 which indicate the right time to sell to get profit. For the period of May 2020 to November 2020 RSI moves near or below 30 which indicate undervalues and investor can make a decision over buying the stock. Form December 2020 to January 2021 RSI is below 50 and confirms the downtrend. So, in totality from the RSI values presented in Table 1, it is observed that the best time to sell the stocks to make profit was in between December 16, 2020 to January 6, 2020 and to buy the stocks best time noticed was in between May 4, 2020 to November 30, 2020. Through these values and graphical presentation an investor can easily make the decision over buying and selling the stocks. The most noticeable figure from the RSI is found for the Pandemic period from March 2020 to April 2021 RSI values for Bank Nifty did not crosses above 50 so for this period downward trend is observed for the Bank Nifty.

Table 2: 14-Day RSI Data for Nifty

Date	Close	Change	Gain	Loss	Avg Gain	Avg Loss	RS	14-Day RSI
26-Apr-21	14,864.55							
19-Apr-21	14,341.35	-523.20		523.20				
12-Apr-21	14,617.85	276.50	276.50					
5-Apr-21	14,834.85	217.00	217.00					
29-Mar-21	14,867.35	32.50	32.50					

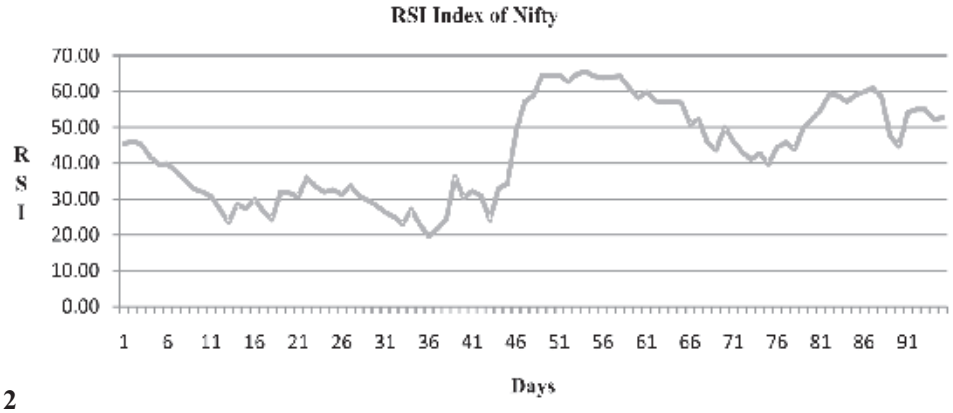
22-Mar-21	14,507.30	-360.05		360.05				
15-Mar-21	14,744.00	236.70	236.70					
8-Mar-21	15,030.95	286.95	286.95					
1-Mar-21	14,938.10	-92.85		92.85				
22-Feb-21	14,529.15	-408.95		408.95				
15-Feb-21	14,981.75	452.60	452.60					
8-Feb-21	15,163.30	181.55	181.55					
1-Feb-21	14,924.25	-239.05		239.05				
25-Jan-21	13,634.60	-1289.65		1289.65				
18-Jan-21	14,371.90	737.30	737.30		172.94	208.13	0.83	45.38
11-Jan-21	14,433.70	61.80	61.80		165.00	193.26	0.85	46.06
4-Jan-21	14,347.25	-86.45		86.45	153.21	185.63	0.83	45.22
28-Dec-20	13,981.75	-365.50		365.50	142.27	198.48	0.72	41.75
21-Dec-20	13,749.25	-232.50		232.50	132.11	200.91	0.66	39.67
14-Dec-20	13,760.55	11.30	11.30		123.48	186.56	0.66	39.83
7-Dec-20	13,513.85	-246.70		246.70	114.66	190.85	0.60	37.53
30-Nov-20	13,258.55	-255.30		255.30	106.47	195.46	0.54	35.26
23-Nov-20	12,968.95	-289.60		289.60	98.86	202.18	0.49	32.84
16-Nov-20	12,859.05	-109.90		109.90	91.80	195.59	0.47	31.94
9-Nov-20	12,719.95	-139.10		139.10	85.24	191.55	0.45	30.80
2-Nov-20	12,263.55	-456.40		456.40	79.16	210.47	0.38	27.33
26-Oct-20	11,642.40	-621.15		621.15	73.50	239.81	0.31	23.46
19-Oct-20	11,930.35	287.95	287.95		88.82	222.68	0.40	28.51
12-Oct-20	11,762.45	-167.90		167.90	82.47	218.76	0.38	27.38
5-Oct-20	11,914.20	151.75	151.75		87.42	203.14	0.43	30.09
28-Sep-20	11,416.95	-497.25		497.25	81.18	224.15	0.36	26.59
21-Sep-20	11,050.25	-366.70		366.70	75.38	234.33	0.32	24.34
14-Sep-20	11,504.95	454.70	454.70		102.47	217.59	0.47	32.02
7-Sep-20	11,464.45	-40.50		40.50	95.15	204.94	0.46	31.71
31-Aug-20	11,333.85	-130.60		130.60	88.36	199.63	0.44	30.68
24-Aug-20	11,647.60	313.75	313.75		104.46	185.37	0.56	36.04
17-Aug-20	11,371.60	-276.00		276.00	97.00	191.85	0.51	33.58
10-Aug-20	11,178.40	-193.20		193.20	90.07	191.94	0.47	31.94
3-Aug-20	11,214.05	35.65	35.65		86.18	178.23	0.48	32.59
27-Jul-20	11,073.45	-140.60		140.60	80.03	175.54	0.46	31.31
20-Jul-20	11,194.15	120.70	120.70		82.93	163.01	0.51	33.72
13-Jul-20	10,901.70	-292.45		292.45	77.01	172.25	0.45	30.89
6-Jul-20	10,768.05	-133.65		133.65	71.51	169.49	0.42	29.67
29-Jun-20	10,607.35	-160.70		160.70	66.40	168.87	0.39	28.22
22-Jun-20	10,383.00	-224.35		224.35	61.66	172.83	0.36	26.29
15-Jun-20	10,244.40	-138.60		138.60	57.25	170.38	0.34	25.15
8-Jun-20	9,972.90	-271.50		271.50	53.16	177.61	0.30	23.04

