Technical Analysis on Selected Stocks of Indian Banking Sector

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Key Words:

1. Technical Analysis 2. National Stock Exchange 3. Bank Index 4. Moving Average

Abstract

Technical Analysis (TA) is a mechanical trading technique for identifying and forecasting the stock price depending upon the historical data. It does not indicate the exact future price of stock but forecast the trend and momentum of a stock price. We have taken Axis Bank, HDFC Bank, ICICI Bank and State Bank of India for conducting our study. These four banks constituted 79% shares of Bank Nifty. These sample companies are selected on the basis of their market capitalization in banking sector and largest customer dealing network.

Present paper actually is a comparative study of 'buy and hold' strategy with strategy suggested by TA. We have applied Moving Average (MA) and its improvisations as TA trading tool for conducting the study. Data have been collected from secondary sources for the period of four months starting from 2nd September, 2013 to 31th December, 2013.

Our investigation shows that TA is not always profitable in the entire market segment and in all the time horizons.

INTRODUCTION

This paper is on application of Moving Average (MA) and its improvisations as a technical analysis trading tools on select stock prices. There are different methods available under Meta stock software, used most popularly for technical analysis. We tried to introspect whether variation among different methods are available within this software yields symmetric returns. We have used Secondary data (From 02.09.2013 to 31.12.2013) from a data vendor called Equal Solution.

Our sample companies are (1) Axis Bank; (2) HDFC Bank; (3) ICICI Bank and (4) State Bank of India. These sample companies are selected on the basis of their degree of market capitalization in banking sector and sector wise weightage in NIFTY (near about 26.14%) as per NSE data base 2013. These four banks constituted 79% shares of Bank Index. Sample banks have been selected mainly on the basis of their largest customer dealing network. These four banks represent 80% of Nifty Bank Index.

Methods that we have used are (1)Buy and Hold strategy ;(

2) 10 Days Simple Moving Average (MA) and (3) 3 -days and 10- days Simple MA Crossover method to predict the stock price returns.

LITERATURE SURVEY

Jasmi, M. and Kimiagari, A.M. (2012) have developed a model based on moving average. They have considered four factors like approach of issuing signals, technique of calculating MA, length of MA and band. Their study was based on two parameters direction and cross-over. They have used cross-over technique of two MA variations. They applied variable-length MA and fixed-length MA and their cross-over for making investment decision.

Mitra, S.K. (2011) has explained the usefulness of MA based trading rules in India. His study was based on 100 shares of two Indian indices, (i) Nifty and (ii) Nifty Junior covering the 10 years time period from December 2000 to November 2010. The main focus of his study was profit opportunity with trading cost consideration. He has suggested that before making any investment decision by using any trading rule retail investors must keep an eye on trading cost associated with trade.

Elder, Alexander (1992) has informed in his book trading for a Living about the different aspects of technical analysis. He indicates different tools for making profitable trade and suggests various ways for staying in the market for a long period of time. He has given the idea of Triple Screen



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Trading system and also some useful theories for the retail trader.

Gujral, Ashwani. (2007) wrote in his book the procedure for making money in the future market especially highlighting some techniques for option trader. In his book he has thrown the light on moving averages and its different improvisations. He puts his observations and discloses his own trading style and trading strategy.

Lento.Comillo (<u>http://ssrn.com/abstract=1113622</u>) examines the effectiveness of Combine Signal Approach (CSA).In his study he compared the annualized return of S&P500 by use of CSA with buys and holds strategy. His study depicted that CSA is more profitable.

Wang. Zhigang, Zeng.Young,Pan.Heping and Li. Ping(2007) have tested the predictability of moving average rules in Chinese stock market. They established relationship in between buy and sell signal with the returns and volatility and find out the reasons for using moving average.

James F.E.Jr(1968) provides an empirical analysis of monthly moving average. He also justified that the monthly moving average is an effective investment tool. By using monthly moving average James identified that it is little-bit beneficial to an investor.

MOVING AVERAGE

Moving average is a trend following laggard indicator based on past data. Usually we have three types of MAs. Those are Simple Moving Average, Exponential Moving Average and Weighted Moving Average. The two basic and commonly used MAs are the simple moving average (SMA), which is the simple average of a security over a defined number of time periods and the exponential moving average (EMA), which gives bigger weight to more recent prices. However, many other improvisations can be made through MA guite easily and at the same time they can be applied in execution of a profitable trade. The most common applications of MA is to identify the trend direction and to determine support and resistance levels. While MAs are useful enough on their own, they also form the basis for other indicators such as the Moving Average Convergence Divergence (MACD), Bollinger Brand etc.

MOVING AVERAGE CROSS-OVER

The most basic type of crossover happens when the price of an asset moves from one side of a moving average and closes on the other. Price crossovers are used by traders to identify shifts in momentum and can be used as a basic entry or exit strategy. The second type of crossover occurs when a short-term average crosses through a long-term average. This signal is used by traders to identify that momentum is shifting in one direction and that a strong move is likely to approach. A buy signal is generated when the short-term average crosses above the long-term average, while a sell signal is triggered by a short-term average crossing below a long-term average.

Improvisations can always be done with fundamental moving average crossover technique. Many traders will place 5, 10 or 20 days moving averages onto a chart and wait until the five-day average crosses up through the others. Waiting for the10-day average to cross above the 20-day average is often used as confirmation that often reduces the number of false signals. Increasing the number of moving averages as seen in the triple crossover method, is one of the best ways to gauge the strength of a trend and the likelihood that the trend will continue.

BUY AND HOLD STRATEGY

Buy and hold investing is a stock trading approach or strategy structured around the philosophy that financial markets give a good rate of return in the long run, in spite of the inevitable periods of instability.

Those who apply buy and hold strategy as opposed to typical short-term market timing strategies, holds a notion that 'you can cross the threshold of the stock trading market while stock prices are low and sell them when these are high' is an inherently misleading notion.

On the other hand technical analysts believe that small and unsophisticated investors simply do not have the knowhow to attempt to predict the timing of the market, so the best option for them, in the long run, is the buy and hold investing system for stock trading.

CHART ANALYSIS

It is evident from the Chart - I that whenever the price closes above the 10 Days MA line (Red Color) buy signal is generated and whenever the price closes below the MA line chart shows the sell signal In such a way we have got 13 trading signal in both side. From this chart even a layman can easily enter the trade and exit from the trade in time.

Chart – II depicts the cross-over of 3 Days and 10 Days MA (Green color and Red Color respectively) on a price chart. Whenever the 3 days MA line crosses the 10 days MA line from the below price chart shows the buy signal and when the shorter MA line i.e. 3 days MA line cut the longer MA i.e. 10 days MA line from the above it indicates the sell signal. During the study period we have got 11 buy and sell signal from this cross-over strategy.





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Chart – **III** indicates the cross-over of both the MA line apart from the price chart. This chart also shows the corresponding cross-over buy and sell signal on the price. This chart has exposed the upside and down side cross-over very clearly and its effect on the price.

VII END RESULT

Details of our data analysis are given in Table I to Table-XI, given in Appendix. From the study it reveals that Buy and hold strategy for Axis bank yielded maximum return. Baring small exceptions, only buy and hold strategy yielded profit and other strategies like moving average and moving average cross-over yielded loss.

LIMITATIONS OF THE STUDY

(I)The time span in this study is limited only for four months from 02.09.2013 to 31.12.2013 which may reduce the scope of the further findings and possibility of extra profitability.

(II) This study confines to the fact that it considers only the price from historical data base and totally ignores the fundamental facts and figures. Various aspects of financial ups and downs related with the company and sensitive information which may change the investors trading decision.

(III)Technical Analysis has its inbuilt limitations. It can be supplemented by fundamental analysis, different statistical techniques, and many other sophisticated prediction techniques and their synthesis.