1-Jun-20	10,142.15	169.25	169.25		61.45	164.92	0.37	27.15
25-May-20	9,580.30	-561.85		561.85	57.06	193.27	0.30	22.80
18-May-20	9,039.25	-541.05		541.05	52.99	218.11	0.24	19.55
11-May-20	9,136.85	97.60	97.60		56.18	202.53	0.28	21.71
4-May-20	9,251.50	114.65	114.65		60.35	188.07	0.32	24.29
27-Apr-20	9,859.90	608.40	608.40		99.50	174.63	0.57	36.30
20-Apr-20	9,154.40	-705.50		705.50	92.39	212.55	0.43	30.30
13-Apr-20	9,266.75	112.35	112.35		93.82	197.37	0.48	32.22
6-Apr-20	9,111.90	-154.85		154.85	87.12	194.33	0.45	30.95
30-Mar-20	8,083.80	-1028.10		1028.10	80.89	253.89	0.32	24.16
23-Mar-20	8,660.25	576.45	576.45		116.29	235.75	0.49	33.03
16-Mar-20	8,745.45	85.20	85.20		114.07	218.91	0.52	34.26
9-Mar-20	9,955.20	1209.75	1209.75		192.33	203.28	0.95	48.62
2-Mar-20	10,989.45	1034.25	1034.25		252.47	188.76	1.34	57.22
24-Feb-20	11,201.75	212.30	212.30		249.60	175.27	1.42	58.75
17-Feb-20	12,080.85	879.10	879.10		294.56	162.76	1.81	64.41
10-Feb-20	12,113.45	32.60	32.60		275.85	151.13	1.83	64.61
3-Feb-20	12,098.35	-15.10		15.10	256.15	141.41	1.81	64.43
27-Jan-20	11,962.10	-136.25		136.25	237.85	141.04	1.69	62.77
20-Jan-20	12,248.25	286.15	286.15		241.30	130.97	1.84	64.82
13-Jan-20	12,352.35	104.10	104.10		231.50	121.61	1.90	65.56
6-Jan-20	12,256.80	-95.55		95.55	214.97	119.75	1.80	64.22
30-Dec-19	12,226.65	-30.15		30.15	199.61	113.35	1.76	63.78
23-Dec-19	12,245.80	19.15	19.15		186.72	105.26	1.77	63.95
16-Dec-19	12,271.80	26.00	26.00		175.24	97.74	1.79	64.20
9-Dec-19	12,086.70	-185.10		185.10	162.72	103.98	1.56	61.01
2-Dec-19	11,921.50	-165.20		165.20	151.10	108.35	1.39	58.24
25-Nov-19	12,056.05	134.55	134.55		149.92	100.61	1.49	59.84
18-Nov-19	11,914.40	-141.65		141.65	139.21	103.54	1.34	57.35
11-Nov-19	11,895.45	-18.95		18.95	129.27	97.50	1.33	57.00
4-Nov-19	11,908.15	12.70	12.70		120.94	90.54	1.34	57.19
28-Oct-19	11,890.60	-17.55		17.55	112.30	85.32	1.32	56.83
21-Oct-19	11,583.90	-306.70		306.70	104.28	101.14	1.03	50.77
14-Oct-19	11,661.85	77.95	77.95		102.40	93.91	1.09	52.16
7-Oct-19	11,305.05	-356.80		356.80	95.09	112.69	0.84	45.76
30-Sep-19	11,174.75	-130.30		130.30	88.29	113.95	0.77	43.66
23-Sep-19	11,512.40	337.65	337.65		106.10	105.81	1.00	50.07
16-Sep-19	11,274.20	-238.20		238.20	98.53	115.26	0.85	46.09
9-Sep-19	11,075.90	-198.30		198.30	91.49	121.20	0.75	43.02
2-Sep-19	10,946.20	-129.70		129.70	84.95	121.80	0.70	41.09
26-Aug-19	11,023.25	77.05	77.05		84.39	113.10	0.75	42.73
19-Aug-19	10,829.35	-193.90		193.90	78.36	118.87	0.66	39.73