CONCLUDING REMARKS

Our findings show that 'Buy and Hold' strategy yields the highest return during the study period. Other two methods have made huge loss due to short position trading. During the study period market was range-bound.MA is a trend following indicator. As the market was range-bound that is the market was not trending MA and MA Cross-Over method of trading were not showing the satisfactory result. Successful trading through MA and its different improvisations can only be possible when the overall market and at the same time respective share price is in a trending situation. There are many models like Average Directional Index (ADX) by which we can easily predict whether the market is in trading (Consolidation) or trending situation.





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Table 1 : Buy and Hold Method

Company	Entry Date	Entry Price	Exit Date	Exit Price	Profit/ Loss
AXIS BANK	02.09.2013	864.30	31.12.2013	1299.55	435.25
HDFC BANK	02.09.2013	589.50	31.12.2013	665.85	76.35
ICICI BANK	02.09.2013	826.60	31.12.2013	1098.75	272.15
STATE BANK	02.09.2013	1516.35	31.12.2013	1766.50	250.15

Table 2 : Axis Bank MA Method

Date	Buy	Date	Sell	Long P/L	Short P/L
05.09.2013	927.50	23.09.2013	1030.05	102.55	
					(74.65)
03.10.2013	1104.70	15.10.2013	1081.45	(23.25)	
					(14.90)
17.10.2013	1096.35	06.11.2013	1213.00	116.65	
					73.15
18.11.2013	1139.85	21.11.2013	1086.30	(53.55)	
					(29.15)
25.11.2013	1115.45	13.12.2013	1239.80	124.35	
					(21.60)
16.12.2013	1261.40	19.12.2013	1257.00	(4.40)	
					(20.85)
20.12.2013	1277.85	31.12.2013	1299.55	21.70	
			Profit/Loss	284.05	(88)

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Table 3 : HDFC Bank MA Method

Date	Buy	Date	Sell	Long P/L	Short P/L
		03.09.2013	562.55		
					(46.95)
05.09.2013	609.50	23.09.2013	641.95	32.45	
03.10.2013	636.20	23.10.2013	660.20	24	
					(9.10)
24.11.2013	669.30	06.11.2013	668.90	(0.4)	
					00.10
18.11.2013	668.80	20.11.2013	649.55	(19.25)	
					(10.20)
25.11.2013	659.75	17.12.2013	657.60	2.15	
					(12.05)
27.12.2013	669.65	31.12.2013	665.85	(3.80)	
			Profit/Loss	156.95	(64.30)

Table 4 : ICICI Bank MA Method

Date	Buy	Date	Sell	Long P/L	Short P/L
02.09.2013	826.60	03.09.2013	783.55	(43.05)	
					(34.20)
04.09.2013	817.75	23.09.2013	943.30	125.55	
					6.20
08.10.2013	937.10	07.11.2013	1051.45	114.35	
					(22.20)
18.11.2013	1073.65	20.11.2013	1049.15	(24.50)	
					25.45
25.11.2013	1074.60	26.11.2013	1043.75	(30.85)	
					(24.90)
29.11.2013	1068.65	13.12.2013	1085.00	16.35	
					(14.65)
26.12.2013	1099.65	31.12.2013	1098.75	(0.9)	
			Profit/Loss	156.95	(64.30)



Table 5 : SBI MA Method

Date	Buy	Date	Sell	Long P/L	Short P/L
05.09.2013	1638.15	23.09.2013	1654.65	16.50	
					(38)
25.09.2013	1692.65	26.09.2013	1676.10	(16.55)	
					23.30
11.10.2013	1652.80	15.10.2013	1622.80	(30)	
					(41.80)
18.10.2013	1664.60	07.11.2013	1752.60	88	
					(15)
18.11.2013	1767.60	22.11.2013	1737.95	(29.65)	
					(68.70)
25.11.2013	1806.65	27.11.2013	1763.70	(42.95)	
					(55.75)
29.11.2013	1819.45	11.12.2013	1796.55	(22.90)	
					37.30
24.12.2013	1759.25	31.12.2013	1766.50	7.25	
			Profit/Loss	(30.30)	(158.65)