12-Aug-19	11,047.80	218.45	218.45		88.37	110.38	0.80	44.46
5-Aug-19	11,109.65	61.85	61.85		86.47	102.50	0.84	45.76
29-Jul-19	10,997.35	-112.30		112.30	80.30	103.20	0.78	43.76
22-Jul-19	11,284.30	286.95	286.95		95.06	95.83	0.99	49.80
15-Jul-19	11,419.25	134.95	134.95		97.91	88.98	1.10	52.39
8-Jul-19	11,552.50	133.25	133.25		100.43	82.63	1.22	54.86
1-Jul-19	11,811.15	258.65	258.65		111.73	76.72	1.46	59.29
24-Jun-19	11,788.85	-22.30		22.30	103.75	72.84	1.42	58.75
17-Jun-19	11,724.10	-64.75		64.75	96.34	72.26	1.33	57.14
10-Jun-19	11,823.30	99.20	99.20		96.55	67.10	1.44	59.00
3-Jun-19	11,870.65	47.35	47.35		93.03	62.31	1.49	59.89
27-May-19	11,922.80	52.15	52.15		90.11	57.86	1.56	60.90
20-May-19	11,844.10	-78.70		78.70	83.67	59.34	1.41	58.51
13-May-19	11,407.15	-436.95		436.95	77.70	86.32	0.90	47.37
6-May-19	11,278.90	-128.25		128.25	72.15	89.31	0.81	44.69
29-Apr-19	11,712.25	433.35	433.35		97.95	82.93	1.18	54.15
22-Apr-19	11,754.65	42.40	42.40		93.98	77.01	1.22	54.96
15-Apr-19	11,752.80	-1.85		1.85	87.27	71.64	1.22	54.92
8-Apr-19	11,643.45	-109.35		109.35	81.03	74.33	1.09	52.16
1-Apr-19	11,665.95	22.50	22.50		76.85	69.02	1.11	52.68

Source:https://in.finance.yahoo.com/quote/%5ENSEI/history?period1=1553904000&period2=1619654400&interval=1wk&filter=history&frequency=1wk&includeAdjustedClose=true

Graph 2: Graph for 14-Day RSI Data for Nifty



Source: Table 2

From the Table 2 and Graph 2 presented above figuring the 14-Day RSI Data for Nifty it is noticed that the trend line present several ups and down for the study period. For the period April 2019 to 15 July 2019 RSI values were found above 50, so an upward trend is observed for the period, after that from 22 July 2019 to 16 September 2019 RSI index was found below 50, so downtrend was observed for the period. After that from 14 October 2019 to 2 March 2020 RSI values were found above 50 presenting upward trend. From March 9, 2020 to January 2021 RSI index was found below 50. It is noticed that not even a single time for the study period RSI values reaches up to the 70 which indicate the right time to sell the stock but from March 2020 to December 2020 RSI for Nifty moves near or below 30 which indicated that investor can buy the stock.