Table 6 : AXIS Bank MA Cross-Over Method

Date	Buy	Date	Sell	Long P/L	Short P/L
06.09.2013	952.40	24.09.2013	1025.55	73.15	
					(67)
04.10.2013	1092.55	07.11.2013	1171.30	78.75	
					39.85
20.11.2013	1131.45	16.12.2013	1261.40	129.95	
					(21.45)
18.12.2013	1282.85	19.12.2013	1257.00	(25.85)	
					(20.85)
20.12.2013	1277.85	31.12.2013	1299.55	21.70	
			Profit/Loss	277.70	(69.45)



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Table 8 : HDFC Bank MA Cross-Over Method

Date	Buy	Date	Sell	Long P/L	Short P/L
06.09.2013	616.20	24.09.2013	638.45	22.25	
					(2)
04.10.2013	640.45	06.11.2013	668.90	28.45	
					8.85
19.11.2013	660.05	21.11.2013	637.65	(22.40)	
					(15.30)
26.11.2013	652.95	17.12.2013	657.60	4.65	
					(11.90)
30.12.2013	669.50	31.12.2013	665.85	(3.65)	
			Profit/Loss	29.30	(20.35)

Table 8 : ICICI Bank MA Cross-Over Method

Date	Buy	Date	Seli	Long P/L	Short P/L
05.09.2013	893.70	24.09.2013	944.85	51.15	
					28.65
07.10.2013	916.20	07.11.2013	1051.45	135.25	
					(33.55)
19.11.2013	1085.00	22.11.2013	1020.55	(64.45)	
					(23.20)
26.11.2013	1043.75	28.11.2013	1038.10	(5.65)	
					(50.20)
02.12.2013	1088.30	13.12.2013	1085.00	(3.3)	
					(14.65)
26.12.2013	1099.65	31.12.2013	1098.75	(0.9)	
			Profit/Loss	112.10	(92.95)



Table 9 : SBI MA Cross-Over Method

Date	Buy	Date	Sell	Long P/L	Short P/L
05.09.2013	1638.15	25.09.2013	1692.65	54.50	
					35.45
14.10.2013	1657.20	17.10.2013	1621.30	(35.90)	
					(43.30)
18.10.2013	1664.60	08.11.2013	1744.30	79.70	
					(79.10)
19.11.2013	1823.40	28.11.2013	1763.60	(59.80)	
					(58.55)
02.12.2013	1822.15	12.12.2013	1777.00	(45.15)	
					17.75
24.12.2013	1759.25	31.12.2013	1766.50	7.25	
			Profit/Loss	0.6	(127.75)

Table 10 : Profit and Loss under 'Buy and Hold' Strategy, 10 Days MA Method, 3 Days and 10 Days MA Cross-Over Method and Using Stop loss Method [Historical Price Data from 02.09.2013 – 31.12.2013]

Company	Buy and Hold	Moving Average (MA)	MA Cross-Over
AXIS BANK	435.25	196.05	208.25
HDFC BANK	76.35	(53.10)	8.95
ICICI BANK	272.15	92.65	19.15
STATE BANK	250.15	(188.95)	(127.15)

Table 11 : Percentage Increase or Decrease under different Technical Analysis Methods and Buy and Hold Strategy during the study period:

Company	Buy and Hold	Moving Average (MA)	MA Cross-Over
AXIS BANK	50.35%	21.13%	21.86%
HDFC BANK	12.95%	(9.44%)	1.45%
ICICI BANK	32.92%	11.20%	2.14%
STATE BANK	16.50%	(11.53%)	(7.76%)

(The entire Price on Closing Basis)