So, in totality from the RSI values presented in Table 2 best

time to sell the stocks to make profit was in between December 09, 2019 to February 17, 2020 because the RSI values were found above 60 approaching towards 70 and to buy the stocks best time noticed was in between May 4, 2020 to July 6, 2020. Through these values and graphical presentation an investor can easily make the decision over buying and selling the stocks. It is also noticed from RSI values of the Pandemic period from March 2020 to April 2021 RSI values for Nifty did not crosses above 50 even a sharp downtrend was observed where RSI values approaching towards 20 and most or time approximately approaching 30 presenting the signal of buying the stocks.

From both the RSI indexes presented in Table 1 and Table 2 it could interpret that with the help of established indicators of buying the selling stocks and measure of identifying the downtrend and uptrend in the stock prices in RSI indicator it is identified that RSI is a strong indicator of stock price movements and with the help of RSI values investor can make decision over buying the selling stocks and can ensure the profit over their investments. So, RSI price oscillator is a good technical indicator for investors to study the price movements of stocks.

Analysis of Association and Risk-Return Relationship between RSI Indicators of Nifty and Bank Nifty: In order to assess the significance and strength of association between the RSI values of Bank Nifty and Nifty for the study period April 2019 to 3 March 2021 correlation test was performed and coefficient of variation test and beta values were calculated to assess the risk and return relationship of Nifty and Bank Nifty.

For statistical calculation of Correlation, Descriptive Statistics, and other statistical values SPSS 19.0 and Excel 2007 is used as tools. Coefficient of Variance (C.V.) is calculated through its standard formulae i.e. (Standard Deviation/Mean)*100, in the above table C.V. is calculated with the aforementioned formulae which lead into making interpretation for the risk associated with the security, lesser would be the C.V. value would be lesser would be the risk with the security.

Table 3: Descriptive Statistics of Bank Nifty and Nifty

Measures	Nifty	Bank Nifty
Mean	43.6088	47.1815
S.D.	13.62917	13.77629
Variance	185.754	189.786
C.V.	31.25	29.20

Source: Statistical Output of Nifty and Bank Nifty Data

From the descriptive statistics presented in Table 3 it could interpret that Bank Nifty is better and found comparatively less risky than Nifty as Bank Nifty coefficient of variation value is 29.30 which is lesser the Nifty coefficient of variation value 31.25, even mean value of Bank Nifty is also higher than Nifty. So, investing into the Bank Nifty is better as it offers better price options and less risk associated with the investments.

In order to determine the tandem relationship between both Nifty and Bank Nifty covariance is calculated, as covariance lead into making decision over a kind of relationship between participating variables. If +ve covariance found then variables tend to increase and decrease in tandem and if –ve covariance found then inverse relationship is found between variables.

Table 4: Correlation Values

Correlations			
		NIFTY	BANKNIFTY
NIFTY	Pearson Correlation	1	.952**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	17460.896	16806.587
	Covariance	185.754	178.793
	N	95	95
BANKNIFTY	Pearson Correlation	.952**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	16806.587	17839.895
	Covariance	178.793	189.786
	N	95	95
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: SPSS 19 Output Table of Correlation Test

On the basis of above correlation values it could state that a significant linear relationship is found in between Bank Nifty and Nifty RSI values as r = 0.952** found significant at the 0.01 level. The direction of the relationship is positive means these variables tend to increase or decrease together. The strength of association between Bank Nifty and Nifty is strong as r >.7. From Sum of Squares and Cross-products statistical values presented in the Table 4, pair wise covariance is calculated by dividing them by N.

Covariance between Nifty and Bank Nifty is 16806.587 / 95 = 176.91, Covariance of Nifty is 17460.896 / 95 = 183.80, and Covariance of Bank Nifty is 17839.895 / 95 = 187.79. So, the resultant covariance matrix of Bank Nifty and Nifty is:

Table 5: Covariance Matrix of Bank Nifty and Nifty

	Nifty	Bank Nifty
Nifty	183.80	-
Bank Nifty	176.91	187.79

Source: Statistical Output of Nifty and Bank Nifty Data

From the covariance statistical values presented in Table 5 above it could interpret that Nifty and Bank Nifty have a +ve covariance (176.91) which indicates that investor who found great returns from the stock of Nifty also tend to found great returns form Bank Nifty and if loss is observed in Nifty then tandem relation with the trend of loss would be observed for Bank Nifty. Further, to assess the systematic risk confirming the volatility of returns Beta measure is used. Beta value is determined through dividing the covariance (return of the security and return of the market) by variance (market returns). A stock with greater beta value over the beta of market (1.0) is riskier but has potential of higher returns, and a stock with lesser beta value than beta of market (1.0) present less risk and lower returns. Following calculations were performed to determine the beta values:

Beta of Nifty – (Correlation between Nifty and Bank Nifty) X (S.D. of Nifty /S.D of Bank Nifty)

Beta of Nifty – (0.952) X (13.63 /13.77) = 0.952 X 0.99 = 0.942

Beta of Nifty – Covariance of Nifty and Bank Nifty / Variance of Bank Nifty

Beta of Nifty – 176.91 / 189.786 = 0.932

Beta of Bank Nifty – (Correlation between Nifty and Bank Nifty) X (S.D. of Bank Nifty /S.D of Nifty)

Beta of Bank Nifty – (0.952) X (13.77 /13.63) = 0.952 X 1.01 = 0.961

Beta of Bank Nifty – Covariance of Nifty and Bank Nifty / Variance of Nifty

Beta of Bank Nifty – 176.91 / 185.754 = 0.952

Table 6: Beta Value Determination

	Beta 1	Beta 2
Nifty	0.942	0.932
Bank Nifty	0.961	0.952

Source: Statistical Calculation Output

From the beta values presented in the above Table 6 of Nifty and Bank Nifty calculated through the aforementioned formulae results into making conclusion that both Nifty (0.942, 0.932) and Bank Nifty (0.961, 0.952) having low beta values carries less risk and the returns would not present high variability. Nifty theoretically experiences 6-7% less vitality, and Bank Nifty experiences 4-5% less volatility.

Conclusion

Predicting the stock prices and movements through technical and fundamental analysis can lead into making some significant prediction about the stocks and market. The entire market players have possibility to make the investment over the security. So, once they understand the market expertise it is going to support full to them to make the sufficient investment which will results in have longer returns to their investment. Consequently as investor and as a company, the exposure to recognizing the securities by using for the reason that the technical analysis. The investor has the huge opportunities to invest the investment in the nifty and bank nifty and it will get the more earnings. The investor who investing before they get to know the whether they are secured investor, aggressive investor, moderate investor.

In this study two year data of 2 selected stocks i.e. Nifty and Bank Nifty was under assessment through Candlestick chart, Moving Averages and RSI. From the Candlestick chart of Nifty and Bank Nifty with EMA 20, 50, and 200 both stocks moving averages are trending upwards and confirming bullish trend for both. RSI analysis was calculated on 14 days values. From the RSI values of Bank Nifty, it was noticed that December 16, 2020 to January 6, 2020 was the best time to make the profit by selling the stocks and to buy the stocks best time noticed was in between May 4, 2020 to November 30, 2020. RSI values of Bank Nifty were found lesser than 50 for the Pandemic period from March 2020 to April 2021 so for this period downward trend is observed for the Bank Nifty. From the RSI values of Nifty, it was noticed that not even a single time for the study period RSI values reaches near or above 70 to sell the stock and even from March 2020 to December 2020 RSI for Nifty moves near or below 30 which indicated that investor can buy the stock. RSI values of the Pandemic period from March 2020 to April 2021 RSI values for Nifty did not crosses above 50 even a sharp downtrend was observed where RSI values approaching towards 20 and most or time approximately approaching 30 presenting the signal of buying the stocks.

From the descriptive statistics it was identified that Bank Nifty is better and found comparatively less risky than Nifty. A significant linear relationship is found in between Bank Nifty and Nifty with positive direction relation, which means that these variables tend to increase or decrease together. The strength of association between Bank Nifty and Nifty is strong as r >.7. From the covariance values it was noticed that Nifty and Bank Nifty have +ve covariance (176.91) which indicated that investor who found great returns from the stock of Nifty also tend to found great returns form Bank Nifty. Beta values of Nifty

and Bank Nifty resulted into making conclusion that both Nifty and Bank Nifty carries less risk and the returns would not present high variability.

So, from the results drawn it can conclude that RSI is a strong indicator of stock price movements and hence guides decision making in buying and selling stocks and use of Candlestick chart with moving average can also add some value in these determination of buying and selling of stocks. Technical analysis emerged as a technique which gave an idea about future share prices of selected stocks considered.

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